COMMUNICATING NURSING RESEARCH CONFERENCE PROCEEDINGS

VOLUME 45

ADVANCING SCIENTIFIC INNOVATIONS IN NURSING

2012

Western Institute of Nursing

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WESTERN INSTITUTE OF NURSING

The Western Institute of Nursing (WIN) is the western regional nursing organization that succeeded the Western Council on Higher Education for Nursing (WCHEN). In 1985, following extensive deliberations by special committees, the decision to create an autonomous, self-supporting organization was implemented. At the first meeting of the new organization, nurses from collegiate schools of nursing and health care agencies adopted the bylaws and the new name of the organization, Western Institute of Nursing. The organization moved to Portland, Oregon on July 1, 1996. The Western Institute of Nursing was incorporated on November 3, 1998 in accordance with the Oregon Nonprofit Corporation Act.

WIN exists to bring together a diverse community of nurses in a shared commitment to transcend the boundaries of knowledge development and application to advance the discipline and drive improvements in practice, outcomes, and cost. The organizational structure includes the Membership Assembly, the Board of Governors, committees, and societies.

There are six categories of membership in WIN: agency, individual, student, retired nurse, associate, and honorary. Agency memberships are open to organized nursing education programs and organized nursing practices in one of the states designated by the Board of Governors as being in the western region. Individual membership is open to RNs who support the mission of WIN. Student members must be matriculated in a degree granting program. Retired nurse membership is open to retired nurses who live in, or relocate to, the region following retirement. Associate memberships are open to individual non-nurses who, and to organizations, agencies, and businesses outside the western region which, support the mission of WIN. Honorary memberships include those designated for Emeritus status and those who have made supporting contributions to WIN.

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COMMUNICATING NURSING RESEARCH

Volume 45

ADVANCING SCIENTIFIC INNOVATIONS IN NURSING

An annual publication of the Western Institute of Nursing containing the proceedings of the Communicating Nursing Research Conference and WIN Assembly held April 18 - 21, 2012 at the Portland Marriott Downtown Waterfront Hotel, Portland, Oregon.

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COMMUNICATING NURSING RESEARCH

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Volume 1: The Research Critique
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Volume 3: Methodological Issues in Research
Volume 4: Is the Gap Being Bridged?
Volume 5: The Many Sources of Nursing Knowledge
Volume 6: Collaboration and Competition in Nursing Research
Volume 7: Critical Issues in Access to Data
Volume 8: Nursing Research Priorities: Choice or Chance
Volume 9: Nursing Research in the Bicentennial Year
Volume 10: Optimizing Environments for Health: Nursing's Unique Perspective
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Volume 33: Building on a Legacy of Excellence in Nursing Research
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The Cumulative Index of the Communicating Nursing Research Conference Proceedings, Volumes 1 to 25, (1968-1992) was published in 1992.

COMMUNICATING NURSING RESEARCH has been published annually by the Western Institute of Nursing. Each volume contains the addresses and abstracts of papers presented at the annual Communicating Nursing Research Conference.

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FOREWORD

A family member's recent stay in an intensive care unit has reinforced the important work that our nurse researchers do in academic and clinical settings. The ICU RNs were magnificent: caring, compassionate, and evidence-based in their work. That evidence comes from the clinical and academic researchers whose work is presented at the WIN conference and at the regional and specialty organization conferences around the country as well as in the publications which report the outcomes of inquiry conducted by interdisciplinary teams of nurses, physicians and other health providers.

The beneficiaries of the work presented in the Annual Communicating Nursing Research conference are, ultimately, our patients. I, for one, am grateful to each and every nurse and nursing student who is making a poster or podium presentation at this conference. They may never know whose lives will be touched by their work. But, assuredly, lives will be touched – saved – and made better by their inquiry. The Western Institute of Nursing is proud to provide a venue for dissemination of that inquiry and promote collaborative networking to advance further innovative scientific efforts in nursing.

Paula McNeil
Executive Director
March 2012

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PREFACE

The 45th Annual Communicating Nursing Research Conference, "Advancing Scientific Innovations in Nursing," was held April 18-21, 2012 at the Portland Marriott Downtown Waterfront Hotel, Portland, Oregon. Following is a description of the contents of these proceedings.

The plenary sessions focused on scientific innovations in nursing. The keynote address was delivered by **Kathi Mooney**, PhD, RN, FAAN, Professor and Louis S. Peery and Janet B. Peery Presidential Endowed Chair in Nursing, College of Nursing, University of Utah, Salt Lake City, Utah. Three State of the Science presentations were made by: **Gary Donaldson**, PhD, Professor and Director, Pain Research Center, University of Utah Department of Anesthesiology and Senior Strategic Statistician, University of Utah College of Nursing, Salt Lake City, Utah; **Diane J. Skiba**, PhD, FACMI, FAAN, Professor, Option Coordinator, Health Care Informatics and Project Director, I-Collaboratory: Partnerships for Learning, College of Nursing, University of Colorado, Aurora, Colorado; and **Kathleen R. Stevens**, RN, EdD, ANEF, FAAN, Episteme Laureate, Professor and Director, Academic Center for Evidence-Based Practice and Improvement Science Research Network, School of Nursing, University of Texas Health Science Center San Antonio, San Antonio, Texas.

Three award papers were presented:

- **Distinguished Research Lectureship Award: Martha J. Lentz**, PhD, RN, Research Professor Emerita, Department of Biobehavioral Nursing and Health Systems, School of Nursing, University of Washington, Seattle, Washington;
- **Carol A. Lindeman Award for a New Researcher: Terri L. Yost**, PhD, FNP-BC, Nurse Scientist, Center for Nursing Science and Clinical Inquiry, Tripler Army Medical Center, Honolulu, Hawaii; and
- **Pat A. Perry Biological Nursing Research Award: Charles A. Downs**, PhD, ACNP-BC, Postdoctoral Fellow, Physiology Department, Emory University, Atlanta, Georgia.

The **Western Academy of Nurses** panel focused on community-based participatory research as a strategy for decreasing health inequities and promoting social justice. Speakers included: **Deborah Koniak-Griffin**, EdD, RNC, FAAN, Professor & Audrienne H. Moseley Endowed Chair, Women's Health Research, UCLA School of Nursing, Los Angeles, California; **Janna Lesser**, PhD, RN, Associate Professor, University of Texas Health Science Center, San Antonio, Texas; **Kynna Wright-Volel**, PhD, RN, FAAN**,** Assistant Professor & RWJF Nurse Faculty Scholar, UCLA School of Nursing**,** Los Angeles, California; **Usha Menon**, PhD, RN, FAAN**,** Pamela Kidd Distinguished Research Professor**,** Arizona State University, College of Nursing & Health Innovation**,** Phoenix, Arizona.

The Proceedings include the abstracts of symposium, podium, and poster presentations. Two hundred and twenty-four papers were presented in podium sessions on a wide variety of topics, including completed research, theoretical papers, and projects. One hundred and seven papers were presented in twenty-one symposia, and one hundred and seventeen papers were organized in twenty-four other concurrent sessions. Three hundred and six posters were exhibited in four poster sessions, and represented research, completed or in progress, and projects. In addition, a total of one hundred and

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sixteen posters were submitted for the Research & Information Exchange by students from member schools and by nurses from member health care agencies.

Awards were given to thirteen WIN individual and agency members during the 2012 conference. Please consult the Table of Contents for the location of the aforementioned papers, the list of awardees honored by WIN, and the name and subject indexes.

The conference was planned and organized by the WIN Program Committee. The 2012 committee identified speakers and topics to address the ways in which practice, education and research advance scientific innovations in nursing in the Western region. The committee has created a stimulating program. We make special recognition of, and extend our gratitude to the Program Committee members: Lauren Clark, UT, Chair; Judith Berg, AZ/CA; Doris Boutain, WA; Tina DeLapp, AK; Marie Driever, OR/WA; Anne Marie Kotzer, CO; Martha Lentz, WA; Lori Loan, WA; Marie Lobo, NM; Barbara Mandleco, UT; Jennifer Mensik, ID; Jan Schoultz, HI; Donna Velasquez, AZ; and Charlene Winters, MT.

We extend special appreciation to:
Elizabeth Woods, MA, MSLS, who created the name and subject indexes for the proceedings;
Amy Tomlinson, Graphic Designer; and
Charlotte Woodward, Graphic Designer.

We extend our gratitude to the WIN Executive Director, Paula McNeil, and her staff, Bo Perry, Conference Manager, and Hillary Panzer, Administrative Coordinator, for their work in bringing the Committee's plans to reality. Finally, we thank all the nurse researchers across the West and from other parts of the country and world who submitted papers, and all who participated in the 2012 conference.

The 45th Annual Communicating Nursing Research Conference provided an opportunity to focus on the many ways that the work of nurse researchers, educators, practitioners and interdisciplinary colleagues is advancing scientific innovations in nursing.

Marie J. Driever, PhD, RN, President
Western Institute of Nursing

Lauren Clark, PhD, RN, FAAN, Chair
WIN Program Committee

State of the Science Paper

RANDOMIZED TRIALS FOR COMPARATIVE EFFECTIVENESS: THE BRONZE STANDARD AGAIN?

Gary Donaldson, PhD
Professor and Director
Pain Research Center
University of Utah Department of Anesthesiology
Salt Lake City, UT

Senior Strategic Statistician
University of Utah College of Nursing
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Comparative effectiveness research describes study designs that provide direct, head-to-head comparisons, preferably randomized, of two or more alternative treatments for a specific health problem in a targeted population. In contrast, the more common treatment-control standard provides comparisons, usually randomized, of a treatment against a control or standard-of-care condition. Is this a major innovation, a bold change that will transform health care to allow better individual and policy decisions? Perhaps. But for present purposes notice the unobtrusive phrase, "preferably randomized," in the two definitions above. The largely uncontested premise underlying both standard and comparative effectiveness research is that randomized controlled trials represent the "gold standard" for health care research, with the only contention concerning the nature of the two treatments to be randomized. This paper considers a more fundamental question: is the gold standard golden? Are RCTs the optimal mechanism for making individual or policy decisions about health care? Looking ahead, the answer draws a clear distinction between randomization as an element of experimental design, and the broader RCT enterprise with its support infrastructure, inference rules, and explicit and *de facto* conventions. The former is indispensable, the latter is not. We are in danger of simply grafting this vast RCT apparatus onto studies that compare active treatments, and calling the result comparative effectiveness research. Not so fast. RCTs are not golden. Vitiated by threats to both internal and external validity, they are not even silver. Call it the bronze standard. Should we settle, or can we do better this time around?

RCTs have achieved such a privileged status in health care research that a dispassionate listing of their shortcomings seems shocking. In this paper, therefore, I distinguish opinions, which may be controversial and polemical, from fact. What does RCT evidence actually mean, and what is it good for? Fair warning: my highly opinionated answers, informed by facts, are "very little," and "not much," respectively. To reach this conclusion I draw on two broad standards for understanding experimental evidence: internal validity and external validity (Campbell & Stanley, 1963). An experiment is internally valid if it can correctly identify the causal effect on some outcome in the sample at hand. An experiment is externally valid if this result generalizes to new patients who were not in the study. RCTs, despite their mystique, do neither.

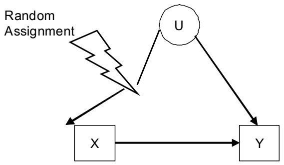
Internal Validity

Fact

Randomized control is not *experimental control*. Randomized controlled trials do not "control," in the classic sense of scientific experimentation (Urbach, 1993), for anything except who receives treatment. Outcomes are not controlled. Although a few key factors may be controlled experimentally, the RCT design in general makes no attempt to hold constant the myriad other causes that influence an outcome in addition to the treatment. Rather, the joint effect of these multiple causes defines an "error" term against which the size of the average treatment effect may be evaluated. Designating these effects as "error" does not prevent the other causes, many of which may be far more important than the treatment, from operating.

Figure 1: The causal effect of treatment X on outcome Y is unknowable when the same factors U can cause both

Randomization eliminates all other causes of X, but not of Y



U stands in for many individual variables, and the pathways stand in for many different direct and indirect effects

Figure 1 is a graphical model illustrating the benefits of randomization. It presents a simplified schematic account of a situation in nature, in which a particular intervention X (such as taking an SSRI antidepressant) has a causal effect on an outcome Y (e.g., chronic pain). We want to know what would happen were a patient to take the SSRI. Would it improve pain, or not? Observing the average difference in Y as a function of X provides good descriptive information, but gives the wrong answer for the causal effect of X when there are unobserved confounders (U) that influence both the outcome and the decision to take X. For example, depression itself may cause pain, so that people who take an antidepressant tend to have more pain already. The average difference in pain mixes up this association with any positive causal benefit on pain that taking an antidepressant might provide.

Randomization can help get the right answer. Randomly assigning who receives the treatment X eliminates all other causes of X (such as patient self-selection). There is no longer a causal effect of any unobserved factor U on X. Under this condition, the mean group difference in Y from a large RCT approximates the *average* causal effect (ACE) of treatment (Pearl, 2000; Robins, 2000; Rubin, 1974; Sobel, 1995). Randomization can thus be critically important in drawing causal inferences, especially when little is known about the causal mechanisms U that might be operating. Randomization controls for all factors known and unknown that might affect X. Substantive knowledge is not required. This was Fisher's great insight: a coin can replace a brain. As Figure 1 indicates, however, the "control" of an RCT is limited to X, the intervention. All other influences (U) on Y continue to operate, and these other causes are just as real as the randomized cause. The conditions under which clinical experiments can lead to valid conclusions about causal effects are now well understood. Strong inference is possible for both randomized and non-randomized interventions (Pearl, 2000; Rosenbaum, 1984; Rosenbaum & Rubin, 1983, 1984; Rubin, 1974, 1976, 1978; Steyer, 2005; Stone, 1993).

The controlled intervention is never the only cause of group differences in the sample. Randomization provides two benefits. It prevents the confounding that could arise if the same causes were to determine both treatment choice and outcome, and it ensures a rough balance in the composition of treatment and control groups on all factors, known and unknown (Pearl, 2000; Rubin, 1974). In an RCT with perfect compliance, the former criterion is guaranteed (as in Figure 1), but the latter is only approximated, as suggested in Figure 2. Evidence for a "significant" treatment difference reflects the total effects of the treatment plus the sample differences on other, uncontrolled, causal influences (Shipley, 2000). As Howson and Urbach (1989) put it, "Whatever the size of the sample, two groups are absolutely certain to differ in some respect, indeed, in infinitely many respects, any one of which, unknown to us, might be causally implicated in the trial outcome."

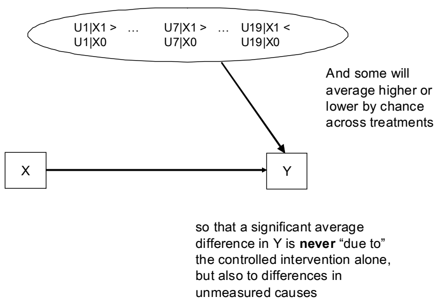


Figure 2: All the unmeasured causes affecting Y continue to operate

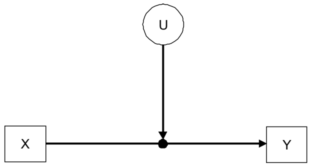
Statistics textbooks proclaim that a correct decision to reject the null hypothesis implies that the nonzero population difference result is "due to" the randomized treatment. But nothing in the logic of randomization justifies this attribution. A group difference in an experiment may be "due to" imbalance in other causes to a much greater extent than it is "due to" the differential treatment assignment. Other causes, such as pharmacogenetic differences between responders and non-responders, may be orders of magnitude more powerful than the randomized intervention, and may easily overwhelm an experiment that is approximately in balance. This problem persists for any sample size, since by definition, approximately 5% of confounding variables will always differ significantly by chance. The average group difference in a significant RCT always misstates the magnitude of the causal effect of treatment for this reason (Ioannidis, 2005a,b). This factual statement bears repeating. A "significant" average difference between treatment groups in an RCT *never* gives the correct answer for the magnitude of the causal effect of treatment. The degree of the error becomes small and eventually negligible with large studies, however.

In practice, every randomized controlled trial is merely an encouragement design. Randomization eliminates confounding only when compliance is perfect. If the study permits any degree of uncontrolled choice over X, then confounding is again present. The broken arrow of Figure 1 reasserts itself. Practical issues and ethical concerns guarantee that some lack of compliance will occur in every trial. Patients always have the right to decline treatment, or to drop out of the study entirely. More common perhaps are individual conscious decisions or unconscious behaviors leading to imperfect compliance with the randomly assigned treatment. If patients, for example, sometimes fail to take a medication because it tastes bad, then the theoretical control offered by RCTs breaks down. The results are confounded; "tasting bad" may reflect a generalized sensitivity that also leads to increased pain perception. Encouragement designs (Pearl, 2000) differ from RCTs in that patients are merely encouraged, rather than required, to follow their assigned treatments. The formal model of an encouragement design is exactly equivalent to that of an RCT with imperfect compliance.

Despite the formal equivalence of encouragement designs and RCTs with imperfect compliance, different traditions govern their analysis and interpretation. When compliance rates can be measured, encouragement designs provide definite bounds for the true effect of the manipulated intervention (Balke & Pearl, 1994, 1997). By contrast, the tradition in RCTs has been to use "intent-to-treat" analyses, which treat the assignment rather than the treatment received as the explanatory variable. This widespread practice apparently rests on the assumption that such analyses yield conservative estimates, as if the intent-to-treat effect were a watered-down treatment effect. This is not the case. Intent-to-treat analyses give answers that may be much higher or much lower than the true ACE, depending on why study patients were noncompliant. An intent-to-treat analysis may indicate a benefit where none exists, or even portray a harmful effect as beneficial. Patients who improve because they stopped taking a harmful treatment are counted as evidence of the drug's benefit in an intent-to-treat analysis. Patients may even choose to take the treatment to which they were not assigned; in the logical extreme, an intent-to-treat analysis could even reverse the true effects of the treatments, ascribing all of treatment A's efficacy to treatment B, and vice-versa. For both RCTs and encouragement designs, inference becomes more problematic as the proportion of noncompliance increases.

Randomization provides no control over how treatment may interact with uncontrolled causes. Randomization with strict compliance ensures that there are no other causes of *receiving* treatment, but provides no control over the *effects* of treatment and how they may interact with uncontrolled causes. When the treatment effect depends on other factors that are unknown or uncontrolled, the average causal effect, though still mathematically computable, no longer identifies "the" effect of treatment; there are as many effects as there are combinations of interacting causes (Figure 3). Treatment moderators condition the value and meaning of the manipulated effect according to the context of the interacting factors. For example, 10% of patients will lack the gene coding CYP2D6 biotransformation of codeine to morphine. For these patients codeine is a placebo, not an analgesic; "the" treatment effect doesn't exist. The interpretive problems do not disappear if the interacting causes happen to be unknown, as they usually are. In fact, the problems worsen because it is not possible to know how (qualitatively) or how much (quantitatively) the unmeasured causes are modifying the average treatment effect for any particular patient.

Figure 3: Moderated Intervention.
The causal effect of treatment X on Y depends on other known or unknown causes, such as genotype, history, physiological status, demographics, psychological traits or states, or general unmeasured individual differences



In this scenario, the effect of the controlled intervention depends on the uncontrolled context

The group difference in an RCT is of only accidental interest, since it is sensitive to exact distributions of uncontrolled variables that change from study to study

The average group difference is a poor summary of how treatment affects individual patients. Individual differences in response to treatment are a particularly important source of interactions, since the magnitude of effect depends on who you are. How would we know if a treatment "worked" for a patient? Unfortunately, it is not sufficient to observe the patient's response to treatment, because this would need to be compared to the response that would have been observed had the patient not received treatment. The individual causal effect (ICE) is this hypothetical difference, but it is not possible to compare the same person under two different conditions while holding everything else constant. Assignments can be made to receive a treatment or to not receive it, but not to both receive and not receive it at the same time (note that receiving, then not receiving, is yet a third treatment). The same fundamental problem applies to groups of people as well as individuals, but mean group differences from very large RCTs approximate the *average* causal effect (ACE) of treatment, the average of the unknowable individual causal effects (ICE) (Pearl, 2000; Robins & Greenland, 2000; Rubin, 1974; Sobel, 1995). But the ACE is a very weak standard for causal knowledge because it poorly represents the distribution of ICEs in the sample unless these are quite homogeneous (Steyer, 2005) (a rarity for most clinical outcomes [Donaldson & Moinpour, 2002]). The logic of RCTs simply does not address the question of whether the treatment worked for the individuals composing the study. This striking fact bears repeating: RCTs cannot reveal whether individual patients—not a single one—benefited from treatment or not.

The experimental unit is also an experimental unit (Shipley, 2000). Patients, in the broader terminology of controlled experiments, are “experimental units.” Causal mechanisms that operate within units are not subject to randomized control. An observed treatment difference in outcomes justifies only the inference that the treatment *assignment* was an indirect cause. The chain of processes that produced the outcome is opaque, because within-unit mechanisms are completely uncontrolled. For example, a randomized intervention to examine how SSRIs affect pain yields only the overall effect, and cannot distinguish direct effects from mechanisms operating indirectly (by reducing depression, for example). Surprisingly, non-experimental causal models of observational data can distinguish important classes of mechanisms that RCTs cannot (Spirtes & Sheines, 1993).

The choice of outcome for an experiment determines what to look at, not what happens. The language of intervention implies a clear causal link between a manipulation and a target variable. But the causal processes at work are seldom so simple, and the manipulated variable may in fact affect several inter-related variables, not just the one we happen to be looking at. The intervention of taking an SSRI may change pain, may change depression, or may even change the relationship between pain and depression. The level of the targeted outcome (the univariate outcome) may be changed directly, or indirectly, through the effects on mediating variables. As well, the intervention may affect the levels of other variables that may not have been “targets” of the intervention (multivariate outcomes) at all. The manipulated variable may induce a change in the relationships among variables (a relational outcome), rather than in their levels. For example, SSRIs might weaken the causal effect of depression on pain, eliminate it entirely, or even reverse the relationship. Most generally, an intervention may induce a completely new causal scenario requiring novel variables and relationships (structural outcome). For example, pain might become dependent on sleep quality following introduction of SSRIs. There is no logical basis for attributing one type of outcome, namely the univariate outcome of the targeted variable, as uniquely “due to” the intervention. Hundreds of overlapping, dynamic, interacting variables propagate from every intervention. Choose the wrong one to look at and you’ve missed the whole story.

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Experiments may be unethical or impractical. Biomedical questions often entail harsh consequences that cannot be ethically manipulated, even with patient consent. Even more commonly, the necessary randomized experiment to evaluate a difficult hypothesis would be too expensive or impractical. Observational studies may offer more ethical and less expensive alternatives (Campbell & Stanley, 1963; Dreyfuss, 2004, 2005; Lilford, 2003; Pearl, 2000; Robins & Greenland, 2000; Rubin, 1974, 1978; Sobel, 1995).

Opinion

Even the strongest advocates of RCTs acknowledge limitations in generalizing results to new patients, but most assert that RCTs embody the very essence of internal validity. Well, not so fast. In a dispassionate reading, the evidence from RCTs just does not mean very much, even in describing what happened in a particular study (Dreyfuss, 2004; Koch, Otarola, & Kirschbaum, 2005). RCTs provide precise but usually incorrect answers to an essentially irrelevant question about group averages. Large RCTs can well approximate the average causal effect of a treatment, but this average may poorly represent the diverse individual causal effects of treatment. A significant (non-zero) average effect provides the very weakest standard possible that "the treatment worked." Ironically, this is the standard that current practice and expert opinion routinely uphold as the strongest evidence. But if the results of a study cannot indicate whether treatment worked for even a single individual in the study, how can this evidence be strong for new individuals?

In practice, even the weak standard of the average causal effect of treatment is difficult to meet. Noncompliance renders RCTs equivalent to encouragement designs, and any degree of noncompliance introduces uncertainty in the determination of the ACE. RCTs could in principle report definite and probabilistic bounds on treatment effects using the same algorithms and formulas appropriate for encouragement designs, rather than relying on intent-to-treat analyses that can be highly sensitive to unknown compliance mechanisms. But these alogirthms require assessment of compliance for all enrolled patients. Encouragement designs, which anticipate noncompliance and plan for it, capture this information as a matter of course; intent-to-treat analyses of RCTs explictly ignore it. Every RCT should include a pre-planned noncompliance assessment, which would allow calculation of accurate ACE bounds. Having a common standard of practice for all trials would put "randomized" trials on the same objective spectrum of noncompliance as "nonrandomized" trials. This would allow trial designers to focus on the important question of *how strongly* to encourage assignments, rather than on a false belief in the mystique of an initial randomization that somehow maintains control in an uncontrolled and uncontrollable world.

Just as RCTs say nothing about who treatment worked for, they say nothing about how a treatment worked. Nothing in the machinery of statistical inference establishes that a group difference unlikely to arise by chance was in fact "due to" the manipulation. The attributive claim is causal, and depends entirely on the strength of uncontrolled, unmeasured, and largely unknown influences acting on the targeted system. What can we know from RCTs? A significant result provides strong evidence that the sample outcomes did not arise by chance, implicating *at least* the randomized treatment variable. But by the same logic, every other sample difference, measured or unmeasured, also contributed to the observed difference in outcomes. The observed difference is "due to" every single one of them jointly. Random assignment only ensures balance as trials become quite large.

In today's environment, each week brings findings from new clinical trials, many reported with great fanfare by the popular press. Yet successive months seem to bring new results that are inconsistent with, or that even overturn, the previous findings (Ioannidis, 2005a,b). Contrary to a common perception, there is no ineluctable process by which RCTs build architectonically to better systems of knowledge. Rather there is a sprawling, incoherent, inconsistent litany of factoids providing little benefit to patients wanting to know how to become healthier. This kind of chaotic process is just what one would expect when headlines proclaim a treatment "worked" each time a study shows an average group difference. The average differences are usually quite small compared to individual diversity, and reflect whatever chance differences in unmeasured causal variables occurred across groups in particular studies. Small wonder that it is hard to obtain consistent evidence for a treatment working, as the results of successive studies are pushed first this way, then that way, in a kind of Brownian motion driven by the chance assignments that populate the treatment groups. Each significant study is a result unlikely to occur by chance, yet we have no way of tracking how the confounding causes helped to create the significant difference. Yes, meta-analyses can help, but resolving their "heterogeneity" converges, if at all, on an overall average result far from the actual response of many, perhaps most, patients.

RCTs are excellent exploratory devices for discovering whether a manipulated variable *has any effect at all* (no matter how small or indirect) on one or more outcomes. Large RCTs can, in addition, provide accurate measurement of this average effect. Current usage does not generally provide evidence that would benefit individual patients needing to compare different alternative treatments and make the best choices for them.

External Validity

Fact

Internal validity addresses whether an experiment just conducted gave the right answers (past tense or indicative mood), while external validity addresses how the results apply to new patients and situations (future tense or subjunctive mood). Although internal validity is critical for coming to the right conclusions, external validity is what justifies extending the conclusions more generally. There would be little point in conducting rigorously controlled experiments if we did not believe that the experimental findings had wider applicability than the sample at hand.

Individual differences in treatment response make generalizations risky. The clinical trial testing apparatus is an extension of early agricultural and biological experiments. In these experiments, representative samples from a well-defined population were assigned treatments at random. The experimental units were more-or-less exchangeable members from homogeneous, objectively identifiable biological populations (such as particular strains of bean plants). If an internally valid experiment revealed a mean difference that was unlikely to arise by chance, then the representative sampling justified generalizing the results to other members of the population. For such homogeneous populations, individual differences in population units could be thought of, for practical purposes, as experimental error.

How different the situation is with clinical trials. Most clinical studies display great heterogeneity of individual patient responses, with much overlap between treatment distributions and relatively small average differences between them (Donaldson & Moinpour, 2002). Although random error contributes to this appearance of diversity, the differences are real. Clinicians readily accept that individuals typically have quite diverse responses even to uniform treatment protocols. Given this diversity, the average treatment effect from an RCT poorly represents the expected responses of most individuals. Generalizing the average result to each new patient may work out in the long run, but will seldom work out for individual patients who are likely to do much better or much worse than average. The inductive justification for generalizing average results is only compelling when individual differences are small and the group difference is large.

Population sampling is at best a metaphor in many RCTs, and it may be impossible to know how to generalize results to appropriate real people. "Populations" in clinical research seldom have the objective reality of biological populations. They may be mixtures of objective populations. Most often, however, the clinical trial population is defined by inclusion and exclusion criteria that constitute artificial recruitment rules rather than natural populations. For example, "female patients greater than 18 years of age with current diagnosis of chronic pain who are English speakers, not currently on opioid therapy, and not currently treated for depression" is not a natural population; it is a somewhat arbitrary list of conjunctive and disjunctive properties, logically akin to "adults who live in metropolitan areas or who wear cotton sweaters during the months of December and January." Any member of this "population" is also a member of many other populations, many of which have greater objective reality (defined, for example, by pharmacogenetic profiles). It is not possible to justify a unique inductive inference with respect to the artificial protocol population. The population sampling model, rooted in biology and agriculture, simply does not fit well when the populations are arbitrary constructions. The model works best when there is an objective pathological basis for identifying a disease state (e.g., Stage III oat cell carcinoma) and works most poorly when the diagnostic state is a label with poor sensitivity and specificity (e.g., depression, anxiety, sleep problems, chronic pain).

Longitudinal RCTs pose special risks to external validity. RCTs may sample mixtures of different kinds of people with different response profiles. If these profiles are unknown, it is difficult to know which results to generalize, and for whom. One particularly difficult form of mixture sampling arises in studies that follow patients over time. Longitudinal trials provide more useful clinical information than short-term studies, but they invoke special threats to external validity. Particularly in studies of patients with progressive disease, participants may drop out of the study because of death or illness. Most often, patients remaining on study tend to have more positive outlooks than the baseline sample. Proper generalization then becomes challenging since there are several result strata, conditional on time on study. It is not possible to identify in advance which of these strata is the appropriate generalization for new patients, whose survival status lies in the future. Mean differences in survival strata tend to overwhelm any effects of treatment. Though many sophisticated analysis approaches have been developed to deal with the problems of nonignorable missing data (Donaldson & Moinpour, 2005), none can ensure validity of inference.

Real people do not choose treatments at random. Random treatment assignment ensures lack of confounding in an experiment, but real people do not choose their treatments at random. The results from a randomized study may not generalize to a real population in which people make treatment decisions rationally or even impulsively. The effectiveness of therapy may depend on the patient's endorsement

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of the therapeutic approach, and randomizing across this reality blurs an important attitude-by-treatment interaction. The overall effect of treatment (the ACE), the effect of treatment on the treated, and the effect of treatment on those who would choose it define three different effects (Pearl, 2000; Robins & Greenland, 2000; Rubin, 1974, 1978, 1986; Rosenbaum, 1984). Most often, this latter effect is the clinically relevant one: we intend our results to generalize to those patients who, after reflection and consultation, decide to pursue a particular therapy. Newer experimental designs, based on encouragement designs (Pearl, 2000), Bayesian approaches (Kadane, 1996) and causal modeling (Spirtes & Sheines, 1993), permit strong causal inferences while still allowing patients a choice in their clinical therapies.

Opinion

The main result of an RCT is a mean difference between treatment groups. What is this result good for, to a patient who wants to know whether the treatment will work for him or her? Not much, probably. For most RCTs, the average difference is quite small relative to the diversity of individual responses. The relevant question for patients is not, “Did the treatment work (on the average)?” but rather, “Is the treatment likely to work for me?” RCTs pursue the wrong question. Whether the treatment works on average represents a hodgepodge answer that averages over many different patterns of patient responses. There is no basis for generalizing the hodgepodge answer to particular patients, other than as a very general indication of how the odds might shift if they were to pursue treatment.

A far more appropriate question is “For whom does the treatment work, and how well?” Modern statistical methods, such as mixed effect models, can go a long way toward answering this question. These methods quantify the variability of individual treatment responses, incorporate covariates that can predict these responses, and also yield estimation rules for calculating individual responses. Today’s research environment defines a successful treatment as one that generates a significant statistical difference in an RCT. But this standard, which merely asserts that the mean difference was not exactly zero, is almost completely irrelevant to clinical needs. An important clinical effect must be large relative to the diversity of individual clinical responses. A good replacement criterion is to consider a clinical effect “important” if the mean group difference exceeds the typical within-group standard deviation of true individual responses (derived from the variance components of mixed effects models).

Overall Validity

Fact

RCTs provide a weak standard for causal inference. Problems with uncontrolled causes, sampling, individual differences, and attrition in longitudinal studies make it particularly difficult to generalize even the weak results of an average difference to real people.

Opinion

“Evidence-based medicine” is fine, but “medicine-based evidence” is what we need. This must be defined more broadly and relevantly than RCTs permit (Tonelli, 2001;

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Tonelli & Callahan, 2001). Randomization is extremely useful as a design tool, but conventional interpretation, with its focus on "the" outcome for everyone, has ossified to the point of sclerotic dysfunction. The relentless use of the definite article has induced an almost superstitious belief in its applicability, in all contravention of basic common sense and clinical need. People are different, and have innumerable interrelated treatment responses. What happened to whom, and why? If patients changed, was it because, despite, or regardless of the treatment? (Pearl, 2000). RCTs, in tandem with fuller statistical analysis of longitudinal outcomes and rich covariate sets, can begin to answer these questions, as can many non-randomized studies, particularly if these are combined with strong causal models and analyses. Of course strong causal models are difficult to come by, and randomization with compliance ensures—without strong theory—that there are no common causes of the treatment and later outcomes. But randomization is not unique in enforcing this assumption. The future cannot cause the past, and measurements well separated in time can be as effective as randomization in eliminating confounding. Much greater use can be made of time separation, as part of ongoing repeated measures evaluations, to supplement, or as an alternative to, randomization. In any event, it is not necessary to abandon randomization. From a causal modeling viewpoint, incorporating randomization allows us to remove all non-manipulated causes in our model, and this can often be of great benefit.

Randomization, stratification, physical control, multivariate assessment, repeated measurement, temporal separation, and theoretical knowledge are all valuable components of designing and interpreting an appropriate clinical study. Causal models provide an extremely broad platform for incorporating and evaluating all these aspects, and more. Causal models can include a randomized manipulation, but can also test for causal patterns that randomization cannot identify. Most important, they remind us that RCTs take place in a world in which all causal influences *keep happening*, and that these may be more important than the randomized intervention in determining the outcome.

Few would question that today's health care research accepts, even exalts, the RCT as a gold standard, with statistical significance the ultimate arbiter of treatment effectiveness. It is important to realize, however, that this acceptance invokes an actuarial, rather than a scientific, criterion for effectiveness: is the true effect likely, by objective probabilistic measure, to be exactly zero? This works for a single study, but as studies accumulate, it becomes harder to reconcile the inconsistent binary answers. We careen from one statistically significant mean difference to the next, the number of such results growing fractally and chaotically, each based in part on the unique happenstance differences in the unmodeled causes that determine sample makeup in each study. Of these, five percent are significant by chance, but a much larger percentage of significant results are skewed by unmeasured influences. Evidence that "the treatment worked" is repeatedly invoked to justify treatments for individual patients, but the evidence at hand is largely irrelevant to their individual outcomes. Contradictions multiply, and the iterations of studies and findings never seem to converge on the truth. The accelerated pace of research generates statistically significant but practically unimportant results for populations that may not exist, composed of homogeneous, exchangeable, idealized people who consent to treatments at the flip of a coin. We are lost, but making good time.

It doesn't have to be this way. Treatment randomization is a potent device for uncovering causal evidence, but the mean group difference in the patients so randomized is at best an impoverished source of evidence. Comprehensive statistical and causal analysis methods can readily examine a broad range of post-randomization evidence, not just the familiar mean difference between groups (e.g., Donaldson, 2003; Donaldson, Nakamura, & Moinpour, 2009; Donaldson & Moinpour, 2002; Moinpour, Darke, & Donaldson, et al., 2007; Moinpour, Donaldson, & Nakamura, 2009; Moinpour, Donaldson, & Redman, 2007). Comparative effectiveness research demands a clarified focus on why we conduct clinical studies in the first place. The relevant comparison we need to study is that between specific treatment alternatives and the benefits they would provide for each specific individual. This is *individualized* comparative effectiveness research, and modern statistical and causal methods can point the way.

The strong prejudice that randomized trials constitute the only sure pathway to health care knowledge would be incomprehensible in the grand sweep of scientific history. Certainly scientists before the time of Fisher and his randomized agricultural plots *thought* they were conducting science and acquiring knowledge. Across the broad spectrum of scientific activity today, few physicists, chemists, astronomers, meteorologists, geologists, paleontologists, anthropologists, economists, physiologists have ever randomized a Cepheid variable star, a strike fault, or a global recession. How then, do they do it? They do it by a combination of scientific reasoning, logical and causal inference, careful observation, and controlled—not necessarily randomized—experimentation. They do it, in short, by being scientists, not actuaries. And so should we.

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State of the Science Paper

SOCIAL MEDIA AND HEALTH CARE: WHERE'S THE EVIDENCE? THE SOCIAL MEDIA LANDSCAPE IN HEALTH CARE

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SOCIAL MEDIA AND HEALTH CARE: WHERE'S THE EVIDENCE?
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" Social media has invaded health care from at least three fronts: innovative startups, patient communities and medical centers." (Sharp, 2010).

First, what is social media? The Merriam-Webster dictionary (http://www.merriam-webster.com/dictionary/socialmedia) defines "social media as forms of electronic communication (Web sites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (videos)." Kaplan and Heanlein (2010) stated "Social Media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content" (p.61).

Second, what is the social media landscape in health care? Since 2000, the Pew Internet and American Family Project studied the use and impact of the web on health care. Initial studies examined impact in terms of searching for health care information. With the release of the report, *The Wisdom of Patients: Health Care Meets Online Social Media* (Sarasohn-Kahn, 2008), the studies focused less on searching for health information to how the concept of crowdsourcing as facilitated by Web 2.0 tools were becoming an integral part of the health care landscape. Sarashon-Kahn (2008) described how e-patients were connecting with others to dialogue or read about their personal experiences. Fox and Jones (2009) described this phenomenon as the social life of health information. Their findings indicated that "pursuit of health information does not happen in a social vacuum" (p.2) and that a growing population was accessing user-generated health information from people with similar conditions or "just-in-time similar-to-me" consumers. Although the use of social media (39% Facebook/Myspace and 12% using Twitter) was low in 2009, subsequent studies in 2011 indicated the increasing robustness of the social life of health information. "The online conversation about health is being driven forward by two forces: 1) the availability of social tools and 2) the motivation, especially among people living with chronic conditions, to connect with each other" (Fox, 2011, p. 3). Of the 74% of adults who use the internet, 80% seek health information, 34% read about someone else's personal health/patient care experiences, 25% watch online health related videos, 24% read online reviews of drugs, and 18% have gone online to find someone like them with a similar health/disease condition. Of the 46% of adults using social networks, 23% read about or follow someone's health experiences online and 15% have gotten health information from social networks. In a recent speech, Fox (September 2011) noted that " Peer-to-peer healthcare is a way for people to do what they have always done – lend a hand, lend an ear, lend advice – but at internet speed and at internet scale." She also reported that although health care professionals are still important sources of health information, 1 in 5 users go online to find someone with health conditions like them and this changes to 1 in 4 users if one has a chronic disease, cares for a loved one or has experienced a change in physical health such as weight loss.

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There is no doubt the social media landscape will continue to grow. One needs only to visit popular patient social networks such as PatientsLikeMe (133,455 patients), Inspire (225,986 patients) or CureTogether to get a sense of social media landscape. As noted by Fox (2011), two forces—mobile devices (increasing number of smart phones) and the diagnosis difference ("holding all other demographic characteristics constant …that having a chronic disease significantly increases an internet user's likelihood to say they both contribute and consume user-generated content related to health.") are serving as catalysts for peer-to-peer health care. Thus, the social life of health information is alive and well. It is therefore important to assess the evidence to support the use of social media to improve health care outcomes.

Purpose

The purpose of this paper is to highlight the current state of the science and make recommendations for a research agenda. This targeted review is a sampling of studies associated with social media and should not be construed as a systematic review. Social media includes social networks such as MySpace and Facebook, microblogging tools like Twitter and video sharing tools like YouTube. Traditional web-based interventions through patient portals or specific platforms (electronic support groups) and mobile-health applications such as texting were not included and are beyond the scope of this review.

An examination of current literature indicated there are 3 categories of studies occurring in the social media realm. The first set of studies examined the content of social media being disseminated through social networks and the microblogging tool, Twitter. Content analysis and text mining techniques were used to assess the nature and quality of the content. The second set of studies reported if and how patients or consumers use social media tools. These usage studies consist of generic studies examining representative samples that might use social media and specifically targeted usage studies by patient/consumer populations. There are relatively few if any studies that are specific intervention studies, especially randomized clinical trials. The last category focused on the use of social media in terms of research facilitation for subject recruitment or the use of self-reported patient data as a mechanism to test the efficacy of treatments.

Social Media Content

The first research area examined the content contained in social media web sites and twitter messages. The primary catalyst for the content studies stem from the questions raised about the quality of information on social media sites. Another catalyst is to investigate the flow and dissemination of information throughout the networks and assess its potential in health communications with the public.

Orizio, Schulz, Gasparotti, Caimi and Gelatti (2010) analyzed online social networks that focused on patients and related health care issues. Using a content analysis approach, they examined 41 networks on the following four categories: general information, technical characteristics and utilities, characteristics of the web site, and content. Over half the social networks (56.1%) were focused on multiple health conditions with the most frequent being neurological diseases, cancer, pregnancy and allergies. For those sites with a specific disease only, the most frequent diseases were diabetes, cancer/breast cancer, and mental health. The majority had .com extensions (indicating a commercially sponsored site) one-third of which had a quality certificate associated with the site. Most sites allowed patients to share their illness experiences and offered advice on disease management.

Gallant, Irizarry, Boone and Kreps (2011) conducted an inductive content analysis of the top 14 ranked hospitals' websites in six areas: social media, blogs, web-based broadcasting, web-enabled e-patient communication tools, mobile applications, and online health tools. All hospitals used some form of social media such as Facebook, YouTube and Twitter. The information on these sites included a mix of patient stories, advice from health care professionals, health promotion and prevention information, and information about procedures or tests. The amount of interactivity varied by hospital. Many hospitals had blogs mostly written by health care professionals. All the hospitals used their own web-based broadcasting with videos being the most frequent used platform. All but one hospital enabled email communication between patients and providers. A smaller number of hospitals provided online support group, text messages, e-patient sharing platforms (Caring Bridge) and online chat.

Other studies focused on specific content within social networks. Sajadi and Goldman (2011) examined the content related to incontinence on Facebook, Twitter and You Tube in one month. For Facebook, almost half of the postings (47%) was not useful information and were advertised commercial products (40%). Twitter tweets were linked to incontinence health care information (60%) and 30% advertised commercial products. There were 47% informational YouTube videos primarily developed by health care professionals or professional organizations and 40% commercially produced videos. Ahmed, Sullivan, Schneider and McCrory (2010) examined 17 Facebook groups associated with concussions to determine the demographic composition and the nature of postings. Users were predominately North American males and the majority (65%) posted personal experiences with concussions. A smaller percentage were either asking for or offering advice.

Greene, Choudhry, Kilabuk and Shrank (2010) evaluated the content of communication in 15 of the largest Facebook groups associated with diabetes management. Using content analysis techniques, four predominant types of communications were posted: information sharing of personal experiences (66%), interpersonal support and community building (28.8%), and to a smaller extent, patient centered management information and advertisements. Quality and safety indicators were used to examine content of 10 social networks primarily focused on adults with diabetes (Weitzman, Cole, Kaci & Mandl, 2011). These indicators were clustered into four domains: alignment with diabetes science and clinical guidelines; safety practices related to auditing of content; privacy policies and privacy protections and consistency of practices related to sharing of member data. There was considerable variability across each domain.

Using text mining analysis technique, Kim, Pinkerton, and Ganesh (2011) examined the major categories of questions and answers on the Yahoo Answers community during the H1N1 outbreak. The largest category was related to general health questions that included health, disease, medicine, evidence, and problems. These questions were primarily related to general health guidelines to prevent H1N1. The next category was flu-specific questions related to symptoms, body parts, and treatments. The third category was less on seeking medical information than seeking emotional support and coping. There was also considerable variability in terms of trustworthy sources like newspapers or government to opinion based answers.

Keelan, Pavri, Balakrishnan and Wilson (2010) examined the human papilloma virus vaccine debate in 303 blogs on MySpace. The analysis included the overall portrayal of the immunization (positive or negative), characteristics of the bloggers and an analysis of their supporting arguments. The majority (71%) were women and 24% identified themselves as parents. More men posted negative comments being critical of the HPV vaccine. “Male bloggers posting negative messages had approximately three times the number of friends as males posting positive blogs (951 versus 359). Female positive bloggers had a slightly larger network versus female negative bloggers (231:213).” (p.1537). Half of the blogs (52%) were rated as positive, 43% were negative and 6% were ambivalent in their portrayal of immunizations. Positive bloggers were concerned about the potential risk and that without other medical options, immunizations were most likely to help in prevention. For the negative bloggers, they minimized the risk, questioned the efficacy and safety of the vaccines, thought there were other alternatives, distrusted the recommendation and were against mandatory immunizations.

Four studies highlight the examination of Twitter messages or tweets. Scanfeld, Scanfeld, and Larson (2010) examined the 1000 randomly selected Twitter messages to classify and to determine the misuse or misunderstanding of antibiotics. Using a content analysis, the top five categories were: general use (289), advice/information (157), side effects/negative reactions (113), diagnosis (102), and resistance (92). The most number of misuse or misunderstanding were tweets related to flu and cold with antibiotic(s). Chew and Eysenbach (2010) conducted a content analysis of over 2 million tweets sent during the 2009 H1N1 outbreak. The study was also to examine the transition from swine to H1N1 terminology and to “validate Twitter as a real-time content, sentiment and public attention trend-tracking tool” (p. e14118). The use of H1N1 increased from 8% to 40% over time. Content analysis indicated most posts were related to news, updates or information. Personal experiences and personal opinions were the next most commonly shared. There was a small percentage (4.5%) of misinformation. Another study examined the portrayal of seizures in the era of Twitter. In a one-week sample, the analysis classified the tweets into four predominate categories: metaphorical (32%), personal experiences (31%), information (12%) and ridicule/jokes (9%). Based on their qualitative review of tweets, McNeil, Brita, and Gordon (2011) concluded that although the stigma of seizures was evident, there were opportunities to use the social media to disseminate accurate information about seizures and epilepsy.

The last study (Kendall, Hartzler, Klasjna, & Pratt, 2011) examined the use of Twitter for health promotion, specifically the health related fitness activities. Based on US guidelines for physical activity, the following three types of physical activity (elliptical, weight lifting and Pilates) were coded. The majority of the tweets (74%) referenced outside content or other users. In terms of the three categories, 60% or more of the tweets in the elliptical and Pilates categories were non-advertisement comments whereas the weight lifting were primarily (53%) advertisements. The two most frequent categories were evidence of or planning to do exercise. The authors concluded “Although these posts are probably intended to provide their social network with an update on what they have been doing, the prevalence of these types of posts suggest that Twitter might also be a promising platform for leveraging social support to motivate health behavior change.”

In summary, there is variability across the social networks in terms of the usefulness, the validity and the type of content being shared (factual to personal experiences). There are both generic health and specific disease oriented social networks available primarily on Facebook. Although in some instances, there was a lack of information (incontinence), misuse of information (cold and antibiotics) or misunderstandings (stigma of epilepsy or seizures), this represented a small percentage. As noted by Greene et al. (2010), “Clinically inaccurate recommendations were infrequent, but were usually associated with promotion of a specific product or service” (p. 287).

The studies also provided new insights into the use of online social media to encourage e-patients' engagement in their health. In particular, how consumers and patients shared experiences and solicited information and support from others. As noted by Ahmed, et al. (2010), their study highlighted not only the rich information being shared but that peer-to-peer interaction was one of the key aspects of the social networks.

Although the studies confirmed risks associated with social networks, there is a need to continue the examination of their potential. Keelan, et al. (2011) concluded their study provided not only many insights about the public's discourse but also provided suggestions on how public health could begin to tap the potential of social networks to disseminate public health messages. This was a similar finding from the Twitter studies. Scanfeld, et al. (2010) summarized, "Twitter is a space for the informal sharing of health information and advice. The dissemination of information on Twitter through networks of followers and a culture of "retweeting" demonstrate the potential reach of this medium for the dissemination of both valid and invalid information." (p. 186). Chew and Eysenbach (2010) reaffirmed these ideas and concluded, "social media to conduct infodemiology studies for public health." (p. 12).

Social Media Use in Health Care

A second area of studies examined specific uses of social media by various types of networks or patient populations. Frost and Massagli (2008) described the social uses of personal health information being shared by patients on a social network, PatientsLikeMe. The network, originally designed to share information related to amyothrophic lateral sclerosis (ALS), has expanded to allow patients with various diseases and conditions to share personal health information profiles and interact with each other. The study, using a grounded theory approach, examined how users referenced information from personal health profiles in their patient-to-patient communications. A total of 123 postings by 95 users met the sampling criteria and were analyzed. In general, comments made by users were focused more on treatments than on symptoms or outcomes and almost 50% included at least one question. Three categories of comments were determined: targeted questions to others with shared experiences; advice or recommendations, and sharing of experiences to form relationships.

Another study (Wicks, et al. 2010) of the PatientsLikeMe social network examined the potential benefits of this social medium for treatment decisions, symptom management, clinical management and outcomes. The top ranking perceived benefits were: learning about a symptom they experienced (72%), understanding side effects of treatments (57%), and finding a person who helped them understand the effects of a specific treatment (42%). To a lesser degree, 37% found the site helpful in making a decision to start a particular drug regime rather than changing drugs, dosage, or stopping a drug regime. The more features of the site used by the respondents, the more perceived benefits. Wicks, et al. (2012) conducted a similar study specifically examining the perceived benefits of sharing health data among epilepsy patients. Prior to joining PatientslikeMe, 30% did not know anyone with epilepsy in which they could engage in a conversation about the disease. Of this group, 63% now had at least one person to connect with on the platform. The top three perceived benefits listed by 50% or more of the total respondents were: finding someone experiencing the same symptoms; understanding more about the seizures and learning more about symptoms and treatments. At least 45% agreed the site improved their quality of life and gave them a better sense of control over their condition.

Using a mixed methods research design, Takahashi, Uchida, Miyaki, Sakai, Shimbo & Nakayama (2009) examined the benefits and harms of a social network for people with

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depressive tendencies. This relatively small study combined a qualitative content analysis along with a quantitative social analysis. At least 90% of participants had mood disorders and were classified as mildly, moderately or severely depressed. Over 50% had a positive assessment of the social network. For some, there was a positive benefit of peer support. The social network analysis showed that most users communicated one-on-one and there were some small groups with 3-5 members. In terms of harm, a "downward depressive spiral was related to friends who were moderately or severely depressed and friends with negative assessment of the SNS."

Tsaousides, Matsuzawa and Lebowitz (2011) surveyed patients with traumatic brain injury to assess their use of Facebook and any barriers preventing their usage. At least 60% were using Facebook, mostly to reconnect with old friends and to stay in touch with family and friends. Over 70% noted they would like to learn more about how to more effectively use Facebook features. Of the 40% not using Facebook, the two primary reasons were concern about security and presence of cognitive impairments, in particular forgetting passwords. Another study (Baptist, Thompson, Grossman, Mohammed, Sy & Sanders 2011) surveyed asthma patients for their preferences in using social media (Facebook, Myspace & Twitter), text messaging and email. Of the 145 patients that completed surveys, text messaging (82%), email (77%) and Facebook (65%) were used at least weekly. Text messaging was more likely to be used by younger patients (18-29 years). The patients preferred email (58.9%) to receive information and communication from their health care provider. The study also performed logistic analyses to determine the characteristics of the most frequent users and found several subgroups of users.

In the field of oncology, there were several studies focused on social media. Two studies examined how patients searched for breast cancer stories and the depiction of cancer survivors in videos. A randomized controlled experiment was conducted to evaluate different search strategies to find stories of breast cancer patients (Overberg, Otten, de Man, Toussaint, Westenbrink· & Zwetsloot-Schonk, 2010). Search strategies included a control group, searches by story topic, by writer profile or a combination search with both topic and writer profile. The story search facility had the most positive outcomes in terms of satisfaction with the search process and the stories retrieved. The story search group reported the stories had a greater impact on their coping with breast cancer. Chou, Hunt, Fokers and Augustson (2011) examined YouTube videos depicting cancer stories of survivors. Using a linguistically based narrative analysis, the study identified key characteristics of the video stories and how these attributes were used in the story. Most stories (86%) included a segment on the diagnosis of their cancer. The analysis also yielded four narrative functions: unexpectedness of the diagnosis, the dramatic tension and high emotional engagement, the lack of control and depersonalized references of health care professionals. Storytelling moved from passive voice in the diagnosis phase (feeling of helpless) to active voice of taking control and being a survivor. The story tended to use "direct reported speech and high evaluative language" creating a dramatic tension and invoking emotional engagement.

Bender, Jimenez-Marroquin, and Jahad (2011) conducted a content analysis of breast cancer groups on Facebook in 2008. The 620 groups (totaling over 1 million members) were classified into four types of groups: 33.7% fundraising; 38.1 % awareness, 9% product or service promotion related to either fund raising or awareness or 7% patient/caregiver support. The awareness groups represented the largest number of members. Of the patient/caregiver support groups, almost half (27/57) were established by high school or college students and had the greatest number of user generated contributions as measured by wall postings within the group. Unlike specific breast cancer online communities that use mailing lists or other platforms to provide support, there were relatively few groups focused on support of the patient, caregiver or family member. Two reasons may account for this last finding: the Facebook population in 2008 was primarily 18-25 year olds and belonging to a group linked to your individual profile and therefore no anonymity.

A recent study (McLaughlin, et al., 2012) conducted a study of 14 healthy childhood cancer survivors who participated in a social network intervention that used video sharing. The study examined the influence of six key factors on children's participation in the social networking and video sharing intervention. These factors included individual's social capital, social support, family interactions, self-efficacy, depression and self reported quality of life. Questionnaires and social network analyses measures were used to test six hypotheses examining the relationships between key factors and participation. An ordinary least squared regression analyses were performed given the small sample size. The only significant correlations were found between: 1) bridging social capital bonds were positively correlated with social network participation and video sharing; 2) those with decreased social support had increased social network participation and shared more video narratives.

A systematic review (Gold, et al., 2011) examined existing sexual health promotion activities in online social networks. The search strategy for this study included published scientific literature, electronic resources and social network sites. A total of 178 health promotion activities were included in the study. Of these 178, 58% used a social networking site and 42% used more than one social network. For health promotion activities, the following percent used primarily three networks: 71% Facebook, 46% MySpace and 30% Twitter. Almost one half (43%) were offered by not-for-profit organizations. Most were in the United States (71%) and the United Kingdom (11%). Three overall purposes of using social networks were given: having an organizational or program presence (83%), delivering a campaign or intervention (29%) or connecting similar individuals (6%). Most were targeted to young people and were focused on sexual health in general (57%) or specifically focused on HIV (25%). The health promotion activities on Facebook and Twitter were considered active since there were new postings. The MySpace environment was less active with fewer new postings. This study was the first to describe how social networks were being used and that future research needs to evaluate the process and outcomes variables associated with these social networks and their impact on sexual behaviors.

In summary, the descriptive studies highlighted specific usage, the perceived benefits and potential harm as noted in various patient populations. The studies highlighted how patients communicate with patients that have similar characteristics of a specific medical condition and as noted by Frost and Massagli (2008) future designs of online communities should facilitate "data centered patient conversations." There were a few studies that documented the social and emotional support provides by social media and in particular the initial data for online social network for children who lack the necessary support infrastructure. The one systematic review documented their usage related to sexual health promotion and the need for the development of comparative studies examining process and outcomes health care variables.

Use of Social Media for Research Purposes

The last area of inquiry concerns the use of social media for research purposes (data sharing and subject recruitment). With the advent of Web 2.0 tools, Allison (2009) outlined how companies and researchers could begin to leverage social network to recruit clinical trial subjects. In this particular article, PatientsLikeMe, 23andMe, Inspire and Susan Love's Army of Women along with other ventures such as Diabetic Connect, TrialX are mentioned for their value for patient recruitment. Fenner, et al. (2012) conducted an exploratory study to examine the use of Facebook to invite 16 to 25 year old females to join a health study. The results demonstrated the potential of using social media for recruitment especially for recruiting from non-urban areas.

Frost, Okun, Vaughan, Heywood & Wicks (2011) analyzed data from PatientsLikeMe to examine patient reported outcomes for off label prescriptions of amitriptyline and modafinil. Using a post hoc analysis of self-reported treatment histories of usage, dosing, perceived effectiveness and side effects, 9% of the 1394 patients taking amitriptyline and 1% of the 2000 patients taking modafinil reported taking these drugs for purposes approved by the FDA. Self-reported patient outcomes of off label drug use provided an additional mechanism to study perceived effectiveness and side effects. In another study of PatientsLikeMe using existing self-reported patient outcomes and a patient matching algorithm, Wicks, Vaughan, Massagli and Heywood (2011) examined the effects of lithium on self-reported patient outcomes. This article described their design as "most closely resembling a combination of historical controls with a lead in period" (p.412). An algorithm that matched lithium treated patients with controls based on their disease progression was developed to control for biases in the self-reported data. Although they did not find statistically significant results, the more important factor was to introduce a potential method for conducting research to accelerate clinical discoveries. Although many researchers support the rigor of randomized clinical trials, this study highlighted a rich data set that can be used to pose additional research questions.

Weitzman, Adida, Kelemen, and Mandl (2011) tested the willingness of online diabetes community to share data for public health research using a social networking tool. The goal was to develop a "low cost and scalable model of citizen science for diabetes research and surveillance" (p. e19256). Using the social network platform Ning, the researchers created the TuDiabetes network that had over 14, 000 members or which approximately 6500 were considered active users. In addition, TuAnalyze was created to allow social network members the ability to report and share biomedical data as well as to communicate with public health researchers. Over 1000 members were active users of TuAnalyze in which "81.4% chose to include their data in charts, graphs and maps describing the community with 34.1% of the total also sharing their personal A1c data on their profile page" (p. e19256). It was deemed that social networks provided an efficient method for data sharing and bidirectional communication within a disease population.

Conclusions

> "Using social media in medicine is still in its infancy. I think if we can maintain privacy, tools like Facebook and maybe even Twitter are going to be integral in how we provide healthcare in this country" (Brody, 2011).

This targeted review indicated social media in health care research is in the infancy stage. Most studies were descriptive and focused on the evaluation of social media content and its use by various patient populations. There were indicators that social media can effectively disseminate information to the public and there was growing evidence to provide emotional support for those patients with cancer and chronic diseases such as diabetes. Using a variety of data and text mining techniques provided a valuable snapshot of the public's opinions about various health related issues. There is also potential to use social media as a mechanism to recruit research subjects and to also tap into rich self-

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reported data to better understand the patients' experiences and their individual outcomes.

In summary, the studies to date provided necessary data to serve as a foundation for the development and implementation of social media to engage consumers in their health care, facilitate chronic care management, provide both informational and emotional support and to facilitate research discoveries. But in order to fully harness the power of social media in health, a specific research agenda is needed. This research agenda must go beyond the descriptive phase and initiate studies to examine the effectiveness of social media on health outcomes.

Research Directions

Although there is not one specific social media research agenda, several recommendations for research have been offered in the literature. Bakken, Stone & Larson (2008) identified a nursing informatics research agenda that included technology support for patients and their families. The agenda included a focus on the examination of Web 2.0 and emerging informatics strategies to engage "patients and their caregivers for collaborative knowledge-development, particularly related to self management in chronic care, symptom management and end-of-life-care" (p. 211).

Kibbe and Kvedar (2009) outlined a set of research questions for participatory medicine. They presented their recommendations and encouraged others including patients to add their research questions to the agenda. They proposed crowdsourcing as a means to generate a research agenda. Their overall question examines how participatory tools such as social media can improve self-care, quality of life and health outcomes.

Hesse, et al., (2011) also raised similar questions and also suggested the examination of the benefits of user-generated data for participatory science (Susan Love's Army of Women and NSF's participatory sensing experiment. The examination of factors associated with health decision making was an integral component of a research agenda proposed by Heidelberger, El-Gayar and Sarnikar (2011). As a basis for their agenda, the postulated a framework that examined the influences of online social networks and/or physical network including health care providers on a patient's health care decisions. Social presence was viewed a mediating factor in this framework. In 2011, a NIH Think Tank was convened to examine the connections between social network science and social media. As a part of that meeting, several research questions were generated of particular interest to health dissemination and implementation researchers.

The International Medical Informatics Association Workgroup on Social Media conducted a workshop in 2011 to begin the development a Research Agenda for Social Media in Healthcare and Academia. Although a research agenda has yet to be published, several participants published some future directions for social media research in healthcare. Lau, et al. (2011) identified four specific areas: usability of social media; safety and quality metrics of social networks (Weitzman, Cole, Kaci & Mandl, 2011), role of experience and apomediation and infodemiology and infoveillance.

In summary, Table 1 represents the collective thoughts from the various agendas and is offered in the spirit of creating a social media agenda. Kibbe & Kvedar (2011) stated, "This is a field in its infancy that, by definition—and according to the values that drive it—should be developed as a collaborative effort by all stakeholders". Perhaps the Western Institute of Nursing collectively can chart the course of a social media research agenda at the Roundtable event.

Table 1: Sample Topics/Questions for Social Media Research

Researcher	Research Areas/Questions	References
Clinician	• Patient Characteristics, too features & Usage • Patient's (in particular those with chronic care conditions) willingness to systematic collect data • The use of patient data sharing to facilitate medication dosage and titration decisions by patients in collaboration with their providers • Role of coaching, the amount needed and the balance between in person versus virtual coaching • What tools work best with what patients, for what reasons, over what time period and for what outcomes? • Motivation to search, seek and share info • Role of social presence as a factor influencing health care decision making	Kibbe & Kvedar (2009)
	• Information flow through the network on health decision making • Understanding the factors that influence health decisions	Heidelberger, El-Gayar & Sarnikar (2011)
	• The difference between in person networks (family or providers) in combination or separately from online social networks and their influence on health decisions • What is the relationship of online social network engagement and provider-patient interactions • Any differences between rural and urban patients and the influence of social networks on health decisions.	Hesse, et al., 2011
	• The influence of participatory tools on health decision making? • What is the role of second hand experience in making medical decisions? • How does apomediation process influence patient's health care decision making?	Lau, et al., 2011
Public Health/ Health Communications/ Social Network Science	• What are the benefits of user generated data for participatory science?	Hesse, et al., 2011
	• How does social network science connect with social media? • What is the process of how behavior change occurs as a result of social media? • How to reach various audiences through different social media channels?	NIH Think Tank-Social Network Science and Social Media Tools
	• Can we systematically mine user-generated data to measure the pulse of public opinion?	Lau, et al., 2011
Informatics	• What social media tools to foster collaborative knowledge development between patients and providers?	Bakken, et al. (2008)
	• What principles of Human Computer Interaction Design can be effectively applied to social media in health care? • What are useful usable and acceptable interfaces for community engagement?	Lau, et al., 2011
	• What are the characteristics of effective designs when constructing participatory tools?	Kibbe & Kvedar, 2009

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State of the Science Paper

ADVANCING THE NATIONAL RESEARCH PRIORITIES IN IMPROVEMENT SCIENCE

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The overriding goal of improvement science is to ensure that quality improvement efforts are based as much on evidence as the best practices they seek to implement (Shojania & Grimshaw, 2005). Simply put, strategies for implementing evidence-based quality improvement need an evidence base of their own.

With a heightened interest in quality of healthcare comes a burgeoning concern about the science underlying practices and delivery of care. However, insufficient progress has been made in improvement science.

In characterizing current status of improvement research, the following shortcomings were noted: Studies are performed in single organizations and do not yield generalizability information; imprecise measurement and insufficient description of the improvement intervention are apparent; studies do not produce information about sustainability of changes; contexts affecting implementation are not considered; cost or value are not estimated; and such research tends to be opportunistic rather than systematically planned (IOM, 2008a).

Experts point to an increasing challenge to translate and disseminate improvement evaluation results in a way that they are useful in decision making processes to improve health and healthcare. Indeed, research is considered a driving force for change in healthcare improvement and is at the core of the business case for quality improvement. Among the recommendations to advance improvement research is an improved infrastructure involving multiple institutions from a variety of regions and practices. The ideal infrastructure would enable cross-institutional studies, multidisciplinary studies, researcher training, and funding, all of which are necessary in an effective improvement research infrastructure. Along with these new directions, experts emphasize that a priority agenda for quality improvement research would stimulate and validate such research efforts (IOM, 2008a).

The revolutionary direction outlined in the National Institutes of Health (NIH) Roadmap (Zerhouni, 2005) brought with it impetus to redesign the very foundation of the health research enterprise—the Clinical and Translational Science Awards. The goal of these awards was to create research infrastructure that would translate basic research through clinical trials into widespread use in patient care, thus impacting patient outcomes. Included in the redesign was the requirement to effectively involve the public and clinicians in clinical and translational research priority setting and participation through community engagement groups (NIH, 2007).

Taken together, these recommendations and funding directions have launched improvement science and pointed to the need for a research agenda for the field. The nascent field has many challenges in moving forward. One of the most urgent is to set a course toward highly relevant improvement research studies. This presentation highlights factors leading to the new scientific field and summarizes recent advances in establishing national research priorities in the field, standing up a virtual collaboratory called the *Improvement Science Research Network* (Stevens, 2009), and launching national multi-site research studies.

Background

Health care quality problems are widespread and often glaring, but the underlying causes of these problems remain unclear (McGlynn, et al, 2003). Attempts to achieve optimal care have been expressed via a wide array of approaches, including translational research targets, evidence-based care, accreditation and external accountability for quality and safety, risk management, error prevention, organizational development, leadership and frontline enhancement, and complex adaptive systems frameworks (Grol, et al, 2004). Nevertheless, effective methods of achieving improvement have not been confirmed by the simple tests pursued in the context of these approaches; rather, well-designed interventions and testing strategies are required.

Importance of Improvement Science

Quality improvement and patient safety are imperative clinical targets supported by policy, patient-advocacy, and healthcare professional groups, yet research to determine which improvement strategies are effective has been insufficient at best. While the need for improvement research evidence is critical, corresponding infrastructure and capacity among health scientists to conduct rigorous, well-designed and action-oriented studies are lacking.

This gap is caused in part by the lack of rigorous research approaches in the field of improvement science. Experts question, “Why would we exempt research in quality improvement from scientific standards that we routinely apply to the leading causes of morbidity and mortality?” (IOM, 2007 State of QI, p. 74). Some research approaches remain to be invented. In addition, the theories, methods, and designs for achieving rigorous research in the field are newly-arising and many healthcare scientists are not yet skilled in applying these new research methods. Training programs are only beginning to include these topics in the education of future healthcare scientists (e.g., Rubio et al., 2010).

Critical barriers to progress in improvement research were recently underscored by an expert panel (IOM, 2007; 2008b):

1. Improvement initiatives are conducted for different purposes than scientific research, instead emphasizing experiential learning and compromising the understanding of generalizable truths.
2. Specific contexts of improvement initiatives limit generalizability.
3. Improvement science does not have a scientific ‘home’ and requires interdisciplinary research.

4. There is a mismatch between training and practice—those conducting improvement projects have little research training.
5. Ethical oversight principles are not clear-cut.
6. Improvement studies are not subject to rigor and causality is difficult to establish.
7. In the rare instance when improvement studies are published, they are often poorly conducted and not generalizable.
8. Lack of a common vocabulary and taxonomy for improvement research terms hinders progress.

Improvement research has the potential to help transform health care, and these barriers can be overcome. Exploration of terminology and establishing research priorities will help clarify our collective thinking about the most fruitful first steps.

Terminology in the Field

A flurry of terms has emerged and, in at least some regard, is related to increasing our understanding of what is effective in making changes intended to improve care and outcomes. In this discussion, we refer to this with the umbrella term, improvement science. Terms are often interrelated and overlapping, such as complexity science, science of change, implementation science, systems research and, of course, improvement science. None are adequately defined by experts in the field yet, hence the IOM's reference to barrier #8, above.

The paradigm shift to emphasize the science underlying healthcare quality improvement is a recent one. Research directions began to change in the last decade and was heavily influenced by the Institute of Medicine quality initiative and *Chasm* reports (e.g., IOM, 2000, 2001, 2008c). The escalating movement has spawned a number of terms and approaches, adding to the initial scatter of the effort. Among the terms used are improvement science (preferred in this discussion and offered as a term meant to include others), translational science, science of change, and implementation science. While evolution and final determination of terminology in the field is beyond the scope of this discussion, we will discuss the term, improvement science, in juxtaposition to the other terms such as translational science.

Added to the traditional research on clinical efficacy of interventions, the interest in 'what works in improvement strategies' and 'how it works' has rapidly grown. This major shift was catapulted forward with the issuance of the National Institutes for Research (NIH) Roadmap, which set new directions and coined new terms; in fact, the term "translational science" was used in this 2005 report (Zerhouni, 2005). The concepts were outlined and further dubbed "Translation 1" ("T1" from bench to clinical trials) and "Translation 2" ("T2" from trials to widespread clinical adoption). These terms were further cemented with the establishment of the NIH Clinical Translational Research Awards (CTSA), intended to firmly link bench research to bedside care by setting requirements (i.e. translational science and community outreach) that are intended to transform the clinical research enterprise.

Our definition of improvement science includes both T2 as originally defined and also as translational science is expanded to include T3. T3 research seeks to discover the "how" of effective and safe care delivery so that "evidence-based treatment, prevention, and other interventions are delivered reliably to all patients in all settings of care and improve the health of individuals and populations" (Dougherty & Conway, 2008, p. 2319).

In this schema, translational science engages multidisciplinary collaboration to accelerate application of the discoveries across all stages and moves toward improved health care quality and value and population health (Dougherty & Conway, 2008). Extended from T1 and T2 above, T3 represents the practice-oriented stage and focuses on T3 relies on dissemination and answers questions about whether the effective practices are now being used in the world at large. Questions in T3 research are: What is the best method to reach clinicians and patients with a policy concerning a given treatment so that they will (1) understand the new treatment and (2) start to use it? Also in T3, new wide-spread practices are standardized to science and new evidence-based policies are formulized. Additional questions focus on effective ways to make systems changes and create organizational cultures of quality. It takes all three stages to move what is discovered in a lab into the common care of the general population.

Likewise, each of these stages brings to light important research; the attendant research methods and frameworks of each of these stages will differ as well. T1 and T2 research methods in basic science and clinical trials are well defined and executed through a long history of methodological and theoretical evolution. The rigorous methods of basic "bench" research follow well-established standards for scientific discovery in a well-controlled laboratory. Many of the standards are also used in clinical research trials, where the randomized control trial (RCT) is the gold standard for testing.

Not so with T3—research methods in this stage of translational science are embryonic. The methods more closely follow the broad field of health services research. Two paradigmatic shifts will be necessary to hasten the evolution of improvement science methods in the T3 stage. The first shift is from quality improvement strategies to the science of improvement that tests the improvement strategies. The second shift is from classic experimental research with highly controlled variables to research about complex and dynamic phenomena. As an example, it is enlightening to compare the relatively highly controlled designs such as randomized controlled trials (RCTs) is ill-fitted to providing explanation of phenomena within complex adaptive systems (such as change within clinical care units); rather, more fitting designs include triangulation of qualitative and quantitative data within such frameworks.

Recently, *innovation* has been added to the emphasis on health care improvement and the seeds of improvement science can be traced in the methods employed. The Agency for Health Care Innovations Exchange, launched in 2008, profiles improvement innovations and includes information about how the innovation was evaluated to answer, "Did it work?" Included in this resource are innovations of national import that have been evaluated and have yielded significant improvement in care processes and patient outcomes—most often within the local context of the innovation. The 500-plus innovations profiled in this online resource reflect the nationwide interest in improvement science (AHRQ, 2008).

Following a recent report, *Knowing What Works in Health Care* (IOM, 2008b) scientists have begun to explore further the scientific approaches to systematic reviews and development of evidence-based clinical practice guidelines. Methodologic questions were raised about rigor in systematic reviews of and credibility of clinical guidelines. These, too, are important research methods in improvement science and this report recommends that national scientific standards be established for these methods (IOM, 2008).

Experts have asserted that unique research designs are required to capture cause-and-effect from improvement interventions (Pawson & Tilley, 1997). A series of articles (compiled by Grol et al, 2004) highlighted the specific aspects necessary to adequately study improvement. Indeed some suggest new academic posts, “translationally oriented,” are urgently needed to raise awareness and accomplish reorganization of academic teams to address translational research (Keramaris et al., 2008).

The recently-funded *Improvement Science Research Network* (Stevens, 2009) is further proof of the nation’s interest in this field. The NIH-funded project (NIH 1RC2 NR011946-01) created a virtual research network and infrastructure to increase the quantity and quality of improvement research in healthcare. As part of the network, national healthcare leaders have joined together in a project advisory Steering Council and are keen to advance improvement science through multiple interprofessional venues, including this proposed scholarly work.

Need for Priorities for Improvement Research

The great need for improvement science carries with it opportunity for a myriad of priorities to be defined. Consensus priorities can highlight the most important and urgent gaps in improvement knowledge as identified by clinical and academic scholars, leaders, and change agents in acute healthcare settings. The need for improvement research is great, yet today’s resources are limited and advancements in the field are hampered by the lack of a national research agenda with clearly defined priorities to systematically build knowledge.

There is a limited cadre of improvement scientists; the situation may not be remedied in the near future because current training is inadequate and often unrelated to improvement research.18 In addition, research dollars in the field are constrained. Federal and foundation spending for T2 and quality improvement research is estimated to be only 1.5% of biomedical research funding (Moses et al, 2005).

The call for quality improvement research to be relevant, useful, and practical to decision makers anchors the development of improvement science priorities. This situation accentuates the need for a well-targeted agenda for improvement science. Clear priorities will enable us to focus today’s limited brain trust and fiscal capacity on the most urgent improvement topics, enabling research to become a driving force in quality improvement.

Developing Consensus on Improvement Research Priorities

As part of the strategic plan to build an infrastructure for improvement science, an early target of the *Improvement Science Research Network* (ISRN) was to establish consensus on high-priority research, development, and evaluation needs to guide the scientific field. Because the ISRN aims to promote a national program of research to advance what is known about improvement strategies, it was urgent to outline an agenda of priority research studies and topic areas as a place to begin. Such an agenda serves as a common rallying point to focus resources and attract improvement scientists and scholars into a collaborative around these common research goals.

The ISRN Research Priorities are intended to define the most urgent research studies needed to determine effective strategies in quality improvement and patient safety at this point in time. By networking to conduct improvement studies on these first targets, the ISRN will be able to intensify research efforts and produce seminal research-based knowledge quickly.

The priority-setting process was informed by a number of sources. These included environmental scans of key concerns in healthcare, reviews of professional and scientific literature, research priorities for quality and patient safety established by other entities (e.g. World Health Organization), a targeted interprofessional stakeholder survey, and a Delphi process with the ISRN Steering Council serving as an expert panel, they themselves representative of a wide array of stakeholders with interprofessional perspectives. Multiple points of information and multiple iterations of consensus building were used to assure that the Research Agenda would represent wide stakeholder perspectives and merit attention.

Development was accomplished through four major phases: Multiple iterations of survey development; administration of online survey to stakeholders; Delphi technique with Steering Council members; and refinement through expert panel discussion.

Stakeholder opinions were sought through an online structured survey. The survey was developed, pilot tested with various groups of stakeholders, and revised over an 8-month period (June 2009-February 2010) and through three revisions. The final survey included 33 improvement topics organized into 9 dimensions of quality and safety. The online survey was preceded with an advance email invitation, followed by the invitation and survey link, and a reminder, each sent at one-week intervals. During a 5-week period (February-March 2010), the survey was distributed to 2,777 stakeholders identified through a variety of methods, including identifying interprofessional groups and organized associations of health scientists, healthcare clinical leaders, and thought leaders in improvement and patient safety. Data were gathered from 560 respondents (a 20% response rate).

Responses were analyzed using descriptive statistics and presented to an in-person meeting of the expert panel held March 25, 2010. A Delphi approach was used during facilitated consensus formation discussion at this meeting.

Results of the panel’s multiple iterations were captured by the investigator and vetted once again during a meeting a month later. Through these processes, consensus on the ISRN Research Priorities was established and framed as the ISRN Research Agenda. The research priorities represented in Table 1 were adopted for the ISRN as the best thinking to date about the direction that should be taken in improvement science.

The ISRN Research Agenda is organized into four broad priority categories or domains. While it is acknowledged that, within each of these four areas, investigators could pose questions to investigate structure, process, outcome, and knowledge, the four clusters provide one way to emphasize various perspectives on quality and safety. To further circumscribe each research domain, priority topics and examples of improvement strategies were added. The order of topics does not reflect order of priority.

TABLE 1. Research Priorities of the Improvement Science Research Network (ISRN, 2010)

A. COORDINATION AND TRANSITIONS OF CARE—this category emphasizes strategies for care improvement to care processes in specific clinical conditions. At this time, care coordination and transitions of care are the key clinical focus.

Priority Topics:
- Evaluate strategies and methods to assure coordination and continuity of care across transitions in given clinical populations.
- Test and refine methods of handoffs and other strategies to assure safe, effective, and efficient transitions in given clinical populations.

Examples of Improvement Strategies and Research Issues:
- Team performance, medication reconciliation, discharge for prevention of early readmission, patient centered care, measurement of targeted outcomes.

B. HIGH-PERFORMING CLINICAL SYSTEMS AND MICROSYSTEMS APPROACHES TO IMPROVEMENT—this category emphasizes structure and process in clinical care and healthcare as complex adaptive systems.

Priority Topics:
- Determine effectiveness and efficiency of various methods and models for integrating and sustaining best practices in improving care processes and patient outcomes.
- Investigate strategies to engage frontline providers in improving quality and patient safety.
- Evaluate strategies for preventing targeted patient safety incidents.
- Establish reliable quality indicators to measure impact of improvement and isolate nursing care impact on outcomes.

Examples of Improvement Strategies and Research Issues:
- Frontline provider engagement, factors related to uptake, adoption, and implementation, sustaining improvements and improvement processes.

C. EVIDENCE-BASED QUALITY IMPROVEMENT AND BEST PRACTICE—this category emphasizes closing the gap between knowledge and practice through translating knowledge, and designating and implementing best practices.

Priority Topics:
- Evaluate strategies and impact of employing evidence-based practice in clinical care for process and outcomes improvement.
- Determine gaps and bridge gaps between knowledge and practice.
- Transform evidence for practice through conducting systematic reviews, developing practice guidelines, and integrating into clinical decision making.
- Develop new research methods in evidence-based quality improvement, including comparative effectiveness research and practice-based evidence.

Examples of Improvement Strategies and Research Issues:
- Develop and critically appraise clinical practice guidelines, adoption and spread of best practices, customization of best practices, institutional elements in adoption, defining best practice in absence of evidence, consumers in EBP, technology-based integration.

D. LEARNING ORGANIZATIONS AND CULTURE OF QUALITY AND SAFETY—this category emphasizes human factors and other aspects of a system related to organizational culture and commitment to quality and safety.

Priority Topics:
- Investigate strategies for creating organizational environments, processes that support cultures fully linked to maintaining quality, patient safety to maximizing patient outcomes.
- Determine effective approaches to develop organizational climates for change, innovation, and organizational learning.

Examples of Improvement Strategies and Research Issues:
- Unit based nursing quality teams, protecting strategy from culture, engendering values and beliefs for culture of patient safety.

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Putting the Priorities into Action

This agenda for priorities in improvement science represents the first in the nation. The priority agenda articulates a common target for the collective thinking among the 250 clinicians and academicians who have been attracted to and affiliate with the ISRN as research associates in the network. With the articulation of stakeholder consensus in these priorities, academic and clinical scientists can partner in a concentrated program of research in highly-needed areas. The priority agenda also sets a point of reference against which we will track progress in improvement research to transform healthcare.

The ISRN priorities guide selection of landmark improvement studies to launch through the ISRN network across multiple sites. Table 2 describes the three studies-in-progress and identifies the associated ISRN research priority (refer to Table 1).

TABLE 2. ISRN Network Studies and Associated Research Priorities (ISRN, 2012)

Study: Small Troubles, Adaptive Responses (STAR-2): Frontline Nurse Engagement in Quality Improvement **PRIORITIES: B and D**

This study will determine the types and frequency of first order operational failures that nurses self-detect during their work shifts, and will evaluate whether the self-detected failures correlate with failures that are observed by others. Nurses on participating units will use specially-designed (index sized) pocket cards to record -- in real time -- the small operational failures that they encounter. Data will be analyzed to determine a rate of small failures per patient per day.

Study: Impact of Cognitive Load, Interruptions and Distractions on Medication Administration Errors **PRIORITIES: B and D**

This project will investigate the impact of interruptions and distractions on performance in medication administration as a basis for designing interventions to diminish their impact on performance errors. This multisite, two-phase study will begin with a descriptive-correlational phase in which researchers describe the various types of interruptions and distractions that occur during the medication administration process; the second phase of the study will test interventions to reduce the impact of these interruptions and distractions on performance.

Study: Team Performance for Patient Safety **PRIORITIES: B, C and D**

TeamSTEPPS is an evidence-based system aimed at improving patient outcomes via fostering improvements in teamwork and communication skills among members of the health care team. The goal of this study is to understand TeamSTEPPS as an improvement science demonstration model by evaluating how teams work in real-world clinical settings and identifying “gaps” in knowledge and practice with regard to optimal teamwork.

For each study, an ISRN Network PI (often clinician-academician co-investigator team) proposes use of the Network and justifies the contribution of their study to ISRN priorities.

The Network PI then guides the ISRN Coordinating Center in development of a protocol implementation kit (PIK) to assure high fidelity of project implementation across multiple sites. Next, the Network study is offered in open invitation across the ISRN and associate members apply to become one of the sites for the conduct of the study. Sites are selected by a scientific panel and a Research Collaborative is formed, comprised of Site PIs (clinical and academic partners) and Network PIs. The Collaborative is supported by the ISRN Coordinating Center during the launch and conduct of the study. Group process of the Collaborative is facilitated through orientation to the PIK as well as to the concepts of the "science of team science," using the evidence-based *ISRN Research Collaboration Guide*.

Success of the priorities and of this approach is reflected in the enthusiastic national acceptance of the first ISRN Network Stucy. For an expected 5 sites, over 50 ISRN associates indicated interest and 35 applied. After realignment of Coordinating Center resources, 15 sites were selected into the first ISRN Collaborative.

Conclusions

The compass established by this research agenda will advance knowledge translation, clinical decisions, and ultimately inform policy related to quality improvement, driving healthcare transformation. We believe that by making substantial progress in these priorities over the next three to five years, ISRN associates will contribute significantly to improvement science for patient outcomes in our nation.

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Distinguished Research Lectureship Award Paper

SLEEP: NOW THAT IS AN INTERESTING TOPIC!

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Seattle, WA

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Thank you very much. It is an honor and a privilege to receive the WIN Distinguished Research Lecture. When Marie Lobo called me and said I had been selected for this year's lecture I was a little stunned, and one of my first thoughts was "but I have always been just one of a team of scientists working together, not a star." But as I thought about it, very little science is done as a solo endeavor; rather it represents a collaborative effort with a team working together with each member of the team contributing to what is, certainly a greater whole than anyone working alone. Indeed, in the complexity of today's science it is virtually impossible for a single individual to hold all the knowledge and skills that are needed to adequately study the complex questions being asked. Thus, this lecture is based on my perspective as a member of a research team or, rather, as a member of a series of research teams.

One of the very nice things about this lectureship is that I get the chance to talk about my journey from a farm kid to scientist and some of the exciting science that I have had the opportunity to be a part of along that way. As I began working on this talk it occurred to me that as someone holding a research appointment on the "tenuous track," my career path has been somewhat different from the traditional academic tenure track that combines formal teaching and research. I will try to include some of that perspective in my remarks. Thus my plan today is to talk about how I became a scientist, what are some of the interesting scientific questions I had an opportunity to work on, and finally, I want to speak a bit about passing the baton on as my career has matured.

Now, as a scientist interested in sleep and other biological rhythms, I know that given the time of day, you are experiencing consistent with the two process model of sleep, a circadian dip in your wake mechanisms. So, for those of you that will be unable to resist that dip, I want to give my take home message up front. It is that the people I have had the privilege of working with, as a part of various research teams, have made my journey so fascinating and, I hope, productive. My take home advice is this: "enjoy your colleagues, find good people to work with, and you will enjoy your science more and do better science."

After getting my RN at Henry Ford Hospital in Detroit, I began my pattern of going back to school. First at Wayne State for my BSN, then UW for my MN, and then later I applied to enter the brand new PhD program at the UW. To my surprise, I was admitted and joined the first cohort. I can now confess that my best course was "Independent Study, N600-coffee shop." The program was comprised of five fields of study that forced us to open up our thinking to broader areas of the discipline rather than our on clinical sub-specialty interest area. Thus, in the class on environments I encountered Elizabeth 'Betty' Giblin, who had great enthusiasm for the study of sleep and had set up the first sleep laboratory in a school of nursing doing some of the early studies on sleep apnea. With Betty as my advisor I was off studying changes in sleep and circadian rhythms associated with aging and learning a great deal about research and the process of doing research.

One of the first things I learned was, at that time, Washington had a mandatory retirement age of 70, and Betty was forced to retire just as I was starting my dissertation; she could no longer be my primary advisor. I was most fortunate that Marie Cowan agreed to be my new advisor, with Betty as the sleep expert on my committee. I next learned that doing a sleep study takes at least a million pieces of fiddly equipment. Getting the nuts and bolts of a research study together takes a lot of work and time. I have since relearned this lesson many times.

Once I was ready to recruit subjects I learned that getting really healthy people to participate in a study is hard. When giving my study recruitment spiel, the reply was often “but I don’t have any disease—why would you be interested in me?” I wanted to shout that is precisely why, because you are a healthy 65+ year old. Twenty year olds were in it simply for the money. If we want people to participate in studies, it is appropriate to pay for their time and effort if they will get no direct benefit from the study. So perhaps the twenty year olds held the view we should take.

I then learned that recording subjects’ sleep at night makes it very difficult to be awake and recruit more subjects during the day. Fortunately, the Hester McLaws Fund from the School of Nursing and the American Nurses Foundation were willing to fund my work and enabled me to hire a sleep technician to monitor the subjects for the first half of the night. I learned that even half a night of sleep is valuable!

Mostly I learned that without the help and knowledge of a whole lot of people, this very small, simple study looking at circadian body temperature rhythm and sleep would not have been possible. In addition to the substantive and technical knowledge I gained from my committee members, there were the intense discussions that occurred. These discussions were the first of many I have had with members of a research team that helped clarify, strengthen, and generally improve the science of the study in progress.

Cosinor analysis was used to estimate circadian cycle parameters of continuous rectal temperature monitoring of 10 young men (24.1±1 yrs) and 10 older men (67.8 ± 1 yrs). The older men had an acrophase prior to 6pm and the young men (with one exception, a man who started work at 5am), had an acrophase after 5pm. The old men also had a reduced temperature amplitude with slightly higher nighttime values and lower daytime peak temperatures. These plots are copies of the original hand drawn ones from my dissertation. The time we spend in bed is behavioral, but the time of sleep events within the sleep period are controlled by circadian timing, as seen by the difference in time from the acrophase of the temperature cycle to sleep onset between the two groups. But the timing of REM sleep was at a consistent point in the temperature cycle for both groups.

While working on my dissertation I began preparing to follow the research track and realized that I would have to be flexible and be able to contribute in a variety of ways so as to expand the types of studies I could contribute to and enhance my chance of avoiding breaks in funding. That is, unemployment. Given my interest in time ordered data, inherent in studying biological rhythms, I had taken some extra statistics courses, realizing that a sound statistical background opened up another ecological niche in which I could work. I also sought to learn about managing data as an additional means of being a valuable part of a research team. Fortunately, Nancy Woods was looking to hire someone with those skills for her study of symptoms across the menstrual cycle (NU1054-01-03**)** as the grant for a sleep study that I had applied for did not get funded. This study's purpose was to estimate the prevalence of PMS using the recorded symptoms to classify subjects as to having PMS.

Working as part of this research team also enabled me to learn about the use of diaries in the study of symptom patterns. I have always thought that the best way to understand the issues of data acquisition was to perform the study procedures myself. This has enabled me to identify problem points and try and develop solutions such that the hassle for subjects was minimized and the quality of data enhanced. Now I had not had any trouble sleeping in the sleep lab having my sleep recorded. Even three days wearing a rectal probe was not a problem. But, I was able to only complete about two days of diary symptom recording. I told Nancy, "no one will be able to complete 90 day diaries." I was wrong; only about 659 useable diaries were completed.

As we started to classify subjects using the then standard practice of a set percent increase in symptoms we realized that the classification lacked sensitivity. If you had almost no baseline symptoms any change put you into the PMS category whereas moderate baseline with a much greater simple magnitude of symptom change precluded you from being categorized as having PMS. Ellen Mitchell championed the idea of looking for patterns of change and did the hard, by hand, looking at symptoms that enabled us to develop three categories of symptom experiences. The three categories were: a low symptom group that really did not experience distressful symptoms (LS), a PMS group that only experienced pre-menstrual symptoms, and a pre-menstrual magnification group (PMM) that experienced symptoms all cycle but had increased magnitude of symptom intensity in the pre-menstrual phase.

We could create these categories, but were the diaries reliable as a means of getting the data? The most common method for assessing reliability, test-retest, requires that responses be stable across time. Diaries are designed and used to capture variability of symptoms across time, not for stability. An approach developed by Heise (1969), based on path analysis, allowed us to separate out the reliability of the diary from the stability of the responses (Woods, Mitchell, & Lentz, M. 1999). This gave us confidence that our diaries were reliable and I have continued to use diaries in all subsequent studies. I consider diaries of great value although I still fail the diary completion test!

A second grant (NU1054-03-06) enabled us to look at the pattern of gonadal hormones and the association with symptom clusters. These associations were then examined to see if they differed by PMS type. One of the issues with menstrual cycle research is that cycles vary in length. We accounted for difference in length by using the E2 surge to align the days into a standard 25 day cycle, as once the surge occurs there is a consistent 14 days until the onset of menses. Thus when we aligned the E2 the P4 was also aligned. The mean P4 levels differed slightly but were not statically significantly different between groups.

When we looked at the turmoil and fluid retention symptoms, two of the most commonly reported symptom clusters, there was a peak in the mean values associated with the premenstrual phase. We then used cross-correlation to test if women had a significant association between hormones and symptoms (Lentz, Woods, Heitkemper, Mitchell, Henker, & Shaver, 2007). A significant correlation is represented by value over the Bartlett band indicated by the line across the plot. These are lagged values comparing at lag 0 the same day hormone with the same day symptom values. Lag 1 a days hormone values is compared with the next day's symptoms. Thus lag 7 would be comparing a day's hormone value with the symptoms 7 days later. When I first looked at this type of plot there appeared to be a different pattern of significant correlation by group. But when we looked at all the subjects, the first significant lag and the last significant lag did not differ by group.

Not all women had significant cross-correlations. When we look at the number of subjects with significant cross correlations within each group we see that for fluid retention symptoms that LS and PMS groups were very similar in numbers but that PMM had significantly greater number of women with significant cross correlations. Turmoil symptoms showed a different break down of significant cross correlations with LS group having very few and the PMS and PMM being similar in the number of women with significant correlations. This really reflects the low turmoil experience of the LS women and highlights the different experience of the women in the other two groups.

As this work was being completed, an exciting opportunity was put forward by NINR to apply for funding for a Center, focused around a common area of interest as evidenced by the presence of funded research. Nancy Woods led the effort to form the Center for Women's Health Research. Nancy and Ellen's work with PMS I have just described, and Joan Shaver and Betty Giblin were engaged in work looking at sleep changes associated with menopause. Margaret Heitkemper was studying irritable bowel syndrome and the influence of the menstrual cycle on symptoms. Marica Killien was investigating issues surrounding the return to work of new mothers. There were others as well, but UW did have strong evidence to support a center. The center was required to have two R01s, two substantive cores and an administrative core.

Now putting together a center grant is a major effort and can only be accomplished by the efforts of many people, both faculty and staff. It is impossible to identify everyone so I am going to limit myself to those most directly related to the cores and grants. Nancy Woods, Ellen Mitchell, and I took the lead on one R01 to characterize menopausal symptoms across phases of menopause. Joan Shaver and Margaret Heitkemper took the lead in developing a grant to look at stress and insomnia for the other R01. Marie Cowan provided essential help to the development of the administrative core and physiological laboratory core lead by Joan Shaver. Nancy Woods and Marcia Killien took the lead on the socio-cultural environments core. I was engaged in this core as it contained a data base component to bring together data and make it accessible from a variety of prior grants.

The Center provided new opportunities and reconfigurations of research teams. Nancy and Ellen have continued as a team with the perimenopausal grant becoming a longitudinal study including symptoms, hormones and genetics. Work on this project is still ongoing. My own work increasingly focused on the sleep grants.

An interesting aspect of studying insomnia is that some people that report insomnia sleep just fine in the sleep laboratory. This has been labeled sleep state misperception with the assumption that people slept fine at home, but they just didn't know it. In the perimenopausal insomnia studies the women were asked to rate sleep quality at home in a diary as well as for the sleep study nights in the laboratory. The self rating agreed closely with the sleep study and differed from the in home rating. Another study was born. In the Home study (NR01118) Joan Shaver and I proposed that the novelty of the recording in the laboratory resulted in better sleep for the women and if the recordings were done over a number of nights in the woman's usual at home sleep environment that a clearer picture of presence or absences of insomnia would be obtained.

What we found was that, if over five nights you reported having insomnia, you probably did have insomnia, but this was not a certainty (Shaver, Johnston, Lentz, & Landis, 2002). If you reported good sleep, you might have good sleep but you might also have insomnia. Using three nights with less then 85% sleep efficiency as indicating insomnia combined with self reported insomnia, a group considered to have Psychophysiological insomnia (PP-type) was created. Thirty-three of the 101 women with insomnia met this criterion. Women with self reported insomnia and three nights of PSG SEI > 88% and no nights PSG SEI <85% were classified as subjective insomnia (SO-type). The rest of the women reporting insomnia had fewer than three nights of PSG SEI < 85%. Fourteen women of the 30 women reporting good sleep demonstrated at least 3 nights of PSG data with a SEI >88% and were chosen for controls.

These findings served to point out that PSG sleep and experienced sleep are not the same phenomena. If actigraphy is used to measure movement to identify sleep state yet a third phenomena is being considered to represent sleep. The findings from each of these modes of measuring sleep are usually similar but not identical. Each represents a very different phenomenon. I think we should always try and use objective measures of sleep but keep in mind that the experience of sleep is equally real.

When we consider the number of poor sleep nights for the women who self reported good sleep, are we seeing this is what I am used to experiencing and I seem to get along fine so I report my sleep as good? Are we more likely to report poor sleep if it is a change from what we experienced in the past? Does the PSG poor sleep in persons reporting poor sleep arise by the same mechanism as that in persons reporting good sleep? Are there similar but subtle differences in PSG sleep that not only lead to self reported good sleep in the presence of poor PSG sleep but, to self reported poor sleep in the presence of good PSG sleep? There are still many unanswered questions in our understanding of sleep.

Not surprisingly we had been having the women in these studies keep symptom diaries. One symptoms cluster, muscle aches and pains, had a rather high frequency. In the literature fibromyalgia (FM) is a syndrome most commonly associated not only with muscle aches, pain, and fatigue but also poor and unrefreshing sleep. Were we seeing women with poor sleep with an underlying condition of FM? Harvey Moldofsky argued that a potential cause of FM was alpha-delta sleep (Moldofsky, Scarisbrick, England, & Smythe, 1975). This is when alpha waves occur at the same time as the much slower delta waves are occurring. Delta waves or slow wave sleep (SWS) is associated with the release of growth hormone (GH) and it was theorized that altered GH was a factor in, if not a cause of, the muscle pain. We looked at our data and did not see this alpha-delta pattern.

Moldofsky (Moldofsky, Scarisbrick, 1976) had done a study with healthy young adult men where selective sleep disruption during SWS resulted in a self-report generalized increase in pain and reduced pressure tolerance over the same trigger points seen in FM. He reported that these changes occurred in the presence of alpha-delta sleep. This was very interesting work, but we thought we could improve upon it and get a clearer sense if there was a connection between sleep characteristics and FM with slow wave sleep deprivation (SWSD).

The sample we recruited was closer in character to that of the FM population, female, middle aged and sedentary (Lentz, Landis, Rothermel, & Shaver, 1999). We also used an established self-report scale with scales related not only to muscle pain but to other bodily symptoms. We tested the established tender points used in diagnosing FM for measuring changes in pain sensitivity (Funded by UW SON Intramural Fund). Jim Rothermel, one of our very experienced sleep technicians developed a system that allowed for real time identification of delta sleep that triggered an alarm to arouse subjects. As soon as the brain wave frequency increased, even if the subject did not awaken, the alarm stopped. During the first night this system worked fine, but by the second night the technicians needed to call the subject's name, and by the third night the subjects often needed a shake on the shoulder to stop the SWS. The increasing effort to suppress SWS really demonstrates the homeostatic drive for SWS.

The first night SWS sleep is really decreased to about 50% of baseline, but each night it starts to come back, getting up to median of 70% of the baseline night on the final study night. Sleep efficiency was essentially the same as baseline. Yes, we had reduced SWS, but we were not seeing alpha-delta sleep in the process, although one woman out of the 12 did have a greatly increased number of epochs with alpha-delta sleep. But what was happening to the women's experience of pain? Self-report of somatic symptoms on the Bodily Feelings Scale yielded significant differences in percent change from baseline to SWSD night 3 for musculoskeletal discomfort and low arousal. Ten of the 12 subjects had increased discomfort of at least 13.3% on the musculoskeletal subscale items (tight muscles, stiffness, backache, muscle cramps and muscle pain). Eleven subjects had increased low arousal of 28.6% on low arousal subscale items (worn out, tired, sluggish, sleepy, exhausted and fatigued). Reports of other symptoms remained unchanged during the SWSD protocol. The median pressure for pain at the 16 tender points dropped significantly from 5.5 kg (4.4-7.1kg) to 3.7kg (3.5-4.9).

Now we had an unexpectedly high rate of muscular pain in our poor sleepers in a series of studies looking at insomnia. When we decreased SWS we got an increase self-reported muscle pain and sensitivity to pressure. But we did not know if these were connected to the theorized decrease in growth hormone and if there were reduced amounts of SWS in women diagnosed with FM. Thus was born the study on sleep and hormones in women with FM.

In this study (NR-01118 and NR-04001) we recruited women with FM who had been diagnosed in a single clinic run by Dr. Dedra Buchwald, were willing to be weaned from their medications, and were successful in stopping their medications and reported pain and poor sleep in a month long daily diary. The women needed to be off medications for 5.5 half lives, no small effort on their parts. We recruited a community based sample of similarly middle aged sedentary women without complaints of pain or poor sleep as identified by a month long daily diary. The women slept in the sleep lab for three nights, adaptation, baseline and on the final night had hourly blood draws.

Overall the sleep between women with FM and control women did not differ greatly (Landis, Lentz, Rothermel, Buchwald, & Shaver, 2004). The women had slightly less percentage of SWS 10.4%±8.5 compared to the controls with 12.2%±5.8. There was one key difference: women with FM had reduced amounts of sleep spindles. Now we know sleep spindles are generated in the thalamus. If you had to pick a part of the brain that might be involved if general body sensations were somehow being misinterpreted as pain, the thalamus as a primary gatekeeper would be a likely choice. This is consistent with a model of central sensitization seen in other pain conditions.

The SWS may have been similar but the women with FM had lower levels of growth hormone and prolactin (Landis et al., 2001). The pre-sleep levels in the two groups were similar but after sleep onset the women with FM did not have the rise in these hormones observed in the control women. These findings supported that dysregulated neuroendocrine systems during sleep may play a role in the pathophysiology of FM as evidenced by altered functioning of both the somatotropic and lactotropic axes during sleep in women with FM.

As these findings were coming in we thought, “What would happen if we enhanced SWS?” SWS was only slightly decreased in FM but they did not get as great an increase in GH. Perhaps we could enhance the level of GH by enhancing SWS. SWS is homeostaticly controlled: the longer time from the last SES, the greater the drive. We saw this by how hard it was to selectively deprive subjects of SWS. Two ways to increase SWS is sleep delay (i.e. increasing the number of hours since you had a chance to get SWS) and whole body heating that is thought to occur by way of the thalamus’s role in sleep spindle generation leading to increased SWS. Sleep delay, while effective, is not practical for long term use to increase SWS. To study whole body warming we bought a hot tub (Funded by UW SON Intramural Fund). If you are immersed in hot water you cannot regulate heat loss and your body temperature will go up. This has been demonstrated in young adults to increase SWS, with some disagreement over what was the optimal time to do prior to sleep onset. Based on the literature we picked what we thought would be the very best time for maximal effect, two hours prior to sleep onset.

Four women who had just completed the activities of the sleep and FM study and were still off their medications agreed to participate. The women were well able to tolerate the length of emersion needed to get the desired temperature elevation, a great concern given the increased somatic sensitivity of women with FM. They did feel ready to go to sleep but actually would have liked the heating to have been a little closer to lights out. Then we looked at their SWS. Nothing, there was no change in minutes or percent of SWS. Not even a hint of a difference. We kept going over how our protocol could have been so off. We were frustrated, as that stopped us in what we thought was a promising intervention.

Dr. Buchwald, whose clinic we had recruited our FM subjects, was primarily interested in chronic fatigue syndrome (CFS). She has a twin registry in which monozygotic twins are discordant for CFS. In one of her studies, subjects slept in the sleep lab for a baseline night then had a sleep delay night to test the sleep hemeostat. The twins with CFS did not show an increase in SWS as was seen for the unaffected twin (Armitage et al., 2007). There are many similarities and overlap in diagnosis of FM and CFS, so our failure to increase SWS with whole body heating was most probably not a result of a failure in protocol but evidence of FM altering the sleep homeostat. Fortunately the twin study had a large enough sample to demonstrate for the first time the failure of the sleep homeostat in CFS.

These projects were not going on in isolation but as part of the Center for Women's Health Research. One of the goals of the center was to increase the number of investigators using the Center's laboratories. Carol Landis and I had been active in this effort and when an RFA came out regarding sleep and children with asthma, we approached Gail Kieckhefer to see if she was interested in collaborating (or perhaps it was to try and persuade her to collaborate!). That first effort in response to the RFA did not work out, but we continued working together and developed a different project. The purpose was to evaluate the impact of sleep intensity on pulmonary function measures. The model we were interested in tried to separate out sleep effects on small versus large airways. After only one year we had human subject approval to do a pilot study of 9-11 year old children with and without asthma to look at sleep and pulmonary function. (Funded by SON Research Fund).

The pilot work demonstrated that children aged 9-11 could indeed complete the protocol of one week of daily in home peak flow measurement, keep a daily symptom diary, and have PSG recording in the sleep laboratory including a sleep delay night. The hardest part of the protocol was that, not only were pulmonary function measures including collection of eNO done prior to sleep, the children were awakened after four hours of sleep to complete all these measures. The children were wonderfully competent in completing all of the measures.

The children with and without asthma did not differ markedly on the major sleep parameters such as time awake and sleep stage percentages. Both groups increased the percent of SWS following the sleep delay. There were some subtle differences in distribution of SWS suggesting slightly less consolidated sleep. The pattern of FEV1 and FEV25-75 was consistent with a circadian effect, not a sleep effect. The pattern of eNO, a marker of local lung inflammation, was very different. First, note that the eNO levels of the children with and without asthma do not overlap. Our controls did not include any undiagnosed cases of asthma. There are three measurements made here on two nights at the same time of day based on the child's usual bedtime to anchor the measures within the child's circadian rhythm. What is different is that on the sleep delay night the second measure is made prior to the child having slept. This second measure made prior to sleep eNO was significantly lower than that seen at same time after four hours of sleep and was similar to the usual bedtime measure on the first night. The third measure the child had either been asleep for eight hours on usual bedtime night or four hours on sleep delay night. Note the values are very similar; we had expected that the level would be higher with the increase in SWS seen with the sleep delay protocol. We interpreted this as sleep without regard to intensity of SWS results in a rather consistent level of increased lung inflammation.

The daily diaries were completed individually by the child and parent. This independent symptom recording allowed us to evaluate the congruence of the parent child symptom report. The children with asthma did give a different symptom report than their parents, as can be seen in the low contingent probability between parent and child reports

(Kieckhefer, Lentz, Tsai, & Ward, 2009). Dr. Kieckehfer concluded that clinicians should be asking the children (9-11 years) about their symptoms (not the parent).
As part of the diary we also asked about taking naps. There may not have been much difference in PSG sleep, but the children with asthma took more naps. We had included actigraphy over the days of the diary. Interestingly the children with asthma had poorer sleep hygiene (Kieckhefer, Ward, Tsai, & Lentz, 2008). The children were voluntarily sleeping shorter to continue activities such as playing computer games long into the night. Short sleeping is held by many sleep specialists to not be present in this age group as this is considered to be the age of champion sleepers with very strong sleep drive. Conventional wisdom appears to be wrong in this case, and short sleeping warrants attention as it is probable that just as other behavioral patterns are established at this age, a lifetime of poor sleep habits are also being established.

Some of my good colleagues could barely keep from laughing out loud when they heard that I was working with children. Remember I started with older adults and previously the youngest people I had worked with were middle aged women. I really knew nothing about children. This is where the strength of team research came into play. I was able to bring my knowledge of sleep measurement and diary data to a team led by Gail Kieckhefer who is an expert scientist and clinician in the field of childhood asthma. I still lack much knowledge about children, but I know a great deal more then I did thanks to the kind tutelage of Gail and appreciate even more the advantages of being part of a research team.

Now I want to shift away from talking about the research projects I have known (although there are more!) and talk about a slightly different aspect of my research career. This is the part of my talk about "passing the baton." Those that have ever been near me know I love to talk about research projects. If I spoke with you about your research a year later although I might not remember your name I will remember you and your research. Just remind me of your topic area, and I am ready to restart our conversation where it left off.

Talking about my research really does help me clarify and sharpen the concepts I am interested in. I find talking with sleep experts often helps to deepen and extend the relationships I see. Talking with someone not immersed in sleep has often helped me get over the implicit assumptions and get at the core of what we really know and what we assume we know. Talking about research is so interesting that even when it is not my own focus area, the questions that are being asked, the methodological difficulties, and the statistical issues are all fascinating to me. It seemed as if my interest and willingness to talk about research led to a steady stream of people over the years asking if I had a few moments to talk. These conversations have taken place in stairwells, ski lift chairs, at conferences and even (sometimes) in my office. Email further expanded the opportunity to communicate about research as we can converse from opposite sides of the world. I really like getting an email dated tomorrow!

After many years of informal research consulting, two opportunities were presented to me to do consulting on a regularized basis. The SON Office for Nursing Research offered me a 50% position as a methodologist; to accept this job was difficult as I had to cut back on doing my own research. It turned out to be a great experience as I had an opportunity to talk research with everyone from the undergraduate honors students to scientists with decades of research experience. The honors students do really excellent

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work, and I wish the timing of WIN and the UW academic year worked better so you could see more of their work.

The second opportunity came through the Center for Women's Health and Gender Research (CWHGR), the continuation of the original Center for Women's Health Research. NINR, as part of the research center initiative, asked research-intensive schools to partner with research developing schools. The UW was fortunate to partner with University of Alaska, Anchorage, the University of Hawaii, Manoa, Washington State University, and University of West Virginia, Charleston. I quickly appreciated how having the CWHR had helped UW scientists realize a common focus and provide a basis for collaboration. When we are busy with teaching, community service and research it is often hard to realize what the science of our colleagues is about. How often have you heard the statement here at WIN, "I have to go to a conference to find out what research my colleagues from my own school are doing." This was a common experience for members of our partner schools that came to light as I spoke with them in my work as co-director, with Marcia Killien, of our Research Partnership and Mentoring Core.

Meeting and talking with the faculty of these schools was very rewarding for me and I hope for them. These conversations also brought to the fore the importance of the infrastructure of the institution in helping or hindering research. The differences in help or hindrance and expectations to do research at a research intensive university, versus at a teaching intensive school with a large number of classroom hours, are reasonably obvious. Less obvious is the importance of administrative support from individuals who understand how to create and manage a research budget. If you are trying to learn on your own how to deal with the arcane forms required for a NIH grant submission this will have a significant impact on the time available for the development of a strong proposal. I think if Deans want to increase faculty research productivity, increasing the quality and quantity of administrative staff support is a key place to start.

A culture of sharing versus a culture of concern over respect and security for one's ideas and research plans are critical. One of the strengths at the UW has been the grant modeling party model started and championed by Marie Cowan. Having a cadre of knowledgeable people willing to share their knowledge and time to help you can be critical to improving the quality of your research. One of the things we worked on with our partners was building the base of knowledgeable colleagues through the CWHGR summer institutes. Development of administrative staff was also provided as part of these summer institutes. Unfortunately NINR was not able to continue the long term support that would have enabled us to keep working with our partners.

I have had the opportunity at WIN to once again talk research with faculty from our partner institutions and, as usual, they continue to do exciting research. I have also had the opportunity to talk with old colleagues and first time colleagues about their research. Combining those conversations with the outstanding work being presented through poster or podium presentations, I have to say research is alive and well in the West. I am proud to have been a part of this research environment and plan to keep talking research and doing research along with my many valuable colleagues from around the world.

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The Carol A. Lindeman Award for a New Researcher Paper

QIGONG AS A NOVEL INTERVENTION FOR SERVICE MEMBERS WITH MILD TRAUMATIC BRAIN INJURY

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Introduction

Traumatic brain injury (TBI) is a topic for which its relevance cannot be overstated. Newspapers, magazines, journals, and Web sites reveal new insights and information on the significance of TBI and concussions on a near daily basis as it pertains to the populations of athletes and military service members. Studies report the prevalence of TBI in service members returning from deployment in either Iraq or Afghanistan as high as 22.8%[1] —a rate that has caused a call to arms in the military community. The vast majority of TBIs are mild in nature and often result in subjective symptoms such as headache, depression, memory loss, sleep disturbances, personality changes, anger, communication disorders, cognitive deficits, vestibular disorders, and tinnitus.[2] The invisibility of these symptoms adds to the burden of thousands of service members and their loved ones as they attempt to adapt to life following a mild traumatic brain injury (mTBI).[3]

Current treatments for mTBI symptoms are often fragmented among multiple primary care providers, mental health services, and medical specialists.[4] In an effort to reduce the consequences of fragmented medical care, some healthcare providers are calling for a new framework for healing that incorporates the relationship between the mind and the body.[5] The goal of such a framework is to foster interventions for healing that are safe, have few side effects, and are capable of addressing multiple symptoms efficiently. One such mind-body modality with this potential is qigong.

Qigong is an ancient Chinese healing art based in eastern philosophy that has been practiced for thousands of years. Though hundreds of different styles are now practiced worldwide, all consist of three basic components: controlled breathing, meditation, and smooth, continuous, purposeful movement. Qigong has been shown to have multiple positive effects on the body in terms of health-related quality of life, such as chronic pain,[6-9] fatigue,[10 11] depression,[12 13] and stress.[14] Because many of these symptoms are common following mTBI, qigong practice may improve health outcomes in adults with mTBI-related symptoms.

The purpose of this pilot study was to evaluate the interest in and utility of qigong as adjuvant therapy to usual rehabilitation in service members recovering from mTBI using a qualitative descriptive phenomenological design.

Methods

Approvals to conduct the research were granted by the University of Virginia Institutional Review Board for Health Sciences Research, the Uniformed Services University of the Health Sciences Institutional Review Board, and the Headquarters of the Defense and Veterans Brain Injury Center (DVBIC) and carried out with the ethical standards set forth in the Helsinki Declaration of 1975.

Upon acceptance into the study, each participant completed a baseline questionnaire and interview and then began the formal qigong instruction. After 4 weeks of instruction, participants were interviewed using semi-structured questions

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to determine their initial impressions of the qigong, the ease of learning this ancient art, and any effects they perceived the qigong to have had on their recovery process. Length of the interviews ranged from 30 to 60 minutes. Audio files from the interviews were transcribed verbatim into Microsoft Word documents. This same interview process was repeated after completion of the full 8-week intervention.

Participants were recruited from DVBIC-Charlottesville and met the following inclusion criteria: (a) military service member who had suffered mTBI during active military service, (b) receiving outpatient neuro-rehabilitation at DVBIC-Charlottesville, (c) older than 18 years of age, (d) a history of at least one brain injury, (e) a diagnosis (by the staff of DVBIC-Charlottesville) consistent with mTBI, (f) ability to speak and understand English, (g) willingness to talk about living with a brain injury, and (h) ability to provide informed consent. Potential participants were excluded if the severity of their brain injuries were categorized as moderate or severe.

Intervention

The form of qigong used in this study was *Reflective Exercise* (RE). RE qigong is comprised of several core elements including reverse abdominal breathing, the six subtle movements, and reflective meditation (both standing and seated). Full details regarding RE qigong are discussed in the book, *Unified Fitness.*[15] To learn the elements of the qigong, military participants began with private 1-hour sessions with the qigong master 4 times a week for the first 2 weeks. Once the full routine had been learned, participants attended 20-minute group sessions (2 to 3 in a group) 3 times a week for 6 weeks.

Data Analysis

Data analysis incorporated steps described by Giorgi[16] in applying Husserl's Descriptive Phenomenological methods.[17] The first step of analysis involved reading all of the interview data to obtain a sense of the whole. The second step was to separate the data into meaning units[16] that represent key elements, terms, attitudes, and experiences. For this step, transcribed audio files were analyzed using NVIVO 9 software to assist in identifying the key elements among participants' reported experiences. These meaning units were then reorganized into overarching themes that comprise the overall description of the phenomenon. The third step was to transform the data into the language of the researcher to provide an analytic interpretation of the meaning of the units from an educated perspective. The final step of the analysis was to synthesize the transformed meaning units into a consistent statement that described the experiences of service members with mTBI learning and practicing qigong.

Results

The study sample consisted of six military service members with mTBI acquired during their active duty service. Of the six participants who began the qigong intervention, five completed the full 8-week intervention. Stating time constraints as the reason, one participant withdrew from the study after 4 weeks of instruction. These service members were all male, ranging in age from 21 to 48 years old, and were either married or engaged to be married. The participants varied by branch of military service, which included active Army, active Marines, reserve Army, reserve Marines, and Army National Guard.

Four general themes emerged from the interview data: "the physical experiences of qigong," "regaining control," "no pain, a lot of gain," and "barriers to practice of qigong."

Theme 1: The physical experiences of qigong.

All participants reported feeling physical sensations during qigong practice. These were described in a variety of ways, including the sensation of static electricity running through the hands and arms and a pulse going up and down the body from head to groin. One participant offered this description: "We went through the whole exercise and while I was sitting there meditating and I had the pulse coming up and down, it's almost like I felt a lightning bolt shoot through my chest." These strong physical sensations were surprising to the participants. One noted "A couple of weeks after [starting], I could feel [energy] going through my veins and stuff and that freaked me out. I didn't know what that was." Another participant described in more detail similar responses when practicing the qigong.

> It almost feels like I have a big ball of energy in my hands … both of my hands get to tingling, and I could take one hand [and hold it opposite the other and] it feels like I'm pushing a force field to the other hand and pushing it away. I hold them [hands] together and pull them apart; it feels like it's pulling them towards each other. And the first time that happened that freaked me out…. That's your inner energy…. It amazes me.

In addition to experiencing physical energy sensations, participants used a variety of words to describe the overall experience of practicing qigong. They used words such as "peaceful," "relaxing," and "calming," and they likened the back and forth elements of the six subtle movements to being in a tide or on the ocean. The participants' comments and descriptions were compelling given that all six expressed a degree of skepticism about the possible effects that qigong may offer before starting the intervention. One participant explained, "Yeah, at first I was like, I don't know about this, it sounds kind of weird; I don't know if it will work." Despite their initial reservations regarding qigong, the participants remained sufficiently open-minded, allowing for a dramatic reversal of opinion. Specifically, one participant exclaimed, "I'm blown away by this [qigong]."

Theme 2: Regaining control.

A dramatic element of the qigong experience was the sense of empowerment that the participants gained during the period of the intervention. During baseline interviews, many of the participants expressed feeling a loss of control with regard to their injury and recovery, a common phenomenon among those with comorbid Post Traumatic Stress Disorder (PTSD).[5] After learning and practicing qigong, dramatic changes were evident in how the participants viewed themselves and their ability to control their recovery. Most described an ability to control their mTBI-related symptoms through the use of qigong. One participant described the use of qigong in managing his chronic headaches.

> The pulse had gotten to my head where I actually hit [it] and had the brain injury. I've had it come up and it felt like a big knot of pressure and then once I [brought] that pulse up to my head it felt like it just all evenly flowed away and then I didn't have [any] pain in my head.

Another participant described a similar reaction when he was experiencing a migraine headache.

> I had a real bad migraine when we started. I told him [the qigong master] about it and then, about halfway through the meditation of bringing that pulse up into my head and down, I felt the relief of pressure and ever since then my headaches [have] been gone.

Participants also discussed how they were able to use qigong to calm their feelings of anxiety. One participant noted "Any time I get stressed out, I can do the movements [qigong] and it's like all my stress is gone."

Qigong also had a positive impact on sleep quality as revealed by one participant who shared the following:

> I would wake up periodically in the middle of the night just because I was antsy. Sometimes I'd lay there for 1 or 2 hours. My brain would always be racing thoughts, and it was like I just couldn't go to sleep. And now I do this [qigong] routine once before I go to bed and … I got a clear mind. I'm just relaxed and it takes 5 minutes to fall asleep and I'll sleep throughout the whole night.

Other comments by the participants support the idea of gaining control and experiencing a sense of empowerment, as reflected in the following comment: "It's like being a Kung Fu martial artist." Another participant noted "Some of the things are really amazing … I never thought I could control [my body]. I never thought that was possible." Perhaps one of the most dramatic comments came from a participant who had gained the ability to control his headaches and discontinue his pain medication.

> I'm used to people throwing drugs at you. Pills solve everything nowadays. That's how everybody sees it. When [qigong] was first introduced to me, I never heard of it. I was like, "There's no way you could take just your mind and your body and do a routine and exercise and learning to control yourself to heal something." I was like, "That's bull crap." But now that I've gotten this deep into it [qigong], for me to be able to take away a headache on my own by just controlling blood flow going to my brain … that tells me right there I don't need an Excedrin or a Tylenol or some kind of drug to get rid of that.

Theme 3: No pain, a lot of gain.

At week 4 of the intervention, participants were asked if they thought that the practice of qigong had affected their responses to the various rehabilitation treatments that they had been receiving at DVBIC-Charlottesville concurrent with the qigong. All participants were in agreement that the practice of qigong had a positive effect on their course of recovery, albeit more for some than others. Some discussed that by practicing the qigong routine prior to their neuro-cognitive exercises, they were more relaxed and able to focus on the task at hand instead of being distracted as they had been before learning qigong. Three participants expressed their belief that qigong had accelerated their rehabilitation process and allowed for an earlier discharge than may have been possible for them without qigong practice. One participant reported the following about his perceptions regarding the qigong intervention.

> It sped [my recovery] up a whole lot because before I started, I was still having a little bit of memory problems and everything…. But after doing this, my rehab has sped up so quickly that they're actually going to be discharging me [a month ahead of schedule].

Another participant related comments that his therapists at DVBIC-Charlottesville had shared with him describing changes that they had observed in his behaviors.

> They've [the therapists] said I seem a whole lot happier and joyful in life than what I used to be. They said I'm less depressed. I'm less sad. I'm more likely to go out now than sit at home and rock. You know, I always want to go places now. My overall happiness has doubled. So that's dramatically changed my life and my whole perspective.

All of the participants found short-term benefits and reported that they would recommend qigong to others. They stated that the level of discipline needed to practice RE qigong was well suited to military personnel and that qigong or a similar modality such as tai chi would be an ideal offering to service members with mTBI, given the amount of downtime, in particular, for those assigned to Warrior Transition Units.

Theme 4: Barriers to practice of qigong.

Participants did experience barriers related to their qigong practice. The most commonly discussed barriers were distractions during practice. After a few weeks of practice, some of the participants were able to block the distractions, as revealed by one participant who noted, “Today I meditated outside and you got birds and you got cars going by and everything. But I’ve learned actually to block them out and just concentrate on what I’m doing.”

Some service members discussed a sense of self-consciousness during the practice. One participant stated, “I don’t think I’d be a fan of doing it [qigong] in big groups. You’d probably get a lot of funny looks.” For the majority, this concern was diminished once they completed the learning process and had developed proficiency in the complete qigong exercise. One service member noted:

> [The qigong master] said “It’s a nice day. We can do [qigong] out in the backyard. Do you care if people see you?” I was like, “No, I don’t care what people think.” I mean, you’re practicing a form of ancient Chinese martial art. Why should you be ashamed of it?

Physical symptoms were another barrier the participants discussed. The symptoms included headaches, fatigue, and musculoskeletal pain, which were either a result of their mTBI event or, in some cases, from other previous injuries. In the case of severe headaches and fatigue, it was at times necessary for qigong sessions to be rescheduled. Usually, however, the service members elected to “push through” the sessions with the qigong master despite headaches or fatigue because, in their personal experiences, they were confident that the qigong would lessen or relieve the headache and restore a better sense of well-being after the session.

One participant did not completed the full 8-week intervention (withdrew after 4 weeks), stating that lack of time was a barrier to the practice of qigong. He explained, “It [qigong] is time-consuming, just the time and with so many things happening and it’s hard for me to really get into a rhythm. So I’d rather not do it if I can’t do it all of the way.”

Despite these barriers, participants overwhelmingly enjoyed and often looked forward to their qigong sessions and did not perceive the sessions as a burden, as illustrated by the following statement:

> Every time I see [the qigong master] I just start smiling because I’m like, “How is this possible?” I ask him all the time.... He tries to explain it to me and it just goes, whew, right over the top of my head. But I mean for me to sit there and [experience the benefits], I have a totally different point of view of it now.

Discussion

This was a feasibility study that enrolled a small number of participants drawn from a convenience sample of military service members with mTBI undergoing treatment in a civilian-based, community-integrated brain injury rehabilitation program. Because of its qualitative nature, the findings from this study cannot be generalized beyond this population of service members with mTBI. The findings, however, represent an important step in identifying potential treatments that service members will find rewarding and are more likely to continue, if deemed beneficial in treating mTBI.

Participants in this study offered profound examples of how qigong enabled them to take control of their present symptoms and improve their general outlook on the future. Their perceptions were that qigong was conducive to the highly disciplined mindset of military service members. Some participants identified potential barriers that could complicate the implementation of qigong, including distractions during practice and the presence of physical and psychological barriers. For some there was the feeling of self-consciousness and/or the fear of ridicule by others during group practice.

This pilot study strongly supports additional research into the effects of the practice of qigong in military service members with mTBI. Specifically, research could be directed not only at overall well-being associated with practice, but to the phenomenon of using qigong to address symptom management through promotion of empowerment and control in a population for whom elements of control have been lost following a brain injury.

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The Pat A. Perry Biological Nursing Research Award Paper

CIGARETTE SMOKE EXTRACT-INDUCED CHANGES IN TELOMERES OF LUNG ALVEOLAR CELLS

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Telomeres are structures at the ends of chromosomes that shorten with each cell division[1]. Telomere shortening occurs until telomeres reach a critical length in which cells are no longer capable of cell division, a processes termed cellular senescence or cellular aging[2]. Cigarette smoke, the greatest risk factor for the development of chronic obstructive pulmonary disease (COPD), has been shown to increase cellular aging in lung fibroblasts[3], and there is evidence of telomere shortening in circulating leukocytes of individuals with COPD[4,5]. However, cigarette smoke also affects non-smokers and is implicated in many pediatric lung diseases, such as asthma[6], and in aging related diseases such as atherosclerosis[7]. Collectively these observations suggest that cigarette smoke accelerates aging (e.g. telomere shortening) and leads to the development of lung disease.

The alveolus, or gas-exchanging unit of the lung, is composed of alveolar type I (AT I) cells and microvascular endothelial cells and is destroyed in emphysema. The effect of cigarette smoke on telomeres of lung alveolar cells has not been investigated. Moreover, how alveolar cells from the very young and very old are affected by cigarette smoke is unclear. We hypothesized that cigarette smoke exposure would shorten telomeres of lung alveolar cells regardless of age. Accordingly, we exposed AT I cells and microvascular endothelial cells harvested from the lungs (MVECL) of three age groups (neonatal, young and old) of Fischer 344 rats to cigarette smoke extract (CSE) for three weeks. Then using real-time quantitative PCR (RTqPCR) we quantified relative telomere length and performed gene arrays to evaluate for changes in expression of genes regulating telomere structure and function.

Materials and Methods

Animals. Fischer 344 rats (NIH aging colony) were purchased from Harlan Laboratories (Indianapolis, IN) and used as the source for AT I cells and MVECL. Three age groups (neonatal, young and old) of male Fischer 344 rats were used. Neonatal pups were 7 days old, young rats were 3 months old and old rats were 24 months old. Protocols for animal use were approved by the Institutional Animal Care and Use Committee of The University of Arizona and The Southern Arizona VA HealthCare System.

CSE standardization. CSE was standardized by bubbling the smoke from one 1R5F research grade cigarette (1.67 mg tar, 0.16 mg nicotine, and 2.08 mg total particulate matter per cigarette; The University of Kentucky, Lexington, KY) into 10 mL of cell culture medium (RPMI 1640 supplemented with 10% fetal bovine serum (FBS)) over 3 minutes using a cigarette smoking apparatus. The CSE was pH corrected (7.4) and then filter sterilized and the absorbance value read at 320 nm using a Tecan GENios plate reader (Basil, Switzerland). Only CSE preparations with an absorbance value of 0.42 ± 0.03 were used. The resulting CSE was known as 100% CSE. The 100% CSE was diluted with cell culture medium to a final concentration of 2% for use in the experiments. Control media were made by bubbling air through the cell culture medium for three minutes followed by filter sterilizing.

Cell culture. AT I cells and MVECL were isolated from the lungs of neonatal, young and old male Fischer 344 rats as previously described[8]. AT I cells (1.0 X 10^5) and MVECL (1.0 X 10^5) were seeded separately on gelatinized 6-well macrotiter plates and maintained in cell culture media in a humidified incubator at 37°C with 5% CO_2/air until achieving confluence. After the cells reached confluence, the medium was changed to 2% CSE or vehicle control as described above, and media (CSE and vehicle control) changed every other day for 3 weeks. A total of three experiments per age group were performed.

DNA isolation, purification and determination of relative telomere length. After three weeks exposure to either 2% CSE or vehicle control, DNA was isolated and purified using the Qiagen QIAamp DNA Blood Midi kit per the manufacturer's instructions. DNA quality and quantity were determined spectrophotometrically by first assessing $A_{260/280}$ (only samples ≥ 1.7 were used), and then samples were run on a 1% agarose gel with Ethidium Bromide. RTqPCR was used to determine relative telomere length[9]. Briefly, this method uses a DNA standard (Jurkat DNA) and DNA from a single copy gene (36B4) to normalize for relative telomere length of samples. RTqPCR was performed using an ABI 7300 thermocycler (Applied Biosciences, Carlsbad, CA). Cycle-to-threshold (C_t) data analysis was performed using the ABI 7300 sequence detection software.

RNA isolation, purification and gene expression array. After three weeks exposure to 2% CSE or vehicle control, samples of AT I cells were rinsed twice with ice-cold PBS, scraped from the macrotiter plates and flash frozen in liquid nitrogen. RNA was isolated using the RNeasy Mini kit per the manufacturer's instructions. RNA quality and quantity were determined by first assessing $A_{260/280}$ (only samples with values ≥ 2.0 were used), and then samples were run on a 1.2% denaturing RNA gel. cDNA synthesis was performed using the RT^2 First Strand Kit, and cDNA added to the rat Telomere and Telomerase RT^2-PCR gene array. The gene array contains 86 genes involved in telomere maintenance, telomere-associated complexes and telomere regulation.

Statistical analysis. Statistical analysis using student's *t test* was used and *p* values ≤ 0.05 were considered significant. Data presented below are expressed as means ±SEM.

Results

CSE-exposure resulted in shorter telomeres in neonatal AT I cells ($p < 0.05$, Figure 1A). Conversely, CSE exposure did not shorten telomeres in young and old AT I cells ($p<0.05$, Figure 1B-C). Similarly, we observed that CSE exposure shortened the telomeres of neonatal MVECL ($p<0.05$, Figure 2A); however, it did not affect telomere length of young and old MVECL (Figure 2 B-C).

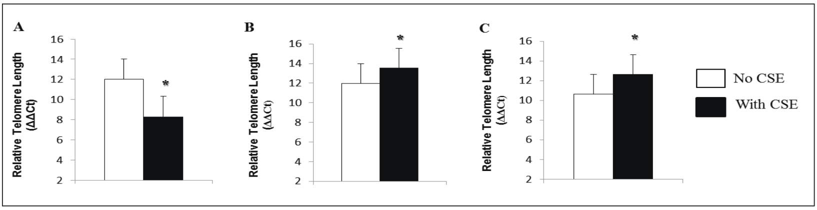

Figure 1. Relative telomere length of (A) neonatal, (B) young and (C) old AT I cells after three week exposure to either 2% CSE (black bars) or control media (white bars). n=3, * = $p<0.05$.

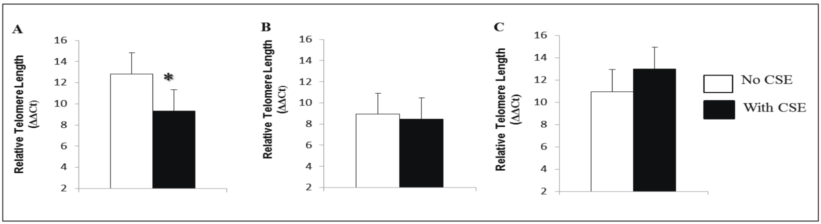

Figure 2. Relative telomere length of (A) neonatal, (B) young and (C) old MVECL after three week exposure to either 2% CSE (black bars) or control media (white bars). n=3, * = $p<0.05$.

We then began examining potential pathways to explain the differences in telomere length observed in CSE-exposed neonatal and old AT I cells. Table 1 shows six genes that were significantly different in neonatal AT I cells. Interestingly, five out of six genes were up-regulated, of which four (Cdk2, Chek2, Heatr1 and Prkdc) are involved in the cell cycle. Only Unc84a, a gene involved in nuclear anchorage, was down regulated.

Table 1 Gene expression changes in CSE-exposed neonatal AT I cells

Gene Symbol	Gene Name	Gene Function	Fold Change†	P Value
Pot1	Protection of telomere 1	A protein component of the shelterin complex	+7.58	0.019
Cdk2	Cyclin dependent kinase 2	A protein kinase involved in G1/S phase transition	+3.44	0.024
Chek2	CHK2 checkpoint	A cell cycle checkpoint regulator and putative tumor suppressor	+2.43	0.009
Heatr1	Heat repeat containing 1	A protein involved in nucleolar processing of pre-18S ribosomal RNA	+2.31	0.027
Prkdc	Protein kinase, DNA	A protein involved in DNA double strand break repair and recombination	+28.42	0.048
Unc84a	Unc-84 homolog	A protein involved in nuclear anchorage	-1.61	0.048

†CSE-exposed neonatal AT I cells/control neonatal AT I cells

Table 2 shows the eight genes that were found to be significantly different in CSE-exposed old AT I cells. All eight genes were down-regulated and the down-regulation of these particular genes suggests that CSE exposure induced a senescent, or growth-arrested state, in old AT I cells.

Table 2 Gene expression changes in CSE-exposed old AT I cells

Gene Symbol	Gene Name	Gene Function	Fold Change†	P Value
Abl1	C-able oncogene 1	A protein involved in process of cell differentiation, division and adhesion	-35.44	0.031
Bcl-2	B-cll CLL/ lymphoma 2	An integral outer membrane protein that blocks apoptosis	-28.32	0.013
Cdk2	Cyclin dependent kinase 2	A protein kinase involved in G1/S phase transition	-34.08	0.026
Chek2	CHK2 checkpoint (Rad 53)	A cell cycle checkpoint regulator and putative tumor suppressor	-2.29	0.022
Esf1	ESF, nucleolar pre-rRNA processing protein	A nucleolar protein involved in RNA processing	-7.55	0.041
Heatr1	Heat repeat containing 1	A protein involved in nucleolar processing of pre-18S rRNA	-4.37	0.037
Tnks	Tankyrase	A protein that poly(ADP-ribosyl)ates the telomere-binding protein TRF1	-3.43	0.032
Pot1	Protection of telomere 1	A protein component of the shelterin complex	-8.44	0.021

†CSE-exposed old AT I cells/control old AT I cells

Discussion

Major findings of this study are that cigarette smoke effects telomere length and that there are age-related differences in AT I cell responses to CSE. These results suggest that age plays a role in how a cell responds to CSE which has implications for our understanding of cigarette smoke-related lung diseases and could impact interventions with different age-groups.

In this study, CSE exposure resulted in shorter telomeres from neonatal AT I cells and MVECL. Gene expression profiling data suggest that neonatal AT I cells proliferate when challenged by CSE as evidenced by up-regulation of four genes involved in promoting cell proliferation. Furthermore, the excessive oxidant burden from cigarette smoke is known to induce DNA damage[10], and DNA damage is repaired during specific stages of cell proliferation[11]. We observed that Cdk2 and Chek2, cell cycle proteins that promote proliferation[12], were up-regulated with Prkdc, a protein involved in the repair of DNA[13]. This observation suggests that in neonatal AT I cells CSE exposure increased DNA damage and subsequently cell proliferation, and as a result, telomere length shortened.

Conversely, CSE-exposure resulted in longer telomeres in AT I cells. This observation is perplexing, but data from our gene expression profiling experiments provide some insight. We observed that an overwhelming majority of the genes profiled (83.7%) were down-regulated in response to CSE—although only nine genes were found to be significantly changed. Several genes that participate in cell proliferation were significantly down-regulated, as was Bcl-2, an anti-apoptotic protein[14]. The down-regulation of genes involved in cell proliferation, especially those involved in telomere function, may indicate a state of cellular senescence, or cellular aging which could explain our observations in telomere length of old AT I cells exposed to CSE.

Senescence is associated with accumulation of DNA damage[15], impairment in DNA repair[16], epigenetic modifications in nuclear DNA[17], increased production of free radicals[18], and telomere attrition[19]. Cigarette smoking is known to result in cellular senescence and studies of human alveolar epithelium have described an increase in the expression of SA-β-gal (senescence-associated-β-galactocidase), a marker of cellular senescence[20]. However, we did not find SA-β gal to be a reliable marker in CSE-exposed AT I cells (data not shown).

In addition, we observed that CSE exposure in old AT I cells promoted instability in the shelterin complex, a six protein complex that protects the ends of telomeres and assists in the regulation of telomere length[21]. The shelterin complex binds to telomeric DNA which prevents telomeres from fusing during cell division (e.g. two chromosomes fuse) and from DNA repair mechanisms sensing broken or damaged DNA[22]. Single stranded DNA, such as telomeric DNA, is readily detected by DNA sensing mechanisms which when activated promotes either repair (as occurs in cell proliferation) or senescence.

CSE exposure down-regulated the expression of many shelterin complex genes in old AT I cells, including: Pot and Ptop1. Pot1 is part of a heterodimer with the protein Ptop1 that binds to telomeric single stranded DNA[23]. Decreased expression of Pot 1 indicates telomere dysfunction from telomere uncapping or shortening, and in the current study, CSE exposure did not shorten telomeres in old AT I cells. However, this does not preclude the possibility of DNA damage sensing mechanisms activating DNA damage responses, a process that occurs via the well described ataxia telangiectasia-and Rad3 related (ATR) pathway. Activation of the ATR pathway ultimately results in either senescence or apoptosis through the p53 pathway[24]. We observed a down-regulation in anti-apoptotic proteins such as Bcl2.

Also, we observed changes in genes encoded for proteins that allow telomerase, if present, to elongate telomeres. For telomerase to extend telomeres it must first have access to telomeric DNA for subsequent polymerization. Several proteins directly bind to telomeric DNA (TRF1, TRF2, POT1) and are associated with interacting partners (PTOP1, TIN2 or RAP1) that prohibit access to telomeric DNA[23]. Tnks binds to TRF1, a protein that binds directly to telomeres, and dissociates TRF1 from telomeres which provides telomerase access to telomere ends[25]. Increased Tnks expression has been documented in telomerase positive cancers[26]; however, we observed a decrease in Tnks expression in old AT I cells exposed to CSE. Telomerase was not present which suggests that the lack of telomere shortening in old AT I cells exposed to CSE is the result of intact sensing mechanisms that recognized dangerous DNA damage and telomere instability. Ultimately the growth of CSE-exposed old AT I cells was arrested, likely via stress-induced senescence pathways. However, non-CSE-exposed AT I cells continued to proliferate as evidenced by shorter telomeres. Collectively these data suggest that CSE affects AT I cells and that age strongly influences the cellular responses to CSE.

Most studies evaluating telomere length in COPD used circulating leukocytes as their source[4], and very few studies have evaluated telomere length of cells from tissues or whole organs. In the current study, we used primary cells derived from the lungs of animals. AT I cells are large flat squamous cells that cover 95% of the alveolus and share a basement membrane with MVECL allowing for effective gas, ion and water exchange[26]. An advantage of this study is that data generated from these experiments provide information related to telomere biology from the major cells types of the alveolus and advances our understanding of the effects of cigarette smoke on lung biology.

In the current study we describe age-related differences in the response of telomeres to CSE. More specifically neonatal cells proliferated in response to CSE whereas old ATI cells developed telomere instability and ultimately became senescent. These two different responses suggest that the age of a cell at the time of exposure to cigarette smoke influences the cells response. Moreover the cells response may provide clues to understanding how age influences cigarette smoke related-lung diseases.

Significance to Nursing

The work presented here is significant to Nursing for several reasons. First, this study informs our collective understanding of the effects of cigarette smoke on lung alveolar cells and advances our understanding of the effects of cigarette smoke on lung biology. Second, we provide strong evidence of age-dependent responses to CSE-induced changes in telomere length. This argues for the need for age-appropriate interventions and treatment strategies to combat the deleterious effects of cigarette smoke. Last, and perhaps most importantly, the work presented here has implications for nursing practice and healthcare policy—specifically the incorporation of preventative policies directed towards protection of the very young and the very old.

Conclusion

In summary, we report that CSE exposure induced age-related differences in telomere biology. We observed that telomeres of CSE-exposed neonatal AT I cells and MVECL shortened while telomeres from CSE-exposed young and old AT I cells were longer than controls. Furthermore, data from gene expression profiling specific to telomere and telomerase pathways suggest that CSE exposure promoted cell proliferation, likely from repairing CSE-induced DNA damage, in neonatal cells. CSE exposure appeared to promote telomere uncapping and subsequent senescence in old AT I cells. These data strongly suggest that CSE promotes cell damage and that the age of the cell influences its response. This study provides needed insight into the interaction of cigarette smoke and aging in lung alveolar cells.

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Abstract of the Western Academy of Nurses Panel

COMMUNITY-BASED PARTICIPATORY RESEARCH AS A STRATEGY FOR DECREASING HEALTH INEQUITIES AND PROMOTING SOCIAL JUSTICE

Moderator:
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This state-of-the-science panel, organized by fellows of the Western Academy of Nursing, focuses on community-based participatory research (CBPR) as an approach to addressing health disparities associated with socioeconomic and political issues and for promoting social justice. In the overview, Dr. Deborah Koniak-Griffin will present basic principles of CBPR, philosophical and theoretical groundings for the approach and the partnership phases of implementation. The benefits and challenges afforded through the conduct of CBPR methods will be discussed. Exemplary models of CBPR strategies in action across 3 states will be provided by panelists. The presentations will illustrate how collaborative partnerships are developed and sustained. Dr. Janna Lesser will discuss how conducting CBPR influences us, as researchers, to look more directly at the impact of the unequal distribution of society's resources on the development of low-income communities and concomitant health disparities. This "Intersectional Lens" can be used for better understanding the patterns of social inequality and social locations of persons living in low-income communities. She will then describe how a community-academic research partnership evolved into a sustained community coalition that continues to collaborate to prevent violence and promote educational attainment among their youth. Dr. Kynna Wright-Volel will describe applications of CBPR and the value of utilizing community-academic partnerships and a culturally-sensitive, multi-component, school-based intervention to combat health disparities in childhood obesity. Challenges and lessons learned will also be discussed. Dr. Usha Menon will describe applications of CBPR principles in instrument development, intervention design and delivery in early detection and cancer screening to combat health disparities and promote social injustice. Additionally, she will provide exemplars from breast and colorectal cancer screening research on using modified approaches to CBPR that continue to engage the community as well as meet the demands of academic research careers. A question and answer opportunity will facilitate further discussion with each panelist.

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AFTER THE PHD: CAREER TRAJECTORIES, CHALLENGES, AND OPPORTUNITIES

Moderator:
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OVERVIEW: AFTER THE PHD: CAREER TRAJECTORIES, CHALLENGES, AND OPPORTUNITIES

Colleen M. Casey

EXPLORING THE RESEARCH TRAJECTORY: ROLE OF A POST DOCTORAL FELLOWSHIP

Lindsay L. Kindler

PROMOTING EVIDENCE BASED PRACTICES IN RURAL COMMUNITIES

Jo Ann Walsh Dotson

DEVELOPING CONGRUENT OUTCOMES IN A BACCALAUREATE NURSING EDUCATION PROGRAM

Carla M. Hagen

THE CLINICIAN-RESEARCHER: IMPROVING AMBULATORY PRACTICE FOR OLDER ADULTS

Colleen M. Casey

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AFTER THE PHD: CAREER TRAJECTORIES, CHALLENGES, AND OPPORTUNITIES

Overview: After the PhD: Career Trajectories, Challenges, and Opportunities

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The purpose of this symposium is to profile some of the career trajectories available to students as they complete their doctorates in nursing. The symposium will discuss post-doctoral opportunities and career options as a doctorally-prepared nurse, including: university-based research positions, post-doctoral fellowship opportunities, teaching positions at private universities, as well as clinical, management, and quality-focused positions. Each presenter will highlight her role and focus on one particular project within that role as an exemplar of her current work. The exemplars include: working as a post-doctoral fellow in two different research environments; serving as a nurse researcher within an academic research team studying rural mental health; leading a college of nursing in a curriculum re-design; and using research skills in a clinical role to improve the care of older adults.

As part of the discussion regarding post-PhD career decision making, the symposium will emphasize the importance of choices made by doctoral students during the PhD program and dissertation. Such considerations will include opportunities for pre-doctoral scholarships, National Institutes of Health (NIH) grants and trainings, research practica, and selection of 'minor' coursework. These potential choices, as well as the contributions of a student's pre-doctorate nursing or non-nursing education and career, will highlight the many elements of preparation that inform post-doctoral career choices. Furthermore, the speakers will describe the various considerations for any position, including: use of doctoral skills, use of clinical and/or teaching skills, hybrid positions, salary, issues of relocation, work environment, opportunities for advancement, and other position considerations.

AFTER THE PHD: CAREER TRAJECTORIES, CHALLENGES, AND OPPORTUNITIES

Exploring the Research Trajectory: Role of a Post Doctoral Fellowship

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PhD programs provide nurses with a strong foundation in the development and implementation of singular research studies, but many new graduates of doctoral programs feel the need for additional training prior to developing a federally funded research career in this highly competitive funding environment. A post doctoral fellowship offers invaluable, protected time for a new PhD to gain additional training with successful, nationally recognized researchers. Opportunities gained during this time provide fellows with hands on experience in grant development and research implementation, provide specialized training in one's area of interest, and offer critical networking opportunities.

The author's post doctoral fellowship with the University of Florida's Comprehensive Center for Pain Research will serve as an exemplar to highlight the opportunities and experience gained during a post doctoral fellowship. The fellowship provided the opportunity to work with two multidisciplinary research teams on three National Institutes of Health (NIH) funded studies, including one multi-site study. With each study at a different stage of development or implementation, the fellowship offered engagement in every part of the research process. Exposure to lab-based studies investigating the genetic and biopsychosocial mechanisms of pain processing brought to life concepts learned during the doctoral program, including the importance of strict controls over confounding variables, blinding of interventions, and stringent regulation and standardization of all research procedures.

Conducting the post doctoral fellowship at a research intensive university allowed the fellow dedicated time to participate in multiple programs designed to help launch the research career of new scientists. Courses and seminars provided opportunity for grant development, while journal clubs and special interest groups offered occasion for idea formulation with leading researchers. Attending international research conferences with mentors provided opportunities to network and potentially collaborate with leaders in the field of pain research. The presentation will also discuss how these interdisciplinary connections led to additional training opportunities across the nation. Overall, this presentation will highlight how a post doctoral fellowship provides a PhD- prepared nurse the experience, connections, and strategic knowledge to begin a successful research career.

Funding: This work was supported by NIH/NINDS grant NS41670, NINDS training grant NS045551, and CTSA grant RR029890.

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AFTER THE PHD: CAREER TRAJECTORIES, CHALLENGES, AND OPPORTUNITIES

Promoting Evidence Based Practices in Rural Communities

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The Program of Excellence in Rural Mental Health and Substance Abuse Treatment (RMHSAT) is a partnership between Washington State University (WSU), the University of Washington, Group Health Cooperative, and Washington State's Department of Social and Health Services and Department of Health. The Program began in 2008 and is funded by the Life Sciences Discovery Fund which is a Washington state agency established in May 2005. The Fund supports innovative research to promote life science competitiveness, enhance economic vitality, and improve health and health care in Washington.

RMHSAT's overall objective is to develop, modify, and implement evidence based treatments (EBTs) for substance abuse and mental illness for use in rural areas. Many EBTs have been developed for urban areas and require adaptation for rural areas; the lack of rural-focused EBTs has been documented to be a barrier to rural residents receiving high-quality care for substance use and mental health disorders.

The RMHSAT Program funds portions of several tenure track positions in WSU's College of Nursing. Tenure track positions include two nursing positions with expertise in rural health policy and chronic illness in minority populations and two biostatisticians. These positions, in turn, work with clinical and research psychologists and medical providers to develop and disseminate EBTs addressing mental health and addictions in rural communities.

The RMHSAT Program provides an organizational structure of co-researchers, statisticians and administrative staff that facilitates the development of competitive proposals to enact and assess EBTs. Research programs such as RMHSAT benefit from the expertise and varied backgrounds, including nursing researchers. Likewise, individual nursing faculty also benefit from the collegial, interdisciplinary research efforts focused on a particular topic. The presentation will focus on the development of a role for the nurse researcher within the RMHSAT Program, as well as the influence of nursing research on two RMHSAT projects, currently under review by funding agencies:

- Tobacco Cessation in Pregnant Women – The project will test the use of Voucher-Based Reinforcement Therapy (VBRT), which is one of the easiest contingency management interventions to implement. Contingency based interventions provide reinforcement to subjects demonstrating a desired behavior. In the proposed project, the impact of VBRT on tobacco use in pregnant women in rural areas will be assessed. Women will submit to breath tests measuring carbon monoxide twice a day, earning monetary rewards for evidence of abstinence from tobacco.

- Mental Health Consultation for Home Visitors – This project will examine the efficacy of a mental health consultation model on management of perinatal mood disorders by home visiting nurses. The study formalizes and evaluates an innovative mental health consultant model which is already in use in a rural, low income community.

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AFTER THE PHD: CAREER TRAJECTORIES, CHALLENGES, AND OPPORTUNITIES

Developing Congruent Outcomes in a Baccalaureate Nursing Education Program

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The American Association of Colleges of Nursing (AACN) recognizes that the shortage of faculty in schools of nursing with baccalaureate and graduate programs is a continuing and expanding problem. Unfortunately, this shortage of faculty contributes to the current nursing shortage by limiting the number of students admitted to nursing programs.

While the process for preparing new faculty is challenging, the enforcement and maintenance of high academic standards in pre-licensure nursing education is critical to the ability of baccalaureate-prepared nurses to provide safe, high quality patient care.

Completion of a PhD in nursing does not guarantee that an aspiring faculty is prepared nor fully qualified to meet the curricular or leadership aspects of a nurse educator role. This presentation will discuss the core competencies of a nurse educator that are essential to support excellence and high academic standards in the baccalaureate educational environment: facilitating learning, use of assessment and evaluation strategies, techniques in curriculum design, and educational leadership functions. The discussion will include a description of the importance of post-master's nursing education preparation, strategic administrative development experiences, and mentoring from experienced educators and leaders beyond the doctoral curriculum.

Development of the core competencies of curriculum redesign as facilitated by a Director of a baccalaureate nursing program will serve as an exemplar of the challenges and opportunities experienced by nurse educators in leadership positions. The exemplar will include a discussion of the accreditation review process by the Commission on Collegiate Nursing Education (CCNE). The CCNE accreditation is a value-based initiative with one of its purposes being to evaluate the success of a nursing program's quality in achieving its mission, goals, and expected outcomes. The discussion will include the importance of developing quality program competencies and outcomes within the context of the autonomy and the diversity of a larger institution, in this case, a Christian liberal arts university. The process will be described whereby nursing leadership and faculty have worked together to build its program competency framework using both the Quality and Safety Education for Nurses (QSEN) competencies while also highlighting the program's mission.

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AFTER THE PHD: CAREER TRAJECTORIES, CHALLENGES, AND OPPORTUNITIES

The Clinician-Researcher: Improving Ambulatory Practice for Older Adults

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Older adults represent a growing cohort of health care consumers, particularly in the outpatient setting. They present specific challenges to outpatient primary care providers because of issues including multiple, complex illnesses, geriatric syndromes, atypical disease presentation, polypharmacy, and complicated care coordination. Providers must balance these issues with the realities and constraints of the clinic setting. This presentation will discuss the author's primary role as a geriatric-trained nurse practitioner, clinical nurse specialist, and doctorally-prepared nurse within a large internal medicine practice at an academic medical institution. A hybrid role, combining both clinical and quality improvement (QI) responsibilities, has provided an ideal opportunity to apply research skills within a clinical environment to improve the care of a clinic's older patients.

In addition to discussing the training, background, and education necessary to consider a hybrid clinical-research position, the author will highlight a particular QI project as an exemplar of the way in which a clinic-based nurse researcher and clinician can influence care of a population. The project utilized a needs assessment approach among clinical staff to identify areas of concern and need regarding care of the clinic's older patients. Multiple strategies were developed to address the identified needs of which the optimization of the electronic health record (EHR) by clinic staff was considered key.

EHRs can offer: improved screening opportunities, efficiency, care coordination, patient satisfaction, and patient safety. The author will describe how the project improved upon communication strategies within the clinic through the creation of documentation/shortcuts specific to older patients, development of electronic worksheets for geriatric assessments, modification of electronic screening reminders for geriatric health maintenance, and the development of 'all in one' order sets tailored for older patients. The author will describe the challenges and opportunities of clinic-based QI projects led by clinicians. The use of QI initiatives led by primary care providers offers an exciting way for nurse researcher-clinicians to utilize research skills and clinical expertise to guide care of select groups of patients.

BEST PRACTICES IN TEACHING GERONTOLOGIC NURSING

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OVERVIEW: BEST PRACTICES IN TEACHING GERONTOLOGIC NURSING

Suzanne K. Sikma

INTEGRATING GERONTOLOGY IN A NURSING FUNDAMENTALS COURSE

Darcy Mize, Carla M. Hagen

SUCCESSFUL INTEGRATION OF GERO INTO RN-BSN CURRICULUM: ONLY THE BEGINNING

Renee Hoeksel

APPLYING BEST PRACTICES FOR BLENDED LEARNING IN A GERIATRIC ASSESSMENT COURSE

Suzanne K. Sikma, Cathy Prentice

FUTURE DIRECTIONS FOR GERONTOLOGICAL NURSING: ASSURING DATA DRIVEN EDUCATION

Margaret Wallhagen

BEST PRACTICES IN TEACHING GERONTOLOGIC NURSING

Overview: Best Practices in Teaching Gerontologic Nursing

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Older adults comprise the majority of patients in hospitals, nursing homes and home care and nurses are key in ensuring that quality care is provided for them. Thus promoting competence in gerontologic nursing is an important priority for nursing education curricula at all levels. The 2011 Institute of Medicine report on the Future of Nursing emphasizes the importance of a seamless nursing education system that uses innovative approaches to help nurses achieve higher levels of education and training. This symposium addresses best practices in developing such innovative nursing education approaches in gerontologic nursing education curricula.

Integrating gerontologic nursing across the curriculum is one approach many schools are taking to infuse and reinforce geriatric nursing competencies. The first paper in the symposium describes a project in a pre-licensure BSN program designed to enhance the synthesis of gerontological nursing content and competencies in a nursing fundamentals course. The second paper in the symposium also addresses a project utilizing an integration model, but this time in an RN to BSN curriculum. Faculty collaborated across disparate campuses of a state university to develop gerontology as a strong curricular thread.

Another popular innovation in nursing education is the utilization of hybrid or blended learning, where face-to-face and online learning are combined. The third paper describes how best practices in blended learning were incorporated in an elective course on assessment of older adults in order to optimize accessibility for a geographically disparate population of RN to BSN students.

The symposium closes with a question: “What is a best practice?” The author initiates a dialogue about currently available resources to guide gerontologic nursing education and practice and challenges us to evaluate the strength/ranking of data used in developing gerontologic nursing best practices.

Integrating Gerontology in a Nursing Fundamentals Course

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Background: The Nursing Fundamentals curriculum in George Fox University pre-licensure nursing program was organized as theory-based lecture and skill-based practicum without clear synthesis of gerontological nursing content and competencies. Students had limited introduction in the classroom to such topics as geriatric syndromes and the use of geriatric-specific assessment tools before entering the practicum experience in long-term care settings. This left students underprepared and frustrated with the learning experience. Recognizing that nurses will care for older adults more than any other patient population and that such care requires specific expertise, a need for curriculum change was acknowledged.

Purpose: In 2011, the faculty at George Fox University began a transformation of the nursing fundamentals curriculum, which includes the integration of gerontological topics into six credits of foundational nursing theory and practicum. The purpose of this curriculum initiative is to prepare the first year baccalaureate to understand the variations of care and skills needed in the care of older adults.

Methods: Pedagogical innovations of Benner, Stutphen, Leonard, & Day (2010) are key to this transformation. Students experience more time in interactive and contextualized learning situations in the classroom such as reviewing the demographics of the older adult population within Oregon while the examining the *IOM, Future of Nursing Report, (2010)*. Learning modules in the Clinical Lab include the use of unfolding case studies with standardized patients, simulated patient care scenarios, and contact time interviewing well older adults before entering the actual clinical setting. Practicum experiences in long-term setting are focused on concept-based learning of skin integrity, safety, nutrition as well as hands on skill acquisition. An adaptation of *Quality & Safety Education for Nurses (QSEN)* (Cronenwett et al. 2007) consistent with the mission and values of the parent university provides a framework for curricular redesign and development of student learning outcomes. Gerontological nurse educators and specialists were called upon to provide expertise and mentorship in the development of these foundational learning experiences appropriate for first year nursing students. Consideration was also given to the development of clinical faculty and for the strengthening of educational relationships with external clinical placement partners.

Outcomes: The Nursing Fundamental curriculum includes competencies to help the beginning nursing student improve care for older adults throughout their first two semesters in the nursing program, rather than just one. An evaluation tool for learning outcomes now reflects the *Recommended Baccalaureate Competencies and Curricular Guidelines for the Nursing Care of Older Adults (AACN, 2010),* as well as the adapted QSEN competencies.

Conclusion and Implications: This project has helped strengthen the gerontological nursing curriculum in a pre-licensure nursing program, while using current pedagogical approaches for optimum student learning and competence. As a result, new baccalaureate graduates will be better prepared for the necessary geriatric care for the nation's aging population.

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Successful Integration of Gero into RN-BSN Curriculum: Only the Beginning

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Purpose/Aims: The purpose of this presentation is to describe a highly successful integration model of excellence in gerontological nursing into a large, multi-modal RNB program by a faculty with a long history of commitment to working together across the entire curriculum despite being located on 5 geographically-distant campuses.

Rationale/Background: The need for a well-educated nursing workforce and the shortage of BSN-prepared nurses nationwide are well documented. The demographics of a rapidly aging & diversifying worldwide population escalate this need. Faculty at a tier 1 land-grant, research university in the West have over 20 years of experience working together to identify some of the best ways to address the unique learning needs of these students while simultaneously addressing standards such as *Essentials of Baccalaureate Education* and core gero competencies. A recent challenge has been increasing student diversity as large numbers of unemployed, new associate degree graduates go straight on for their BSN degree with scant clinical experience in order to improve chances for a position in a highly competitive and sluggish regional economy.

Undertaking/Best Practice/Approach/Methods/Process: As new standards and requirements emerge in BSN education, nursing faculty must decide how to implement them. Excellence in the care of the older adult across practice settings has become an area of increasing emphasis in curriculum as national standards, teaching tool kits, evidence-based interventions, and more are rapidly being developed and widely distributed. Many nursing school faculty have decided to use an approach of developing a course in gerontological nursing while others choose to integrate such crucial content and skills. Both approaches have benefits and risks. This RNB faculty chose integration as the best method as it matched their commitment to Best Practices in collaborative curricular development, implementation, evaluation, transformative leadership, and teamwork. This dynamic & distance-friendly model of integration includes but is not limited to faculty retreats, agenda items at regular meetings, multi-method sharing of a huge array of learning activities, and a transparent participatory leadership style. A key component established over 10 years ago was the concept of "conceptual threads" to be woven throughout the entire 30 credit curriculum by every faculty member.

Outcomes Achieved/Documented: Gerontology was one of these inaugural conceptual threads. Faculty teaching courses as diverse as leadership or research share exemplars of innovative ways they are weaving increasing aspects of gero into their courses. Despite ever increasing teaching loads, faculty satisfaction is high and many are taking on mentorship roles with newer faculty attempting to creatively meet this responsibility. Student satisfaction is high both anecdotally during their studies as well as analysis of program outcomes from graduation exit surveys and portfolio growth statements.

Conclusions: Integrating gero content throughout a curriculum as an educational practice has benefits that only begin with increased student knowledge, skills, and abilities. Tremendous faculty gains in teamwork, communication, a positive work environment, aspects of leadership, productivity, to name just a few can be products of a successful model of curricular integration even across large geographic distances.

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Applying Best Practices for Blended Learning in a Geriatric Assessment Course

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Purpose: The purpose of this project was to apply best practices in blended learning to a hybrid elective course on Assessment of Older Adults in an RN to BSN program.

Rationale/Background: The IOM report on the Future of Nursing (2011) recommends strategies such as the use of technology to enhance the seamless academic progression of nurses. The context of this paper is a large RN to BSN program in the Northwest with approximately 200 students from a 10,000 sq mile six county area in five cohorts at three locations. Hybrid courses, which include both online and face-to-face class sessions, are popular with this geographically diverse population of nurses. In addition, as already licensed nurses, the students are employed in a wide variety of clinical settings serving older adults in acute care, critical care, long-term care, psychiatric/mental health and a variety of community based settings.

Approaches/Best Practices: Garrison & Vaughan (2008) describe blended learning as integrating face-to-face and online learning, rethinking course design to optimize student engagement, and restructuring and replacing traditional class contact hours with online learning. A community of learning is created by intentionally developing social presence, cognitive presence and teaching presence in the learning activities. These blended learning principles were applied in a course designed during a faculty development institute. Blackboard courseware provided the technology platform for the course.

Outcomes Achieved: The first outcome was development of learning objectives (cognitive and affective) that can be personalized to a student's particular clinical practice interests. Second, learning activities were intentionally designed to promote social, cognitive and teaching presence. Third, assignments were designed with attention to both personalization of the learning activity to a student's individual clinical interests and to the use of readily available and credible online resources or "learning objects". A menu of learning objects the students could choose from (or add to with faculty permission) was created. Learning objects on the menu included chapters from selected geriatric specialty texts, videos in the library collection, and a wide variety of credible online learning objects such as those found in the Hartford Institute for Geriatric Nursing's Try This®-Assessment Series and the POGOe (Portal of Geriatric Online education).

Conclusions/Implications: The course received high ratings by the students including a strong score on a challenge/engagement index. Qualitative student feedback indicated increased appreciation of the experiences of older adults, application of new assessment skills in clinical practice, and in some cases, promotion and integration of enhanced assessment skills in the level of practice on their clinical units. This project demonstrates that blended learning approaches can be quite effective with RN to BSN students, promoting individualization, access and convenience in advancing their education.

Future Directions for Gerontological Nursing: Assuring Data Driven Education

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Purpose/Aims: The purpose of this presentation is to promote a dialogue about currently available resources for use to guide education and practice, and to stimulate the inclusion of a ranking of the strength of the data supporting a given recommendation.

Rationale/Background: The increasing emphasis on the need for nurses across settings to have the necessary knowledge to provide care to older adults, the mandate to merge adult and geriatric practitioner programs, and the related efforts to provide faculty development opportunities so that faculty have the capacity to address the growing demand has promoted an expansion of available resources to support these efforts. These include the development of competencies as well as the development of targeted resources to guide practice. These are essential. However, the expansion of available data and the frequent framing of such data with the context of best practices raises issues regarding how individuals who desire to use the resource can adequately assess the strength of the data on which the recommendations rest and how to choose among competing potential actions or interventions. To continue to enhance the credibility of nursing education and practice in a health care context that is increasingly complex, it is important to reflect on how best to document what is defined and promoted as best practice or evidence based care.

Discussion: Many organizations and groups have evolved strategies to evaluate the strength of a given recommendation. The United States Preventive Services Task Force grades its recommendations from A, recommends with high certainty of net benefit, to D, recommends against because it has no benefit or harms outweigh benefits. It also allows for a statement that there is insufficient evidence. Others, such as the American Diabetes Association, use a rating based on the types of studies that underpin the recommendation with ratings ranging from A, suggesting clear evidence from well conducted studies, to C, which suggests that available data supporting the recommendation are from poorly or uncontrolled studies. They also allow for a category, E, that allows the recommendation to be based on expert consensus or clinical experience. Other models exist, but they each provide guidance for practitioners and the persons with whom they work when making decisions about approaches to care.

Conclusion: All data must be contextualized and research findings should never be the only criteria upon which decisions are made; individual preferences and goals of care are critical to any discussion. However, by providing information about the strength of a given recommendation nursing will enhance the nature of its practice and promote research focused on identified gaps in knowledge.

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BUILDING GERIATRIC NURSING CAPACITY WITH CLINICAL-ACADEMIC PARTNERSHIPS

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OVERVIEW: BUILDING GERIATRIC NURSING CAPACITY WITH CLINICAL-ACADEMIC PARTNERSHIPS

Juliana C. Cartwright, Layla J. Garrigues

CREATING AND SUPPORTING ACADEMIC-COMMUNITY LONG-TERM CARE PARTNERSHIPS

Tiffany L. Allen, Diana White, Juliana C. Cartwright

STUDENT EXPERIENCES IN ENRICHED LONG-TERM CARE CLINICAL ENVIRONMENTS

Josh Lottes, Diana White, Juliana C. Cartwright

ORGANIZING PEER-REVIEWED WEB RESOURCES FOR NURSING FACULTY

Tiffany L. Allen, Layla J. Garrigues, Michelle Hall

CREATING A PEER NETWORK TO SUSTAIN ACADEMIC-CLINICAL PARTNERSHIPS

Diana White, Juliana C. Cartwright

ASSIGNMENTS IN LONG-TERM CARE THAT ADDRESS STUDENT AND AGENCY GOALS

Juliana C. Cartwright, Anna Lewis, Terry Ross, Diane Bauer, Cynthia McDaniel

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BUILDING GERIATRIC NURSING CAPACITY WITH CLINICAL-ACADEMIC PARTNERSHIPS

Overview: Building Geriatric Nursing Capacity with Clinical-Academic Partnerships

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Enriching Clinical Learning Experiences through Partnerships (ECLEPs) is a model training and support program designed to build capacity for long-term and community-residential care facilities (LTC) to be excellent clinical learning sites for nursing students in the Oregon Consortium for Nursing Education (OCNE). The project was developed in recognition of the growing demand for nurses with gerontologic knowledge and skills, the evolution of community residential care settings as places where older people with multiple chronic conditions are living and dying, and the erroneous belief by many faculty and students that LTC is less complex and less challenging than other practice settings. Currently, partnerships representing seven OCNE schools and twenty-one LTC agencies are in various stages of development. Several partnerships have existed for four years; others are just beginning. Core components of all of the partnerships include professional development activities where faculty and staff nurses review evidence-based gerontologic practice, nursing leadership in LTC, culture change and person-centered care. During these events the faculty and staff nurses get to know each other and their respective practice goals and environments and begin working together to develop learning activities for students that address student and agency needs. Additionally, peer-networking across agencies and schools provides a forum for exchanging ideas and experiences in the statewide partnerships. Student perceptions of their learning experiences are evaluated through online surveys and in-person interviews. Examples of student assignments are collated and shared across the partnerships with permission of involved faculty and students.

This symposium provides an overview of the key components of ECLEPS partnerships. The first two papers address relational aspects of the project by describing essential lessons learned in establishing and maintaining academic-clinical partnerships and in developing a statewide peer network that uses basic telephone technology to highlight and discuss various activities across the partnerships. The next two papers focus on instructional activities developed by faculty to maximize learning opportunities for students in the LTC settings, and on student responses to learning experiences in the partnership environments. The final paper describes an ambitious effort to streamline faculty access to the many evidence-based web resources that are now available to help faculty, students and practicing nurses expand their knowledge and skills related to caring for older adults across settings.

Over the past five years ECLEPS project participants have learned a great deal about developing and maintaining academic-clinical partnerships, about the complex learning opportunities that exist for students throughout their programs of study in the LTC environment, and about strategies for ongoing support and growth of these activities. These insights are transferable to other settings for faculty desiring to expand capacity for learning in non-traditional settings of care.

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BUILDING GERIATRIC NURSING CAPACITY WITH CLINICAL-ACADEMIC PARTNERSHIPS

Creating and Supporting Academic-Community Long-Term Care Partnerships

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Purpose: Since 2008, *Enriching Clinical Learning Experiences through Partnerships* (ECLEPs) has developed 14 clinical-academic partnerships between long-term and community residential care (LTC) agencies and nursing programs in urban and rural communities throughout Oregon. This paper describes the partner selection criteria and professional and organizational development processes for faculty and staff nurses.

Rationale: LTC facilities can be excellent clinical sites for students. In these settings, nurses use the full range of clinical knowledge and skills including managing chronic illness, critical thinking, building relationships with residents and families, nurse delegation and teaching, and leadership and team building. Yet, faculties typically have little LTC or gerontologic nursing experience, and staff nurses rarely understand student learning goals.

Project Description: Selection criteria for clinical partners include excellent care as evidenced by state surveys, stable administrative leadership, availability of nurses who want to be clinical education liaisons (CELs) working with students, and a letter of commitment to the project signed by the administrator and nursing director. An initial ‘kick off’ meeting introduces faculty, administrators, and CELs to each other. CELs learn about the courses, and the faculty learns about the agencies including resources, opportunities for students, and how faculty and students can contribute to the organization through learning activities. Faculty and CELs participate in four days of training using established, evidence-based training programs: the Mather Lifeway’s Learn Empower Act Produce (LEAP) program and Coaching Supervision developed by PHI©. These sessions build skills and organizational capacity for leadership, communication, team building, and resident-directed care. In subsequent meetings the CELs and faculty review course objectives and identify specific learning activities. The faculty spends time in the setting getting to know its culture, residents, and staff. CELs identify residents with whom students can practice, help students take advantage of spontaneous learning opportunities, facilitate interactions with other staff, and serve as the organizational “go to” person.

Outcomes: Interviews with CELs and faculty reveal that the ECLEPs model has improved academic-clinical relationships, improved student learning about care of older adults, and benefitted residents and staff. Many of the partnerships have expanded to include other courses. The partners continue to explore new ways to teach the next generation of nurses and improve care to older adults.

Implications: Nurses in LTC settings can serve as powerful role models for students and help faculty develop rich, meaningful learning activities to achieve course goals. Students become comfortable interacting with older adults and develop essential knowledge and skills to care for this population regardless of the care setting.

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BUILDING GERIATRIC NURSING CAPACITY WITH CLINICAL-ACADEMIC PARTNERSHIPS

Student Experiences in Enriched Long-Term Care Clinical Environments

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Purpose: Enriching Clinical Experiences through Partnerships in Long-term Care (ECLEPs) represents a partnership between academic nursing programs and community-based long-term care (LTC) residential settings to improve clinical education of nursing students and to increase student understanding of the complexities and opportunities for nursing in these settings and an appreciation for the rewards of working with older adults in these settings.

Background: Since 2008, nearly 250 students from 4 OCNE schools have been through clinical rotations at ECLEPs LTC sites. Students have been enrolled in courses focused on chronic illness and end-of-life care, health promotion, leadership, and integrative practice.

Project Description: The student experiences in the chronic illness and end-of-life care courses were assessed through pre and post clinical surveys to capture attitudes and assessment of learning. In addition, exit interviews were conducted with students after the conclusion of the clinical course.

Outcomes: Survey results showed a positive learning experience for students, with students reporting increased understanding of long-term care, admiration for nurses in these settings, and greater appreciation of the complexity of care and challenges of managing chronic illnesses and support at the end of life. Exit interviews showed that students saw the clinical setting as providing a valuable learning experience, that course learning objectives were met, and that students gained a greater appreciation of work in the LTC setting. Students also felt more prepared to talk with nurses in long-term care settings when discharging patients to these settings. Despite the overall favorable findings, only a small number of students indicated a desire to work in LTC right after graduation. This was due in part to worries about the comparatively low salaries earned in LTC nursing, and concerns that they did not know enough to do the independent work needed in long-term care.

Conclusion: Results of the study indicate that enriched clinical learning experiences for students in LTC can lead to a greater appreciation for nurses who work in LTC, as well as a better understanding of the needs of older adults with chronic illnesses. Although there were no significant numbers of students who indicated a desire to start their careers in LTC, about 15% of students participating in the study indicated that they would like to work in LTC at later career stages.

Funding: Northwest Health Foundation & Health Resources & Services Administration D62HP06855.

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BUILDING GERIATRIC NURSING CAPACITY WITH CLINICAL-ACADEMIC PARTNERSHIPS

Organizing Peer-Reviewed Web Resources for Nursing Faculty

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Purpose: There are now many evidence-based, provider-oriented resources about caring for older adults on the Internet. The purpose of this presentation is to describe and demonstrate a project that organizes and categorizes online resources for easy access and use by nursing faculty.

Background: The unparalleled growth in the population of older adults has led to recognition that preparing nurses for the 21st century means preparing nurses for an aging America. Yet, many nurse educators have limited knowledge of gerontologic nursing and struggle to provide relevant and engaging learning experiences for students. Funding for the *Enriching Clinical Learning Experiences through Partnerships* (ECLEPs) project has enabled us to explore, critique, and organize for use by faculty some of the numerous resources now available on the Internet. Our goal was to create an evidence-based 'toolbox' of gerontologic resources that are summarized using pedagogic criteria that faculty would find useful.

Process: As part of ECLEPs, we have been 'bookmarking' instructional materials and web sites to share with faculty. Knowing that faculty members have limited time to sift through many sites our team wanted to create a place where faculty could easily locate gerontology web resources for use in undergraduate nursing courses. We created a template to describe web resources according to criteria that would be useful for faculty. The template is based in part on the instructional resource template developed by the Northwest Geriatric Nurse Educators Coalition and on our faculty reflecting on the question 'what information is important when searching for online instructional resources?' Web resources were organized by the following criteria: (a) brief site description, (b) key concepts, (c) existing instructional activities, (d) suggestions for use with students (e.g., independent learning activity, discussion, preparation for a clinical assignment), (e) presentation formats (e.g., video clips, power point slides), and (f) ease of navigability. Each site was analyzed by a team member with other members reviewing the initial analysis. Standardized symbols and a rating system were developed to indicate key site features.

Outcomes: The current product, a compilation of web-based resources for use by faculty, is now posted on www.ecleps.org. The toolbox is a dynamic repository as sites change over time. Exploration of site materials is tracked using Google Analytics to provide a report of the number, frequency and length of visits.

Conclusions: This repository has the potential to help faculty infuse gerontology into their courses by providing easy access to a vast array of evidence-based materials. Critical to success of this project will be (a) disseminating the toolbox site to faculty and (b) ongoing updating and review of the resources, as nursing practice and the web change.

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Creating a Peer Network to Sustain Academic-Clinical Partnerships

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Purpose: Staff nurses working in long-term care settings often work in isolation, with few opportunities to meet with counterparts in other agencies. Enriching Clinical Learning Experiences through Partnerships in Long-term Care (ECLEPs) was designed to provide participating staff nurses a chance to learn and exchange ideas with others doing similar work. Our purpose in this paper is to describe efforts to sustain peer networking among nurses practicing in rural and urban long-term care communities throughout Oregon.

Rationale/Background: Networking opportunities provided through training workshops were some of the most important aspects of the ECLEPs project for staff nurses. Opportunities to share experience across partnership groups in face-to-face meetings will be limited as grant funding ends.

Project Description: Two approaches have been used to support continued relationships and opportunities for peer networking: partnering, and conference calls. First, we partnered with the Oregon Center for Nursing (OCN). They have developed a long-term care nursing leadership network, providing regular networking breakfasts focused on topics of interest to long-term care nurses. Second, we have used telephone conferencing to connect ECLEPs partners from all over the state. Each of these calls features the work of at least one partnership. Topics have included descriptions of learning activities (e.g., person-centered activity programming, developing relationships with persons with dementia), how partners have worked together successfully to plan and implement course activities, and implementing a staff training program for culture change. Programs are scheduled for 50 minutes and cover two to three topics. Invited presenters describe their experiences, and opportunities are provided for questions and answers.

Outcomes: ECLEPs nurses and faculty have been prominently featured in OCN programs. This program is valuable to those who attend and is independent of ECLEPs funding. While OCN programs initially were limited to those in the Portland metropolitan area, they are now being offered through webinars. The ECLEPs conference calls are increasingly popular, with 23 participating in the last call. Summaries of the content are posted on the website along with resources identified during the call. These calls will be offered quarterly; we are exploring ways to maintain the calls after funding ends.

Conclusion: Through peer networking, the School of Nursing and its partners continue to provide opportunities for ECLEPs faculty and staff nurses to share experiences which benefit the partnership, nursing education, and resident care. Calls and webinars are easy to attend and do not require travel. The conference calls are technologically simple and the 50 minutes period allows adequate time for presentation and discussion without significant time away from the job.

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BUILDING GERIATRIC NURSING CAPACITY WITH CLINICAL-ACADEMIC PARTNERSHIPS

Assignments in Long-Term Care That Address Student and Agency Goals

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Purpose: This paper describes instructional activities developed specifically for student learning in long-term/community-residential care (LTC) settings by faculty in collaboration with staff nurses in the Enriching Clinical Learning Experiences through Partnerships (ECLEPs) project. The activities were developed for use in lower and upper division clinical courses.

Rationale: Increasingly, clinical learning includes activities that focus on pattern recognition related to specific concepts and integrative experiences that prepare students to take on leadership roles with specific populations (Gubrud-Howe & Schoessler, 2008). As nursing practice expands into community settings, students need experiences that will prepare them to work with clients, families and multi-disciplinary staffs outside of the relatively structured and resource-intense hospital environment. Faculty members in the ECLEPs project are developing learning activities that take into account these factors for courses delivered in LTC partner agencies.

Process: Faculty embarking on course delivery in ECLEPs agencies have often had limited experiences teaching in LTC settings or when the focus of care is on older adults regardless of the diagnosis or care setting. With feedback from colleagues more familiar with gerontologic practice or the LTC environment, they exchanged, discussed, and adapted existing course materials for these situations and also consulted with staff nurse partners about the students' learning goals and agency resources and goals.

Outcomes: As a result of the collaborative discussions, new concept-based learning activities (CBLA) and population-focused leadership activities are being used in ECLEPS partnership settings throughout Oregon. These activities are successful because they (a) enable students to demonstrate mastery of essential course competencies, (b) address issues of real concern for the agency, and (c) are highly rated as valuable by the students. Four exemplary instructional activities will be discussed. The exemplars represent assignments in chronic illness courses, a leadership course, and a population health course.

Implications: Long-term/residential care settings provide rich opportunities for student learning across a range of lower and upper division courses. The assignments address student, resident and agency needs, and enable students to demonstrate mastery of basic and complex nursing skills and knowledge.

CLINICAL-ACADEMIC COLLABORATION TO ADVANCE THE FUTURE OF NURSING AND HEALTH

Moderator:
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OVERVIEW: CLINICAL-ACADEMIC COLLABORATION TO ADVANCE THE FUTURE OF NURSING AND HEALTH

Lorie Rietman Wild

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DO YOU HEAR THEIR VOICE? USING ICU PATIENT/FAMILY SATISFACTION DATA TO IMPROVE CARE

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INNOVATION IN EDUCATION TO MEET THE NEEDS OF WASHINGTON STATE

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IN PURSUIT OF LIFELONG LEARNING: ENHANCING MEDICAL-SURGICAL PRACTICE

Cynthia Sayre, Martha DuHamel

CLINICAL-ACADEMIC COLLABORATION TO ADVANCE THE FUTURE OF NURSING AND HEALTH

Overview: Clinical-Academic Collaboration to Advance the Future of Nursing and Health

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In October 2010, the Robert Wood Johnson Foundation and the Institute of Medicine (IOM) released *The Future of Nursing* report which challenged nursing leaders to respond effectively to changes in health care systems and settings. The key messages and recommendations from this landmark report provide a blueprint for change that depends on effective collaboration within and among the health professions, education, practice, and communities. The IOM report challenges us to redefine goals and relationships. Because Schools of Nursing and academic medical centers share core elements of the tripartite mission—education, research and clinical care, they can be seen as natural partners to advance the profession and improve the health of the public.

The purpose of this symposium is to describe innovative programs that illustrate the power of clinical-academic collaboration to achieve key recommendations from the IOM report; that is, to expand opportunities for nurses to lead and diffuse collaborative improvement efforts, ensure that nurses engage in lifelong learning and to prepare and enable nurses to lead change to advance health.

In the first paper, Bridges and Whitney describe an academic-service partnership that is successfully advancing the culture of inquiry and cultivating competency in both evidenced-based practice and clinical research in two academic medical centers. Next, Spencer and Whitney present a mentorship model that leads to professional growth, improved interprofessional communication, nurse retention and satisfaction. Maller and Wood then discuss a clinical nurse led project, which reflects the embedded culture of inquiry supported by the clinical-academic partnership. This ongoing project systematically evaluates initiatives to optimize patient- and family-centered care in critical care. Cline and Brandt describe innovative projects that advance nursing education by building faculty capacity and transformative, integrated learning experiences through the use of interprofessional simulation training, “loaned faculty,” and the introduction of a “dedicated teacher-preceptor’ model. Finally, Sayre, DuHamel and Karvonen describe a highly successful continuing nursing education collaboration that fosters lifelong learning. The goals of this 14-week, medical-surgical review course are to augment nursing knowledge, refine critical thinking, incorporate evidence into practice and, drawing on that learning, improve clinical practice and outcomes.

Taken together, this symposium will demonstrate how, by working together, schools of nursing and clinical agencies can leverage the strengths and core competencies of each in order to lead change, advance health and secure the future of nursing.

CLINICAL-ACADEMIC COLLABORATION TO ADVANCE THE FUTURE OF NURSING AND HEALTH

Clinical-Academic Partnership: Growing a Culture of Inquiry

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Purposes/Aims: Describe an academic-service setting partnership that is successfully advancing a culture of inquiry.

Rationale/Background: The University of Washington Medical Center and Harborview Medical Center collaborated with the UW School of Nursing to hire clinical nurse researchers. These researchers, who are SON faculty, work with staff and established professional practice groups, to provide mentorship, guide the performance of clinical inquiry (research and evidence-based practice) and facilitate activities to advance a culture of inquiry.

Undertaking/Best Practice/Approach/Methods/Process: The researchers collaborated with leadership to create a strategic plan to advance the culture of inquiry: *Goal #1*: Infuse culture of inquiry through all patient care activities; *Goal #2*: Build capacity for nurses to actively participate in clinical inquiry. *Goal #3*: Create structures/processes to facilitate diffusion, adoption, implementation and institutionalization of evidence to enhance clinical care. Examples of strategies used at both UWMC and HMC to support these goals include (1) mentoring Clinical Nurse Specialists to lead clinical inquiry projects, (2) implementing a strategy to ensure that all nursing policies/procedures reflect current evidence and adoption of a standardized template to summarize this evidence, (3) guiding nurses in becoming smarter consumers of evidence, including identification of topics, critically reviewing and summarizing literature and developing skills to articulate the evidence (4) creating a Clinical Scholar Program, which develops teams of nurses to conduct clinical inquiry (5) introducing the culture of inquiry in New Graduate Orientation (6) designating dedicated research librarians to support clinical inquiry and (7) creating the Seattle Nursing Research Consortium: a forum to share clinical inquiry initiatives.

Outcomes Achieved/Documented: Over the past two years teams of nurses have completed 31 research studies and 35 evidence-based practice initiatives, with projects ranging from product evaluation to modifying care delivery systems. The results of these initiatives inform local practice and serve as the mechanism to institutionalize the culture of inquiry. Success can also be measured by the anecdotal comments of the nurses participating in clinical inquiry: “I used to hate research - now it’s the coolest thing. Who would have thought I could do a study and present it at a national conference? Now I’m looking for my next study.” Participation in these initiatives has also been the impetus for nurses to further their education. The results of this work have been presented at national conferences, published in peer reviewed journals and recognized with awards, including the American Association of Critical Care Nurses Outstanding Research Abstract Award (twice), Society of Critical Care Medicine Nursing Abstract Award, Magnet Technology Innovation Award, and the Neonatal Network 2009 Excellence in Writing Award Winner.

Conclusions: This presentation summarizes two academic-service setting partnerships that are advancing a culture of inquiry. Keys to the success of these partnerships include embedding clinical inquiry in the shared governance structure, mentoring key individuals, articulating the role of the researcher to foster clinical inquiry, focusing on topics relevant to the clinical setting and putting in place structures to develop the nurses’ skills to participate and lead clinical inquiry.

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CLINICAL-ACADEMIC COLLABORATION TO ADVANCE THE FUTURE OF NURSING AND HEALTH

Mentorship as a Positive Feedback Loop

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Aim: To enhance the professional practice of bedside clinicians through mentorship to build capacity in: research, quality improvement, and evidence based projects; leading to professional growth, improved team communication and change in practice with an increase in nurse retention and job satisfaction. A mentorship model was implemented that focuses on the process of conducting research, dissemination of results, both oral and written and presentation of work through professional forums

Background: In 2007 two Medical ICU nurses asked a question: When patients experience intrahospital Pulseless Electrical Cardiac Arrest (PEA) are there antecedents to the cardiac arrest and when do they occur? If there are antecedents, are they consistent with the American Heart Association's 7 H's and 5 T's? Utilizing the expertise of the trauma CNS and the academic nurse scientist affiliated with HMC, a team of two nurses (assistant nurse manager and staff RN) designed a study, gained IRB, organizational and manager approval. As the work of this team evolved it was accepted for poster and podium presentations at: AHA, SCCM, WIN, SNRC, HMC Critical Advisory Group and HMC Metrics Group. Their work is now incorporated into Sepsis triggers and the Code blue committee work. In 2011 a Sepsis Case Review Group (SCRG) was started in the MCICU led by the same assistant nurse manager and the MCICU Clinical Nurse Specialist. The purpose of the group was to improve education and the care of the septic patient. At the first meeting it was established that the group would evolve into a meeting developed by the staff nurses. Staff would recommend cases to review and ideas for educational content.

Approach: Each month at SCRG a staff nurse team of two presents an educational component i.e. how to perform passive leg raise (PLR) to measure fluid responsiveness. A related patient case review follows the education. Each nurse is mentored in data and information collection and guided in an appropriate presentation model. What evolved was not only practice change and improvement but professional nursing pride. To imprint the value of the group's work, each staff nurse team involved in a presentation was offered opportunity to share their practice changing work in the form of submitting an abstract to a national forum.

Outcomes: A group meeting was held with mandatory attendance. Guidelines for professional conduct were discussed; timelines established and dates set for writing. Five abstracts representing 10 staff RN's (14% of total RN staff) were submitted to the National Teaching Institute. For nine nurses it was the first time they had submitted an abstract to a professional forum. For the first author of an accepted abstract, HMC offers monetary reimbursement through the Ambassador program.

Conclusions: Building capacity in clinical inquiry and EBP requires sustained support, and commitment at organizational and unit levels. Through this model of mentorship, evidence to support practice change and improvements in patient outcomes is generated. The reach is extended as mentees become mentors sharing knowledge and skills gained and creating the climate for continued inquiry and practice improvement.

Do You Hear Their Voice? Using ICU Patient/Family Satisfaction Data to Improve Care

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Purpose/Aims: This paper reflects the work of a clinical nurse led collaborative effort with ICU nurses, patients and family members. The project, a family survey, reflects one aspect of initiative to optimize patient family centered care in the ICU.

Rationale/Background: In 2001, the IOM identified patient/family centered care an area of importance. In 2002, the University of Washington, adopted this model. In 2007, a patient/family advisory committee was created in the Medical Surgical ICU at the UWMC. The committee comprised of previous patients, family members, and staff worked collaboratively to create and improve patient/family centered care in the ICU. In the last three years, the ICU council has completed a number of projects, including writing educational materials, advocating for resources, submitting grants, training a liaison volunteer to provide support in the waiting room and educating staff. A challenge has been to determine whether these efforts have made a difference. Although survey data, such as HCAHPS, is available, it is does not focus exclusively on the patient and family experiences in the ICUs. Previous benchmark ICU satisfaction studies use questions comparable to the HCAHPS survey.

Undertaking/Best Practice/Approach/Methods/Process: In May 2011, an 18-item "ICU Patient & Family Experience Survey" questionnaire was developed by the ICU Steering Committee and the ICU Advisory Council to identify opportunities for improvements in the care of our patients/families. A computer kiosk was placed in the ICU waiting room and family members of patients in the ICU were encouraged by our ICU liaisons to complete the survey.

Outcomes Achieved/Documented: The survey was initiated in mid-April 2011. Preliminary results (n = 66) through June 2011 have been reviewed by the Patient/Family Advisory Council. Families were satisfied overall with care provided to them and their critically ill relative. However there was a deficiency in the quality of the communications with the physicians. Although 70% of respondents indicated that the doctors introduced themselves by name, only 33% of the respondents were able to correctly name the attending physician. This leads us to conclude that our next improvement effort needs to focus towards improving physician communication with families in the ICU. It also gives us the opportunity to address this problem at a root cause level by providing this evidence to the UW School of Medicine for new physician education.

Conclusions: As UWMC continues to improve the care of our ICU patients, we require tools to measure our progress. The development and implementation of the "ICU Patient & Family Experience Survey" provided us with a mechanism to quantitatively collect data on family perception and satisfaction in the ICU. These results enable us to track the effectiveness of our patient and family centered care satisfaction initiatives and to highlight and identify opportunities for improvements in the care to our patients and their families.

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CLINICAL-ACADEMIC COLLABORATION TO ADVANCE THE FUTURE OF NURSING AND HEALTH

Innovation in Education to Meet the Needs of Washington State

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The Future of Nursing report sponsored by the Institute of Medicine and The Robert Wood Johnson Foundation challenged nursing leaders to expand faculty capacity and educate in new ways to better prepare nurses to meet the health care needs of the population. The University of Washington Medical Center and the University of Washington School of Nursing are partnering to address these educational challenges and the needs of Washington State.

The purpose of this paper is to describe our best practice approaches in this partnership to increase transformative education and teaching capacity. Our collaborative approaches include: 1) training the agency based advanced practice nurses with university faculty in the use of simulation and 2) building capacity through an agreement entitled "loan faculty." The agency donates a designated amount of the clinician's time (the loan) to teach undergraduate students. We are also determining the educational model that best matches our needs to expand the strategies for building faculty capacity through a "dedicated teacher-preceptor" or a "dedicated education unit" (DEU) approach.

For the simulation outcome, academic and agency faculty jointly participated in simulation training that was focused on staff development and competency building for undergraduate students. During this training, staff development specialists and faculty partnered to create and implement high and low fidelity simulations oriented to the acute care setting. Ongoing collaborations between staff and faculty involve building additional simulations to match the essential competencies needed for the nursing role in the agency. These new simulations will assure entry level nurses in the agencies and students in the undergraduate program are prepared similarly for the basic skills needed for quality and safe care.

For the capacity building outcome, two agency clinicians currently function in "loan faculty" roles. Clinicians who assume the role of instructor have their clinical responsibilities modified to assure the necessary time to engage in a defined teaching assignment with the university. Examples of best practices in mentorship for the clinician and improvements in the learning experiences for students due to this partnership will be described.

The decision making process involved in analyzing which educational model will best increase capacity and be effective in the agency context will be outlined during this presentation. Our partnership is evaluating two choices at this time, a cadre of "dedicated teacher-preceptors" or a "dedicated education unit" (DEU) approach.

In conclusion, innovations in education and faculty capacity building will be highlighted to demonstrate the commitment of this agency-university partnership for preparing the next generation of nurses.

CLINICAL-ACADEMIC COLLABORATION TO ADVANCE THE FUTURE OF NURSING AND HEALTH

In Pursuit of Lifelong Learning: Enhancing Medical-Surgical Practice

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Purpose/Aim: Describe the evolution and outcomes of a collaboratively developed continuing education course for medical-surgical nurses.

Background: A Medical–Surgical Certification Review Course has evolved continually since its inception in 2002. Initially a grassroots endeavor conceived by three clinical nurse educators who identified an educational opportunity to advance the practice of Medical Surgical nurses and promote specialty certification at University of Washington Medical Center (UWMC) has now, as a result of collaboration between UWMC and University of Washington Continuing Nursing Education (UWCNE), expanded to 24 sites throughout Washington, Alaska, Idaho, Montana, Oregon, South Dakota and Hawaii. Sites participate via webcast, synchronously and asynchronously. The program is web broadcast live from an electronic classroom; the live audience includes nurses from UWMC. The course has continued to transform over the past nine years in terms of technology, resources for participants, and supplemental courses supporting the ever growing remote agencies. Newer, more reliable broadcasting methods from teleconferencing to web-conferencing have been trialed. Course materials have moved from paper to electronic based.

Approach: The course covers major body systems in three-hour sessions over a 14-week span. Weekly sessions include 130 minutes of didactic content, discussion of clinical exemplars from participants that apply course content into their practice, facilitated group discussion, a practice test, and evaluation. Participants have the opportunity to meet and talk with advance practice nurses and others to support their nursing practice. Content has been revised through the years based on evaluation feedback and practice relevance. A critical element of the program is the site-based course facilitator and mentor, often a medical-surgical staff nurse. The facilitator-mentor role offers an opportunity for guided professional development.

Outcomes: The class has grown from six participants in 2002 to 438 for the live course in 2011. The online version of the course, offered twice a year, has grown from 14 participants in 2007 to 59 in 2010. Many nurses go on to write the certification exam with a pass rate ranging from 84% to 100%. At UWMC, the course has boosted certification rates for direct care Medical Surgical nurses to nearly 30%, the highest rate among academic medical centers in the U.S. Collaboration between UWMC and UWCNE also has lead to success in securing HRSA funding for course development and expanding the network of participating hospitals.

Conclusions: This certification review course highlights the power of collaboration between a clinical agency and an academically-based CNE to support lifelong learning for nurses in urban and rural hospitals by taking a course “together” via distance learning.

Funding: The program is partially funded by a training grant D11HP14630-01-00 (2009-2012) from the Division of Nursing, Bureau of Health Professionals, Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS).

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CLINICAL APPLICATIONS FOR INNOVATIVE GENETIC/GENOMIC RESEARCH

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OVERVIEW: CLINICAL APPLICATIONS FOR INNOVATIVE GENETIC/GENOMIC RESEARCH

E. Alison Holman

GENETIC MARKERS OF ACUTE STRESS: FROM GENETIC TESTING TO SECONDARY PREVENTION

E. Alison Holman, Zhaoxia Yu, Preston Reed

KNOWLEDGE OF RISK FACTORS AND GENE TRANSMISSION AMONG WOMEN AT RISK FOR HBOC

Maria C. Katapodi, Laurel L. Northouse, Sara DeFlon,
Kara J. Milliron, Sofia D. Merajver

REGULATION OF ONCOGENIC ACTIVITIES OF HIGH-RISK HPV ONCOGENES BY E6 GENE OF BENIGN HPVS

Elizabeth A. Kostas-Polston, G. Chinnadurai, M. Kuppuswamy

CLINICAL APPLICATIONS FOR INNOVATIVE GENETIC/GENOMIC RESEARCH

Overview: Clinical Applications for Innovative Genetic/Genomic Research

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Genetic and genomic research is transforming health care decision-making, clinical treatment, and management of a vast array of health issues. As primary healthcare providers, professional nurses educate patients about both their risk for disease and the recommended treatment options. Thus, understanding how findings from laboratory-based genomic research translate into clinical practice is essential. This symposium highlights three genetic/genomic studies conducted by Robert Wood Johnson Foundation Nurse Faculty Scholars with the specific aim of demonstrating how essential details about our patients' genetic makeup can guide patient education and provide novel therapeutics to promote our patients' health and prevent disabling diseases. The first population-based presentation addresses genetic risk for acute stress following the 9/11 terrorist attacks with the aim of using genetic analyses to identify potential targets for secondary trauma-related cardiovascular disease (CVD) prevention efforts. Researchers identified a cluster of acute stress-related genotypes representing physiologic systems that help regulate cardiovascular function. These findings point to potential targets for early clinical interventions that may help prevent CVD in traumatized patients. The second lab-based study uses genomic analyses to develop tools for the detection of persistent Human Papillomavirus infection of the oropharynx and identify strategies which may be used to inhibit the oncogenic activity of high risk HPV genotypes. The third clinically-based study uses genetic analyses to identify families with hereditary breast and ovarian cancer genes (BRCA) and assess whether they know (a) their own risk factors for developing breast or ovarian cancer and (b) how the BRCA1 and BRCA2 genes are transmitted from generation to generation. Each of these studies employs genetic/genomic analyses to identify high-risk patients for biobehavioral interventions aimed at preventing disease or disease progression. Each of the studies is part of a program of research that takes basic science knowledge and translates that knowledge into important clinical applications for at-risk patients. From population-based studies that guide discovery of potential interventions, to laboratory-based studies that identify specific targets for secondary interventions in at-risk patients, to clinical studies that ascertain the educational needs of at-risk families, genetic/genomic analyses are an important tool for clinical translational nursing research.

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CLINICAL APPLICATIONS FOR INNOVATIVE GENETIC/GENOMIC RESEARCH

Genetic Markers of Acute Stress: From Genetic Testing to Secondary Prevention

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Background: Acute and posttraumatic stress can increase vulnerability to cardiovascular disorders (CVD). Identifying physiologic systems underlying the association between acute stress and CVD could open avenues for early secondary prevention of trauma-related CVD.
Aims: To examine whether single nucleotide polymorphisms (SNPs) in genes linked to stress-related and cardiovascular physiology interact to predict acute stress symptoms following exposure to a national collective stress (9/11 terrorist attacks). To examine interactions among SNPs from the renin-angiotensin-aldosterone system (RAAS: angiotensin converting enzyme promoter gene—ACE), endocannabinoid system (eCB: fatty acid amide hydrolase gene—FAAH), serotonin (5-HTT Length Promoter Region gene—5-HTTLPR), and hypothalamic pituitary adrenal axis (FK506 Binding Protein 5 gene—FKBP5 and Corticotrophin Releasing Hormone type-1 Receptor gene—CRHR1).
Methods: A subsample of non-Hispanic white respondents (n=527) from a large Web-based nationally-representative study of coping following the 9/11 attacks (N=2729; 78.1% participation rate) provided saliva samples for genotyping. Before 9/11, respondents completed a health survey modeled after the National Health Interview Survey; 9-23 days after 9/11 they completed the Stanford Acute Stress Reaction Questionnaire, a well-validated measure of acute stress symptoms. Individuals were categorized into high vs. low acute stress according to DSM-IV criteria B, C, and D.
Results: The CRHR1 SNP rs12944712 risk alleles predicted high acute stress, but did not interact with the other SNPs in doing so (p<.001). One marginal and three significant interactions between SNPs were found after Bonferroni's correction for multiple comparisons. The ACE SNP rs4291 interacted with three other SNPs to predict high acute stress: FAAH rs324420 (*p*=.0034); FKBP5 rs4713916 (*p*<.001); SLC6A4 rs25531 (*p*=.0026). The interaction between FAAH rs324420 and SLC6A4 rs25531 also approached significance (*p*=.008). After one million permutations, the linkage disequilibrium (LD)-contrast test indicated that the LD between SNPs for respondents with high acute stress was significantly different from the LD between SNPs in respondents without acute stress (p=.000016), strongly suggesting that this pattern of interactions was not simply due to chance.
Implications: This study suggests that two systems known to affect cardiovascular function, RAAS and eCB, contribute to a multi-genetic process affecting acute stress, offering insight into the physiology that may link acute stress with CVD following trauma. This information could help nurses working with traumatized patients (a) identify patients at greatest risk for trauma-related CVD, and (b) develop a clinical intervention targeting the RAAS or eCB systems to prevent trauma-related CVD.

Funding: This research was supported by the Robert Wood Johnson Foundation Nurse Faculty Scholars grant #68046 to E. Alison Holman.

CLINICAL APPLICATIONS FOR INNOVATIVE GENETIC/GENOMIC RESEARCH

Knowledge of Risk Factors and Gene Transmission among Women at Risk for HBOC

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Hereditary Breast and Ovarian Cancer (HBOC) is a term used to describe genetic susceptibility to breast and/or ovarian cancer. Most HBOC cases are attributed to BRCA1 and BRCA2 genes (BRCA1/1). Once a case of HBOC is identified, the risk of finding the same mutation extends to family members. This study examined whether HBOC family members can identify a) their own risk factors and b) how the BRCA1/1 genes are transmitted from generation to generation. The sample consisted of 172 women who had greater than 10% chance of carrying an HBOC-predisposing genetic mutation but had NOT undergone genetic testing. This study is part of the "Decisions in Families Project." This quantitative, cross-sectional study examined frequencies of correct responses to a) a 19-item Risk Factor Knowledge Index, which assesses knowledge of breast and ovarian cancer risk factors and b) a 17-item instrument assessing knowledge of intergenerational transmission of the BRCA1/2 genes. Both scales have been previously validated. The majority of items on the Risk Factor Knowledge Index were correctly identified by more than 50% of the respondents. Nearly 95% of the sample understood that most cases of breast cancer are not due to heredity. Two of the 17 items measuring knowledge of intergenerational transmission of the BRCA1/2 genes were correctly identified by the majority of participants: respondents understood that inherited and non-inherited gene mutations can cause cancer and that genetic testing can predict risk of developing cancer. Approximately 50% did not know that men can pass on a BRCA1/2 mutation to their children and that BRCA1/2 genes are associated with both breast and ovarian cancer. Similarly, 50% did not know family history indicators of a mutation-harboring family. Fewer than 35% of women understood the numeric probabilities of developing HBOC and of passing on a BRCA1/2 mutation to offspring. Interventions are needed to educate women at high risk for HBOC about risk factors that indicate a mutation-harboring family, and the intergenerational transmission of the BRCA1/2 genes. Health care providers must identify appropriate strategies for disseminating this information to high risk women. Nurses should incorporate cancer risk assessment into routine clinical practice and use an extended family history to identify higher risk women and advocate for their appropriate care.

Funding: This research was supported by the Robert Wood Johnson Foundation Nurse Faculty Scholars grant #68048 and by the Oncology Nursing Foundation, Breast Cancer Research Award #960069 to Maria C. Katapodi.

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CLINICAL APPLICATIONS FOR INNOVATIVE GENETIC/GENOMIC RESEARCH

Regulation of Oncogenic Activities of High-Risk HPV Oncogenes by E6 Gene of Benign HPVs

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Background: The Human Papillomavirus (HPV) epidemic remains a public health burden. Although the majority of HPV infections are asymptomatic or self-limited, acquisition of alpha or high risk (HR) HPV can result in neoplastic changes of lower genital and non-genital sites. Expression of HPV16 E7 & E6 and HPV5 E7 & E6 oncoproteins in primary, human epithelial cells leads to genomic instability. Molecular processes involved in genomic destabilization are essential for the development of cancer. HPV-related cancers appear to maintain and express HPV viral oncogenes for years or even decades. Even in advanced stages of disease, strategies targeting gene expression for the prevention of viral oncogene expression can stop the growth or survival of cancer cells. It is possible that HPV targeted strategies, such as pharmacologic molecules that interfere with the expression or action of viral proteins, or that elicit a cytolytic immune response to cells expressing oncoproteins, may prevent primary oncogenesis or further progression of a tumor or cancer.

Aims: The overall purpose is to determine whether benign HPVs, which are present along with HR HPVs, suppress the oncogenic activities of HR HPVs. Aim 1: To determine the transformation suppression activity of HPV 21 E6 protein on the transforming activity of HPV 16 E7 and E6. Aim 2: To determine whether the E6 protein of benign HPVs antagonize the transforming activity of the HR HPVs, thereby leading to tumor suppression.

Methods: Measuring the transforming activities of E7 and E6 include: a) large-scale preparation of plasmid DNA, b) transfection of established rodent cells, c) extraction and culture of primary epithelial cells, d) transfection of epithelial cells, e) selection of colonies and generation of transformed cell lines, and f) verification of continued oncoproteins expression. Established colonies will be enumerated and used to determine inhibition of oncogenic activity. The activity of low-risk HPV 21 E6 protein on the transforming activity of HPV 16 E7 and E6 as well as whether the E6 protein found in low-risk HPVs antagonizes the transforming activity of HR HPVs will be analyzed.

Results: The proliferating HPV16 E7 & E6 and HPV5 E7 & E6 (MT L21S) were serially propagated in medium for >7 passages without any evidence of cellular senescence. HPV16 E7 & E6, beginning with *Passage 5,* grew rapidly and was primarily made up of fibroblasts. HPV5 E7 & E6 (MT L21S), beginning with *Passage 5*, grew rapidly and consisted of epithelial cells. This rapid growth was consistent with an unlimited proliferative potential or immortalization. In contrast, HPV5 E7 & E6 (WT), beginning with *Passage 5,* grew slowly. The cells appeared large and many senescent. Beginning with *Passage 1,* pCDH-MCS1-Ef1-Puro Vector had not divided and cellular senescence persisted.

Implications: These laboratory experiments may lead to important insights into strategies that can be used to inhibit the oncogenic activity of HR HPVs. One such strategy includes the development of pharmacologic molecules that mimic the effect of HPV 21 E6 (a suppressor of oncogenic transformation).

Funding: This research was supported by the Robert Wood Johnson Foundation Nurse Faculty Scholars grant #68040 to Elizabeth A. Kostas-Polston.

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DEVELOPING SUSTAINABLE PARTNERSHIPS FOR SUCCESS: LOCAL TO GLOBAL

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OVERVIEW: DEVELOPING SUSTAINABLE PARTNERSHIPS FOR SUCCESS: LOCAL TO GLOBAL

Pamela J. Springer, Jane Grassley, Terri Soelberg, Mikal Black, Barbara Allerton

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DEVELOPING SUSTAINABLE COMMUNITY PARTNERSHIPS

Mikal Black, Terri Soelberg

DEVELOPING SUSTAINABLE RESEARCH PARTNERSHIPS

Jane Grassley

DEVELOPING SUSTAINABLE INTERPROFESSIONAL PRACTICE PARTNERSHIPS

Pamela J. Springer

DEVELOPING SUSTAINABLE INTERNATIONAL PARTNERSHIPS

Barbara Allerton

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DEVELOPING SUSTAINABLE PARTNERSHIPS FOR SUCCESS: LOCAL TO GLOBAL

Overview: Developing Sustainable Partnerships for Success: Local to Global

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Developing innovative sustainable partnerships between the nursing academy and the community advances the science and practice of nursing through the sharing of strengths and resources. The purpose of this symposium is to explore the dynamics of developing successful sustainable partnerships between academia and the local and global community. Each of the four papers explores a different type of partnership developed by a school of nursing which has a rich history of sustaining a variety of collaborative relationships. The values that sustain each partnership will be discussed and include hospitality, trust, respect, humility, commitment, and civility.

Community partnerships provide a rich resource for advancing scientific innovations in nursing through mutual identification of community health needs and innovative strategies to meet those needs. The first paper will describe the dynamics of partnering with community organizations. Research partnerships advance scientific innovations in nursing as clinicians and faculty develop research projects that can improve the care of our patients and clients. The second paper identifies models of collaboration between faculty and clinicians for developing and conducting research. Interprofessional practice partnerships advance scientific innovations in nursing as students of diverse professions set mutual goals for care and begin to investigate those innovative models of care. The third paper will discuss an innovative model to provide health science students with a clinical experience of interprofessional collaboration. International partnerships advance scientific innovations in nursing through providing a rich experience in global dialogue with the goal of mutual understanding of diverse perspectives about health. The fourth paper will discuss how to build and sustain trusting relationships with global partners.

DEVELOPING SUSTAINABLE PARTNERSHIPS FOR SUCCESS: LOCAL TO GLOBAL

Developing Sustainable Community Partnerships

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Purpose/Aims: This presentation will describe the dynamics of partnering with community organizations utilizing values of sustainable partnering. Aspects will include types of community partner organizations, understanding power dynamics, managing expectations, recognizing reciprocity, establishing guiding principles, utilizing the art of versatility and embracing discovery.

Rationale/Background: In developing sustainable relationships with diverse community-based organizations, aspects of partnering processes must be considered in order to leverage finite resources while achieving mutually relevant goals. The tendency to focus on project-specific partnerships can be short-sighted and often deleterious to extended collaborations due to the development of mistrust, power imbalances and burn-out.

Best Practices: In community partnering, the first step is to recognize who your partner is and the level of formal or informal organizational structure that will influence the partnership. This will affect the power dynamics within the partnership related to accessing and leveraging resources. Managing expectations through exploring assumptions and presumptions, clear communication, and the ability to readdress goals will promote a sustainable partnership. Reciprocity reflects that being invested requires meaningful contribution. Guiding principles for a lasting partnership include honoring commitment, valuing one another, acting with integrity, transparency and openness. The art of versatility provides dynamic responsiveness and accommodation to the needs of one another and unforeseen factors.

Outcomes: The presentation will include a case study in which academic researchers partnered with African refugee community organizations in a series of research projects. The outcomes of collaboration with community partners, exemplified in this case study, include new knowledge, skills, and understanding, and personal and organizational growth, which serve as catalysts for change.

Conclusions/Recommendations: Sustainable partnering is a collaborative endeavor where participation is balanced, respectful, and allows for dynamic response to changing priorities over time. Recommendations include utilizing a planned approach, like the one presented, to serve as a framework to guide partnership development. Doing so will promote investment by members of both organizations which, in turn, enhances outcomes and facilitates long-term alliances.

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DEVELOPING SUSTAINABLE PARTNERSHIPS FOR SUCCESS: LOCAL TO GLOBAL

Developing Sustainable Research Partnerships

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Purposes/Aims: The purpose of this presentation is to explore the dynamics of developing partnerships for conducting research. Aspects will include the continuum of possible research partnerships, the benefits and challenges of each one, and values needed to sustain the partnership.

Rationale/Background: Research partnerships between nursing faculty and clinicians are essential for advancing the science and practice of nursing. Sustainable research partnerships can facilitate nursing research through the sharing of strengths and resources. For clinicians, the research process may seem daunting. Faculty members, who have the knowledge and skills to conduct research, may have difficulty finding access to suitable study settings and potential research participants. Collaborative relationships can help overcome these barriers and provide opportunities for mentoring.

Approach: The values of hospitality, trust, respect, humility, commitment, and civility form the foundation of a safe environment where clinicians can participate in research projects and develop their own research ideas. Faculty involvement as investigator and mentor spans a continuum. At the first level, faculty may invite nurses to participate in their research projects as co-researchers who assist with data collection and/or analysis as a first step in developing a partnership. In the next level of involvement, clinicians and faculty form partnerships as co-investigators where together they develop and conduct a research project. Finally, faculty may serve as research consultants who provide a hospitable environment where clinicians submit their research ideas for thoughtful review and ongoing support. Each level of partnership has benefits and challenges, which will be discussed.

Outcomes: Sustainable research partnerships develop as the boundaries and responsibilities of the collaborative relationship across this continuum are clearly defined by faculty and clinicians so that all partners benefit. The presentation will include examples of research partnerships formed by the presenter, which include acting as a research consultant to a hospital and a joint appointment to facilitate nursing research in a regional hospital system. Positive outcomes of these partnerships include increasing excitement and improved skill on the part of clinicians for conducting their own research and the strengthening of the faculty's research program.

Conclusions: Research collaborations can be fun and mutually satisfying for both nursing faculty and clinicians. Nursing, as a profession and as a discipline, benefits as partners bring their interests, passions, and expertise to reciprocal projects that enhance practice and advance our science. Like other partnerships, research collaborations take time and commitment in order to establish common goals that can be sustained. Research is needed to evaluate the efficacy of research collaborations between nursing faculty and clinicians.

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DEVELOPING SUSTAINABLE PARTNERSHIPS FOR SUCCESS: LOCAL TO GLOBAL

Developing Sustainable Interprofessional Practice Partnerships

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Purpose/Aims: This presentation will explore barriers to inter-professional clinical education and describe strategies for success. Examples will be shared that show how, using the values of trust and respect while maintaining commitment and civility, inter-professional education can be designed and implemented.

Rationale/Background: Health care is changing at a rapid pace with more changes to come due to health care reform. There is an increased focus on inter-professional practice and inter-professional education with the advent of patient centered medical homes (PCMH) and accountable care organizations (ACOs). Educational institutions are working to break down barriers and introduce inter-professional education to students in an effort to prepare our graduates for an inter-professional practice world.

Description: Boise State University, College of Health Sciences has engaged in inter-professional clinical education for over 15 years through a joint clinical skills lab involving nursing, respiratory care, and radiologic science. New efforts to increase inter-professional education include moving the education out of the lab and in to the clinical arena. Through a partnership with a local long-term acute care agency, nursing, respiratory care, health information management, and business students are focused on learning together through patient care conferences and through process improvement activities with inter-professional teams of students and practitioners. In addition, a summer rural nursing elective course has been re-designed to become a rural summer inter-professional elective course to include nursing and respiratory care students. Learning opportunities include clinical issues as well as community assessment and implications for health care workers in rural areas.

Some of the reported barriers to inter-professional education include scheduling logistics, cultural differences between professions, curricular differences, and sustainability. Each of the barriers have been addressed and overcome in the various types of inter-professional education that will be discussed. Finally, evaluation methods and research opportunities related to inter-professional education and practice will be discussed.

Outcomes Achieved: Students report an increased knowledge of what other professions actually do as part of the health care team. Much of the language and culture barriers are reduced due to the educational structure. Clinical facilities report outstanding patient care from Boise State College of Health Science graduates.

Conclusions/Recommendations: Educators must learn how to change their educational paradigm and educate across disciplines. Researchers must determine valid ways to measure the effectiveness of inter-professional education and inter-professional practice.

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DEVELOPING SUSTAINABLE PARTNERSHIPS FOR SUCCESS: LOCAL TO GLOBAL

Developing Sustainable International Partnerships

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Purposes: The purpose of this presentation is to discuss benefits, challenges and outcomes of international collaboration in nursing education and research including best practices and potential pitfalls. The partnership between nursing schools in the US and China will illustrate successful collaboration for nursing education and research.

Background: International collaboration may seem daunting. Challenges include differences in language, culture, and diversity in philosophy and goals for education and research. Difficulties of travel and communication across distance and time differences require creative problem solving. With commitment to basic principles and values, international partnerships offer opportunities for faculty and students to expand their world view and work and thrive in a diverse environment. International collaborative research provides opportunities to advance nursing knowledge. Sustainable partnerships are founded on shared values of respect, mutual benefit, cultural sensitivity, and commitment. Best practices include negotiation based on shared power, transparency and valuing diverse knowledge and abilities.

Approach: The experience of two nursing schools serves as one model for developing a successful collaboration for education and research. Beginning with curriculum consultation with the Chinese nursing school, a strong partnership developed over five years. Relationships based on trust and mutual benefit guided development of a memorandum of understanding to frame negotiations for exchanges and projects. Faculty and student exchanges expanded understanding of each others' culture and health systems. Language challenges were addressed through skilled interpreters and established translation procedures. Conducting a study on incivility in education required assembling a team with diverse skills and knowledge. Negotiation was key to establish team members' roles and processes related to research methods, resources, authorship and intellectual property. Trust was critical to the data analysis and developing conclusions.

Outcomes Achieved: This international partnership has produced several positive outcomes. Consultation assisted the Chinese university in developing bachelors and master's degree nursing curricula. Study abroad experiences were offered for US nursing students to China. Faculty from China, Ecuador and the Netherlands were hosted in the US. Graduate and undergraduate students were hosted in nursing classes in the US. Collaborative research on incivility in nursing education resulted in two publications. The partnership experience gained with China has led to additional partnerships with schools in Ecuador, the Netherlands and Philippines. Nursing faculty built knowledge and skills to earn the first internationalization grant offered by the university which led to integration of a global world view thread through the nursing curriculum.

Conclusions: International partnerships grounded in values of respect, mutual benefit, cultural sensitivity and commitment provide opportunities for students, faculty and researchers to expand their horizons and advance nursing knowledge.

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FACILITATED FAMILY PRESENCE DURING RESUSCITATION: AN EXEMPLAR OF STRATEGIES FOR EDUCATING THE FUTURE NURSING WORKFORCE

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OVERVIEW: FACILITATED FAMILY PRESENCE DURING RESUSCITATION: EDUCATING FUTURE NURSES

Erla Champ-Gibson, Michael W. Day, Cynthia Corbett

PHD STUDENT-FACULTY COLLABORATION: IMPLEMENTATION OF AN EDUCATIONAL INTERVENTION

Deborah Bennett, Ira Kantrowitz-Gordon, Cynthia Corbett

FACILITATED FAMILY PRESENCE AT RESUSCITATION: IMPACT OF A NURSING STUDENT TOOL KIT

Ira Kantrowitz-Gordon, Deborah Bennett, Erla Champ-Gibson, Debra Stauffer, Cynthia Fitzgerald

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PERCEPTION OF FAMILY PRESENCE DURING RESUSCITATION: PSYCHOMETRIC ANALYSIS OF TWO SCALES

Debra Stauffer, Cynthia Fitzgerald, Celestina Barbosa-Leiker

FACILITATED FAMILY PRESENCE DURING RESUSCITATION: AN EXEMPLAR OF STRATEGIES FOR EDUCATING THE FUTURE NURSING WORKFORCE

Overview: Facilitated Family Presence during Resuscitation: Educating Future Nurses

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Facilitated Family Presence during Resuscitation (FFPR) can be defined as having an identified health team member available to support the family witnessing resuscitation in a location that allows family visual or physical contact with the patient. FFPR is a controversial practice that is gaining acceptance. However, reluctance to adopt FFPR continues to be site dependent and inconsistent in practice. A local hospital system was in the process of developing an institutional policy regarding FFPR. Staff and administrative attitudes, confidence, and knowledge about the practice of FFPR have been associated with FFPR adoption within institutions. A partnership between the hospital system and Washington State University's College of Nursing was established to develop FFPR educational tools, embark on projects to educate both the current and future healthcare workforce, and to evaluate outcomes. This symposium will highlight project efforts that were directed toward the future nursing workforce.

The overview of this symposium will include additional background information about FFPR and a description of the multi-institutional collaborative process that was used to develop the FFPR educational toolkit. A demonstration of the toolkit content will be provided, including showing one of the 5-minute videos that simulate FFPR. Following the overview, a description of how PhD faculty and students collaborated to implement a multi-site research project to educate the future nursing workforce will be presented. Barriers and challenges, as well as strategies to facilitate a successful implementation will be identified. Benefits and lessons learned from both student and faculty perspectives will be discussed. A second presentation will describe how the multi-site FFPR educational research project contributed to advancing nursing science by evaluating the psychometric properties of two instruments that have been used to assess nurses' perceptions of FFPR, the Family Presence Risk-Benefit Scale (FPR-BS) and nurses' confidence in participating in FFPR, the Family Presence Self-Confidence Scale (FPS-CS). Further psychometric evaluation of these instruments extended knowledge of the tools' usefulness to undergraduate nursing students. The final presentation will report findings of the multi-site educational research project that was designed to increase FFPR knowledge and confidence among future members of the nursing workforce. The impact of the toolkit on nursing students' knowledge, perceptions, and self-confidence will be described. Thus, this symposium will provide an exemplar of how educational research can be implemented in a manner that trains both future clinicians and future nurse scientists.

Funding: In part, by HRSA grant #12H-2483-0312, Nursing Workforce Capacity in the Inland Northwest: Strategic Actions and Partnerships.

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FACILITATED FAMILY PRESENCE DURING RESUSCITATION: AN EXEMPLAR OF STRATEGIES FOR EDUCATING THE FUTURE NURSING WORKFORCE

PhD Student-Faculty Collaboration: Implementation of an Educational Intervention

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Purposes/Aims: The purpose of this presentation is to describe a strategy for conducting educational research that provides doctoral students with guided experience in designing and implementing a multi-site intervention study.

Rationale/Conceptual Basis/Background: Behavioral social theories suggest that skill acquisition is enhanced when the skill is actually practiced. Trends in nursing education, such as greater numbers of distance-education students, have reduced opportunities for PhD students to participate in research teams prior to conducting their own dissertation. Participating in multi-site educational research provides students an opportunity for a distance-friendly mentored research experience during their doctoral studies. Furthermore, this approach has the added benefit of contributing to the science of nursing education.

Process: Washington State University (WSU) faculty publicized the opportunity to participate in the research team to all PhD students. The idea was that students who were employed as faculty members at other institutions could serve as the site primary investigator (PI) for the project at their institution. PhD students who were not employed in the faculty role were also invited to participate with the suggestion that they could facilitate the research at WSU or partner with a college or school of nursing in the city where they lived. Students interested in participating registered for one credit of independent study. Faculty from WSU guided students throughout development and implementation of the multi-site interventional research project.

Challenges and Successes: Finding time for the research activities, including meeting as a research team with 6 busy professionals that lived in separate cities, was a challenge for both PhD students and faculty. Completing the IRB process at 5 institutions was also a challenge. Several of the universities' boards required modifications to the protocol that took more time than was originally allotted. Students and faculty also co-experienced the challenge of determining authorship responsibilities. Despite these challenges, planning, implementation, data collection and analysis were successfully completed at all five universities. The positive learning outcomes for both students and faculty will be highlighted in the presentation. In addition, offering the educational intervention created a unique learning experience for the undergraduate and graduate student research participants at each of the 5 universities.

Implications: Implementing the FFPR multi-site study increased PhD students' knowledge of the research process. Concomitantly, the study increased undergraduate and graduate nursing students' knowledge about Facilitated Family Presence during Resuscitation (FFPR) and generated a positive attitude and perspective in dealing with FFPR situations.

Funding: In part, by HRSA grant #12H-2483-0312, Nursing Workforce Capacity in the Inland Northwest: Strategic Actions and Partnerships.

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FACILITATED FAMILY PRESENCE DURING RESUSCITATION: AN EXEMPLAR OF STRATEGIES FOR EDUCATING THE FUTURE NURSING WORKFORCE

Facilitated Family Presence at Resuscitation: Impact of a Nursing Student Tool Kit

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Purposes/Aims: The purpose of this study was to test the impact of an educational intervention about facilitated family presence during resuscitation (FFPR) on nursing students' knowledge, perceptions, and confidence.

Background: FFPR is endorsed by multiple nursing and specialty practice organizations. Implementation of this practice is not universal and there is a need to increase familiarity and competence with FFPR during this significant life event. One strategy to promote this practice is by using the FFPR Tool Kit, which includes a short video simulation of FFPR, a PowerPoint presentation of evidence-based practice, and questions for guided discussion.

Methods: IRB approval was obtained from each of five educational institutions. The educational intervention was incorporated into existing nursing coursework as a required activity, while completion of the questionnaire and study participation was optional. Nursing students from five universities in two states completed the Family Presence Risk-Benefit Scale (FPR-BS), the Family Presence Self-Confidence Scale (FPS-CS), and a set of ten true-false knowledge questions before and after the intervention.

Results: Participants ($n = 272$) represented a diverse sample: mean age 25.1 ($SD = 8.3$ yr), 68% white, and 71% female; 93% BSN students and 7% graduate students. Participants' knowledge regarding FFPR increased significantly (pre-test $M = 7.1$, post-test $M=9.0$, $p < 0.001$) and the effect size (Cohen's d) was strong at 0.90. Participants' perceptions of the benefits and risks of FFPR became more favorable (pre-test $M = 3.43$; post-test $M = 3.87$; $p < 0.001$) and the effect size (Cohen's d) was strong at 0.97. Participants' confidence related to FFPR also increased significantly (pre-test $M =3.42$; post-test $M = 3.65$; $p< 0.001$), however, the effect size (Cohen's d) was moderate at 0.51.

Implications: Implementing the FFPR Tool Kit increased nursing students' knowledge, perceptions and confidence toward FFPR thereby fulfilling a curricular need identified in the literature. The FFPR Tool Kit is available in the public domain and can be readily integrated into either classroom or clinical learning activities. The modest increase in student confidence following completion of the FFPR Tool Kit suggests that students may require other practice-based interventions in actual or simulated clinical environments to attain stronger feelings of confidence.

Funding: In part, by HRSA grant #12H-2483-0312.

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Perception of Family Presence during Resuscitation: Psychometric Analysis of Two Scales

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Purpose/Aims: This study explored the factor structure and the test-retest reliability of two scales used to measure the perceptions of risk/benefit and the perceptions of self-confidence in role performance related to family presence during resuscitation.

Rationale/Conceptual Basis/Background: The majority of data related to family presence has been collected using researcher-developed, single-study surveys in small samples. A valid and reliable way to measure perceptions of family presence in large samples is needed. Twibell et al. (2008) developed and tested two scales designed to measure nurses' perceptions related to family presence, the Family Presence Risk-Benefit Scale (FPR-BS), and the Family Presence Self-Confidence Scale (FPS-CS). Initial reliability and validity of the scales were supported in the original study with a sample of practicing nurses. However, further development and testing is needed. This study is a psychometric analysis of the FPR-BS and FPS-CS scales using data collected from 256 baccalaureate nursing *students*. The students were part of a multi-site study that tested the effectiveness of an educational intervention related to family presence.

Methods: Data in this study were collected pre and post educational intervention using the FPR-BS and the FPS-CS. Exploratory factor analysis using maximum likelihood estimation was performed to determine construct validity. Item-to-total correlations and Cronbach's a were used to determine reliability. Test-retest reliability for both scales was performed by examining the correlation between pre and post-test scores. Significance for all tests was set at $P < 0.05$.

Results: A single factor solution resulted for the 22 item FPR-BS. This single factor accounted for 37.5% of the variability in students' perception of the risks/benefits of family presence, with factor loadings from 0.323 to 0.802. Cronbach's a reliability score was 0.90. A single factor explained 39.5% of the variance in the students' perception of self-confidence scores according to the 17 item FPS-CS, with factor loadings from 0.450 to 0.694. Cronbach's a reliability score was 0.90. Test-retest reliability scores were $a = 0.756$ for the FPR-BS, and $a = 0.860$ for the FPS-CS.

Implications: These results support those found in the Twibell (2008) study, and add to the evidence of the validity and reliability of the scales when used in a different population. Additionally, test-retest reliability suggests that the scales are sensitive to student-reported changes in perception of family presence following the intervention.

Funding: In part, by HRSA grant #12H-2483-0312, Nursing Workforce Capacity in the Inland Northwest: Strategic Actions and Partnerships.

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GAINING ENTRÉE AND RECRUITMENT OF OLDER ADULTS FROM MINORITY POPULATIONS

Moderator:
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OVERVIEW: GAINING ENTRÉE AND RECRUITMENT OF OLDER ADULTS FROM MINORITY POPULATIONS

Catherine R. Van Son

RECRUITING OLDER AMERICAN INDIANS FOR DESIGNING HOSPICE INTERVENTION

Yoshiko Yamashita Colclough

RECRUITMENT CHALLENGES: OLDER WOMEN WHO ARE HOMELESS AND DEPRESSED

Karen L. Cameron

RECRUITMENT AND RETENTION OF OLDER HISPANIC WOMEN IN A PHYSICAL ACTIVITY INTERVENTION

Adriana Perez, Julie Fleury

MONTHLY HEALTH ARTICLE: A METHOD TO GAIN ENTRÉE TO OLDER ADULTS IN A SLAVIC COMMUNITY

Catherine R. Van Son

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GAINING ENTRÉE AND RECRUITMENT OF OLDER ADULTS FROM MINORITY POPULATIONS

Overview: Gaining Entrée and Recruitment of Older Adults from Minority Populations

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Gaining entrée and recruitment of older adults in minority populations can be challenging. The aging population is increasing and this includes minority populations. Due to multiple chronic conditions requiring frequent encounters with the heath care system, understanding older adults' needs in minority populations becomes even more essential. Some level of entrée is critical to not only recruitment but also the ability to obtain the rich data that comes from older adults sharing their lives and experiences. The extent of entrée is negotiated between the researcher and members of the community and occurs at the pace and in the ways of the community. Thoughtful and careful approaches to gaining entrée and recruitment of older minority adults provides the researcher with an interesting journey that proves to be both laborious and rewarding

The four papers in this symposium illustrate a variety of populations in which creative methods were used or are proposed to gain entrée and recruit older adults. The first paper shares how using the PEN-3 model assisted in the recruitment of older Hispanic women for a theory-based intervention promoting cardiovascular health through regular physical activity. This model provided a culturally sensitive approach that improved both recruitment and retention in the study. The second paper reveals the significance of identifying gatekeepers and key informants to establish entrée and rapport for an end-of-life study with older American Indians. The third paper discloses the process with older women who are part of a community because of the unfortunate circumstance of being homeless. This group united by setting and situation is difficult to recruit due to their transient status. The fourth paper examines the use of a monthly health education article to develop rapport and entrée with older Slavic adults for future research recruitment, in which the researcher is an outsider and not fluent in the language. Each paper will describe their methods of entrée and recruitment tailored to consider key attributes of their identified population. In addition, they will discuss the benefits and challenges of using the method in their particular setting. The symposium will conclude with a discussion of specific issues that must be considered prior to and during the process of entering and/or recruiting older adults in a minority community.

GAINING ENTRÉE AND RECRUITMENT OF OLDER ADULTS FROM MINORITY POPULATIONS

Recruiting Older American Indians for Designing Hospice Intervention

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Purpose: To engage the Montana American-Indian (AI) community in a research study aimed at identifying key values for end-of-life care.

Background: Hospice care is considered one of the gold standards for meeting the needs of individuals at the end of their life. However, few formal hospice programs exist within AI communities. The lack of access to hospice care among AI communities has created a critical health disparity. In part, this disparity exists because of cultural differences in the values, beliefs, and attitudes towards death and end-of-life care. In addition, the reservations are isolated, rural, experience a high rate of poverty and have limited access to health care. Furthermore, the Indian Health Service has focused on acute and infectious diseases.

Methods: Gaining entry into the AI community began slowly with the investigator spending one year doing general networking and one-on-one meetings with potential informants. Progress was accelerated when the investigator began to collaborate with the Montana Consortium for Community Based Participatory Research (CBPR) in Health. During this time, the investigator and a community partner were matched by a common project goal; to develop a culturally appropriate hospice intervention for the AI community. Following the principles of CBPR, a partnership was formed and started conducting the collaborative project. This partnership included health care professionals and research associates from the AI community. Six months of meetings generated an assessment study that explored specific community needs related to end-of-life care and identified recruitment strategies. The recruitment methods included (a) personal contacts via key informants, (b) posters; and (c) local newspaper advertisements. Health Fairs and Powwow were also used for recruitment venues. During the recruitment and contacts, potential study participants were provided the opportunity to have a community liaison present at the interview if desired.

Results: A total of 38 participants were identified and contacted by the investigator or community research associates over a three-year period. Of the 33 who agreed to participate, 24 were through personal contacts, 5 were self-identified, 2 were directly approached, one of each were through the awareness projects and word-of-mouth. Posters and newspaper advertisements were unsuccessful in recruiting any participants. Sixteen interviews were conducted without the community liaison; community research associates conducted 17 interviews.

Implication: For this study, the development of personal connections was the cornerstone of success for recruiting older AI adults. The community-at-large, key informants and specific individuals were crucial to making these connections. Recruitment was time-intensive requiring long-term and highly engaged personal relationships, collaboration, and an understanding of the issue from the community's perspective.

Funding: 1P20MD0002317-01 from the National Center on Minority Health and Health Disparities: pilot grant and the Lance Armstrong Foundation.

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GAINING ENTRÉE AND RECRUITMENT OF OLDER ADULTS FROM MINORITY POPULATIONS

Recruitment Challenges: Older Women Who Are Homeless and Depressed

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Purpose: Older women who are homeless are relatively invisible on the streets, as well as in the research literature. This presentation will discuss methods for gaining entrée and recruiting older women for a qualitative descriptive study focused on their experiences of homelessness, depression, and aging.
Background: Research is lacking about older women who are homeless. Studies have focused historically on men, as they comprise the largest subpopulation within the homeless community. Current research is focused primarily on homeless families and children. However, the homeless older adult population is growing dramatically as unmet demands for affordable housing continue unabated and increasing numbers of baby-boomers reach older adulthood. Older adults experiencing homelessness are estimated to be as high as 400,000, with the numbers expected to reach up to 800,000 by 2030 with one-third being women. Adults in this population are regarded as "older adults" at age 50 as they age more quickly than similarly aged adults in the general population. The acceleration of their aging is due to the unremitting stressors of homelessness. Older women who are homeless experience unmet health care needs and more information is needed to target services and design appropriate interventions.
Description: Identifying and recruiting older women who were homeless and depressed required several approaches. This population is difficult to locate as they often avoid shelters and move around within hard-to-reach encampments. As a community health instructor and a volunteer, I have been developing rapport and credibility with this population for the past nine years. I am familiar with the agencies serving this population, such as food lines, shelters, and drop-in centers. Recruitment involved the posting of flyers and referrals by agency staff and study participants. A large print business card with my contact information was created so participants could contact me at their convenience. All agencies offer phone use to clients and computers are free to use in public libraries and occasionally at an agency. Convenience and snowball sampling was the primary approach recruiting older women. Private space in one of the shelters known to be a place of safety was made available for talking with potential study participants and for conducting interviews. All participants interviewed received meal coupon to a local café as a thank you for their time. Participants chose a first name pseudonym for their interview.
Outcomes: Active agency support and my ongoing visibility led to the recruitment of seven older women who were homeless and self-identified as being depressed. Despite the desire for most homeless older women to stay unknown, several women indicated an interest in participating in the study. Many women stated that people needed to hear their stories and the difficulties they face on a daily basis.
Implications: Long-term engagement was indispensable in gaining entrée into this unique community. A need exists to give voice to older women experiencing homelessness and depression, as well as other health problems. Recruitment is possible and future studies are needed to facilitate the development of effective interventions for conditions such as depression.

Recruitment and Retention of Older Hispanic Women in a Physical Activity Intervention

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Purpose: The purpose of this paper is to: (1) present the application of the culturally-based PEN-3 Model for the effective recruitment of older Hispanic women to a community-based physical activity intervention, and (2) offer recommendations for retention of older Hispanic women in physical activity interventions with extended follow up.

Rationale: The Hispanic population in the United States is expected to double by 2030, with older adults comprising almost 12% of the aging population. Many intervention studies report challenges in the recruitment and retention of older adults. Among older Hispanic women, recruitment is even more difficult, with attrition rates in physical activity interventions noted as >52%. Hispanic women remain under studied; recruitment and retention efforts framed within a culturally-based model are essential.

Methods: Community-dwelling Hispanic women aged 50 to 87 years old were recruited for randomization to a Wellness Motivation Intervention (WMI) or Attention Control (AC) condition. The conditions were implemented over 12 weeks, with contact each week. The PEN-3 model allowed a focus on cultural meanings framing women's relationships with health in social and cultural contexts, including three interrelated domains of cultural identity, relationships and expectations, and cultural empowerment. Cultural identity was reflected in recruitment and retention materials emphasizing love for self, family, and community. Relationships and expectations were reflected in recruitment and retention materials emphasizing hope for the future, engaging in acceptable forms of physical activity, and incorporating support systems. Cultural empowerment was reflected in recruitment and retention materials emphasizing acceptance of self in aging, group support, and the role of the woman in the family.

Results: Recruitment was completed within 6 weeks. Of the 118 women who were screened, ≈ 25% (n = 30) did not meet criteria; 88 were enrolled and randomized to AC (n = 44) and WMI group (n = 44). The most common reason for exclusion was reporting musculoskeletal problems that prevent participation in moderate-intensity physical activity (20%, n = 6). Four cohorts participated in WMI sessions (group sizes ranged from 10-12 study participants). Attrition was ≈ 7% (n = 6) and ≈ 95% (n = 42) of WMI participants successfully completed the intervention.

Implications: Recommendations for recruitment and retention of older Hispanic women to physical activity interventions include the application of culturally-based models, providing a framework for including cultural meaning and social context.

Funding: John A. Hartford Foundation Building Academic Geriatric Nursing Capacity Claire M. Fagin Fellowship.

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GAINING ENTRÉE AND RECRUITMENT OF OLDER ADULTS FROM MINORITY POPULATIONS

Monthly Health Article: A Method to Gain Entrée to Older Adults in a Slavic Community

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Purpose: Gaining entrée and establishing trust in immigrant populations can be a challenge when researchers are not part of the community or fluent in their language. Methods must be identified and developed that attend to those challenges if health disparities in these groups are to be addressed. This presentation discusses how a monthly health article provides health education and at the same time lays the groundwork for future research recruitment of older adults in a Russian-speaking Slavic community.

Background: One of the fastest growing immigrant groups in the U.S. since 1991 is from the former Soviet Union (FSU) with 20 - 25% being over the age of 65. Many older Slavic immigrants have low educational backgrounds and lack fluency in the English language. Barriers to health information include a lack of trust in US healthcare providers, short clinic visits due to the need for interpretation, and a scarcity of health education materials in their language. Unlike younger populations seeking information via the internet, older Slavic adults still seek information in printed formats. At the same time, community-based research requires innovative methods for gaining entrée and trust. Providing a service that meets a community's needs is a step towards developing relationships between academia and the community for research.

Description: In 2010, the author started a monthly health article for older Slavic immigrants in the local Russian newspaper in Spokane, Washington. Over three thousand copies of the newspaper are printed each month, distributed throughout the Spokane area, and are free. Each article is translated into Russian and written to be culturally appropriate for this community and cohort of older adults. Examples of culturally sensitive approaches utilized are the inclusion of information regarding the amount of radiation used in mammograms (a major reason given for not obtaining them), explaining how the cold virus is spread from person to person (and not from being outside in the cold), and recommending learning a new Bible verse to keep the brain healthy, which is in line with their religious beliefs.

Outcomes: Over 20 articles have been published. Topics have included oral health, breast cancer awareness, healthy aging, arthritis, depression, home safety-fall prevention, skin cancer, prevention of cold and flu, heart health, reading nutrition labels, sleep, and stress management. Positive comments have been reported to the publisher from the readers regarding this health information; many older adult's look forward to the article each month. At Slavic community gatherings, older adults and family members have expressed appreciation for the information provided.

Conclusions: Culturally appropriate newspaper-based health education materials can be an important resource to an older adult community and may serve to build trust between researchers and immigrant communities, facilitate recruitment and lead to opportunities for future research.

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INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

Moderator:
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OVERVIEW: INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

Janine K. Cataldo

FEASIBILITY AND USABILITY TESTING OF AN ELECTRONIC SYMPTOM DIARY FOR TEENS WITH CANCER

Christina Baggott

VIDEO GAME THERAPY FOR PEOPLE WITH PARKINSON'S DISEASE

Glenna A. Dowling, Judy Mastick, Marsha Melnick, Robert Hone,
Charles Brown, William Dwyer

NEW INSIGHTS INTO APPLYING MOBILE PERSUASIVE TECHNOLOGIES TO CLINICAL TRIALS

Yoshimi Fukuoka, Eric Vittinghoff, William Haskell, Kristen Pham, Tina Noorishad

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MHEALTH TOOL FOR LUNG CANCER: MITIGATE LUNG CANCER STIGMA AND PROMOTE SELF-MANAGEMENT

Janine K. Cataldo, Catherine Brown-Johnson

PARTICIPATION IN A FACE-TO-FACE VS. AN INTERNET DYSPNEA SELF-MANAGEMENT PROGRAM

DorAnne Donesky, Huong Q. Nguyen, Virginia Carrieri-Kohlman

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INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

Overview: Innovation and Technology to Promote Self-Management

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Almost $2 Trillion per year of US health care spending goes to care for patients with chronic conditions. Yet, one third of chronically ill people say they leave their clinician's office feeling confused about what they should do to manage their care. The application of information technology (IT) to support self-management extends the reach of clinicians by linking patients to the exchange of health information and the facilitation of self-management activities. A recent report found that digital health technology and IT services (including mobile devices for chronic disease management, wellness, and fitness programs) were a $1.7 billion market in 2010 and are projected to exceed $5.7 billion in 2015. These digital health technologies can help patients maintain their independence, delay their transition to higher levels of health care, improve access to care, and foster patient-centered care that is available anywhere and anytime. Nursing brings to this innovation a trove of experience with the: unique communication demands of both chronic care and illness prevention; problems and solutions for access to accurate health information; and methods to facilitate informed decision making. Nursing is positioned to be a major player in the development, adoption, and adaptation of innovative communication technologies for patients with chronic conditions. This symposium will present current research at UCSF School of Nursing on essential technology tools for the promotion of self-management. The Internet Dyspnea Self-Management Program provides increased contact with professional and peer support and real-time exposure to self-management resources for patients with chronic lung disease. The effectiveness of this behavior change program is related to unlimited exposure to the intervention. The mobile Oncology Symptom Tracker (mOST) allows for accurate symptom tracking in adolescents with cancer. The delivery of optimal supportive care depends on accurate communication between patients and their clinicians regarding disease or treatment-related symptoms. CALICO is a suite of nine clinically inspired computer-based video games designed to improve gait and balance in people with Parkinson's Disease. Video game therapy is effective for patients of all ages; more older people are participating in and using digital games. Digital games can be persuasive technology that provides an additional incentive for older persons to engage in healthy behavior. The mHealth Tool for Lung Cancer patients (mHealthTLC) is an interactive 3-D iPad game that integrates a virtual world with avatar-based gaming scenarios with clinical pathways to improve patient-clinician communication, decrease lung cancer stigma, and promote optimal self-management. The rapid growth of information technologies is creating new possibilities for the development of behavioral interventions in nursing research. We need to understand how to utilize mobile technologies effectively in order to develop innovative outreach and intervention strategies aimed at promoting healthy lifestyles or managing chronic illnesses. New insights from three mHealth clinical trials and how to apply mobile technologies to behavioral interventions in a diverse sample of sedentary adults will be presented. Nursing research has an important role in the extension of the IT infrastructure of the healthcare system to support the self-management activities of individuals striving to manage their chronic disease.

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INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

Feasibility and Usability Testing of an Electronic Symptom Diary for Teens with Cancer

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Rationale/Conceptual Basis/Background: The delivery of optimal supportive care depends on accurate communication between patients and their clinicians regarding disease or treatment-related symptoms. In addition, the advancement of the science of oncologic supportive care relies on the accuracy of symptom data obtained in clinical trials. Documentation of patients' symptom experiences at clinic visits necessitates reliance on patient recall, which may be vague and imprecise. Symptom diaries with daily entries can be used to avoid data inaccuracies due to poor symptom recall. However, patient adherence to data entry in paper diaries is low. Thus our team developed an electronic diary (eDiary) for adolescent cancer patients to record their symptoms.

Purposes/Aims: The specific aims of this project were to: (1) Determine participants' adherence rates to daily symptom queries via a mobile phone application, the reliability of the mobile application, and the reasons for any missing data; and (2) Determine participants' perceptions of the usefulness and acceptability of symptom data collection via mobile phones after a trial assessment period of an application designed for this purpose.

Methods: Our team developed an electronic symptom diary based on interviews conducted with adolescent and young adult cancer patients and oncology clinicians. This diary included daily severity ratings of five disease or treatment-related sequelae (i.e., pain, nausea, vomiting, fatigue, sleep). The occurrence of selected physical sequelae (i.e., diarrhea, constipation, fever, numbness/tingling, mouth sores, dizziness, headache) was assessed daily. In addition, participants selected descriptors of their current mood. The application was named the mobile Oncology Symptom Tracker (mOST). After the application was beta-tested by clinicians and researchers, 10 adolescent cancer patients participated in a 3 week trial of the eDiary's feasibility and usability. The participants, and their parents/guardians as appropriate, provided consent/assent for the study. Mobile phones with accessories and monthly service plans were loaned to participants who were instructed to report their symptoms daily at the end of the day. Participants were interviewed at the completion of the study to elicit their perceptions of the eDiary and any technical difficulties encountered. Participants also completed a brief usability questionnaire at the time of the interview.

Results: The participants, 6 males and 4 females, ranged in age from 14 to 21 years, with a wide range of cancer diagnoses. The self-reported ethnicity was Hispanic for a majority (80%) of patients. One patient completed 13 entries before being transferred to the intensive care unit. When this patient's adherence was calculated as 100%, the overall adherence rate for daily symptom reports among the 10 patients during the 21 day study was 96%. When the critically ill patient's data was classified as missing, the overall daily adherence for the 10 patients was 92%. The participants experienced few technical difficulties during the study. Symptom occurrence rates were high and fluctuated frequently. They reported that recording their symptoms daily was beneficial and that they would recommend that other patients use the application.

Implications: This technology can streamline communication between patients and clinicians and promote early intervention for symptom management.

Funding: This project received funding from NINR: 1 P30 NR011934-01 (PI=Miaskowski) and The American Cancer Society Institutional Research Grant Program (PI=Baggott).

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INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

Video Game Therapy for People with Parkinson's Disease (PD)

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Purposes/Aims: To 1) develop a suite of nine clinically inspired computer-based video games designed to improve gait and balance in people with PD; 2) pilot test the effects of game play on stride length, gait velocity, and subjective balance confidence.

Background: People with PD experience severe gait and balance impairments making them at high risk for falls. Rehabilitation interventions are, therefore, targeted to improve balance, mobility and strength. Gaming platforms can encourage therapeutic activity at home and be challenging and fun. In this study, clinical and software partners adapted a classroom gait balance training program for people with PD to a videogame platform.

Methods: The health games were created by teams at UCSF and Red Hill Studios through an innovative software development process, CALICO, designed by Red Hill Studios. That process, as applied to these games, includes the following components:

C: Clinically defined motions (e.g., truncal rotation, upper and lower extremity gestures that cross the midline, sit to stand, reciprocal extremity movements).

A: Adaptive games designed to elicit defined motions. The software design team developed game ideas for each of the clinically defined motions using a real-time 3D programming environment (Unity 3D: Unity Technologies, San Francisco, CA) and a sensor system to detect and track desired and compensatory motions.

L: Level design to create progressive difficulty staircase. Regardless of subjects' level of function, game difficulty was calibrated to ensure success. As performance improved, game play difficulty increased. Each game had five levels of difficulty.

I: Iterative prototype testing with subjects. Multiple rounds of design/evaluate/re-design/re-evaluate were carried out based on subject and clinician feedback during all phases including a one-month in-home evaluation.

C: Clinical evaluation. A 12-week trial to evaluate the impact of game play on clinical outcome variables was conducted. Subjects were prescribed a personalized gaming regime and instructed to play the games for 50 minutes three times a week. Safety and compliance were monitored via the web portal and weekly phone calls.

O: Online tracking for clinician oversight and ongoing tuning. The sensor technology communicated via blue tooth and Wi-Fi to an encrypted web portal. Subjects accessed their individual or cumulative game play via the portal link on the menu screen. The research team also tracked game play time, intensity and duration through the portal.

Results: Nine video games that elicited clinically therapeutic movements were developed. The motion tracking sensor embedded suit transmitted data successfully to the web portal. Data were able to be accessed by subjects, clinical and software design team members. Clinical evaluation data were encouraging with 65% of game players (n=20) demonstrating longer stride length; 55% increased gait velocity, and 55% reporting improved balance confidence after playing the games for 12 weeks.

Implications: This study shows that clinically inspired custom designed games that promote therapeutic movements are feasible. The web-based telemedicine link connecting patients from their homes remotely to their health care providers increases access, increases clinician's ability to fine tuning treatments in real time, and decreases travel costs.

Funding: NIH, NINDS, R41NS061502.

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INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

New Insights into Applying Mobile Persuasive Technologies to Clinical Trials

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Background and Purposes: The rapid growth of mobile technologies is creating new possibilities for the development of behavioral interventions in nursing research. However, it remains unclear as to how to design an effective behavioral intervention using mobile technologies. Thus, we need to understand how to utilize mobile phones effectively in order to develop innovative outreach and intervention strategies aimed at promoting healthy lifestyles or managing chronic illnesses. Fortunately, we have had the opportunity to conduct three mobile health (mHealth) clinical trials involving behavioral interventions to reduce the risk of cardiovascular disease. The purposes of this paper are to describe new insights from these mHealth clinical trials and how to apply mobile technologies to behavioral interventions in a diverse sample of sedentary adults.

Methods and Discussions: In our mHealth trials, the mobile phone has been used as a means of delivering behavioral interventions, setting short and long-term goals, providing a self-monitoring tool (e.g. diary), giving real-time feedback, social support, and reminders, and capturing real-time data in a total of 165 sedentary adults (age 26 to 70 years). In this presentation, short and long-term adherence over a 9-month period in using these mobile phone functions will be discussed. We will also describe adherence rates in relation to older age, no mobile phone use prior to the trial enrollment, and low health literacy after controlling for potential confounding factors. Specific considerations for designing mobile health behavioral interventions will be highlighted.

Implications: A systematic analyses of these extensive clinical trial datasets can move nursing science forward. With the rapid pace of mobile technological development, clinical trials with innovative approaches will help in the design of more effective behavioral interventions for mHealth.

Funding: This paper was supported by NIH/NCRR NINR K23NR011454 and by NHLBI 5RO1HL104147 for Dr.Fukuoka.

INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

mHealth Tool for Lung Cancer: Mitigate Lung Cancer Stigma and Promote Self-Management

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Background: Lung cancer is the leading cause of cancer deaths in the United States; however, changes in lung cancer treatment and patient management have brought about an increase in long term lung cancer survivors. Lung cancer is unique because of racial disparity, persistent mortality rate, and social stigma. African-American men have the highest incidence of lung cancer and the highest mortality. Lung cancer stigma (LCS) is based on the belief that one caused their own cancer. Regardless of smoking status, LCS is associated with both significant increases in psychological and physical symptom severity and diminished quality of life. Stigma in people with lung cancer has been identified as a significant barrier to effective patient-clinician communication and self-management. Across all stages of disease, patients with lung cancer report poor physician-patient communication related to stigma, on key topics such as prognosis, palliative care, and symptom management. While stigma-reduction interventions are effective in other diseases, no interventions are available to decrease LCS. With the rise of internet technology, the use of electronic or virtual interventions with avatars provides new possibilities for cost effective health care interventions. Avatars are onscreen representations of self and others and can be custom designed to create truly unique experiences. The advantages of virtual interventions are the ability to incorporate ethnic and cultural sensitivity, access hard to reach populations, and provide opportunities for patients to interact and receive positive feedback for behavior change.

Purpose: The purpose of this project was to develop the mobile application, the mHealth Tool for Lung Cancer patients (mHealthTLC).

Process: The mHealth TLC development consisted of two major components: the mobile devices and a clinical system for data collection and analysis. The mobile device component was built on two software systems both residing on the mobile device itself (i.e. iPad), the UCSF emPATH Framework and the Unity 3D gaming system. emPATH has been in existence for more than a year and is part of over 20 existing mobile-based studies at UCSF. The framework was designed to execute care pathways constructed by researchers for clinical trials. The lung cancer care pathway used focus group and interview material to develop scripts to drive the avatar interactions with participants. The Unity 3D gaming system, the most popular commercial 3D iPad game engine on the market, was used to design and execute the avatars. The clinical trial system was designed and built by the UCSF mHealth group. The system consists of a SalesForce Customer Relationship Management (CRM) system enhanced to support clinical trials.

Outcomes: The mHealth TLC is an interactive, immersive 3-dimensional (3-D) iPad “game” that integrates avatar-based gaming scenarios with clinical pathways. The mHealth TLC allows individuals to experience first person virtual visits with their clinicians to improve patient-clinician communication, decrease LCS, and promote optimal self-management.

Conclusions: This virtual environment technology will allow patients to develop active communication skills and practice them in a safe and culturally sensitive environment to reduce LCS and access nursing support to assist with skills building around self-management.

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INNOVATION AND TECHNOLOGY TO PROMOTE SELF-MANAGEMENT

Participation in a Face-to-Face vs. an Internet Dyspnea Self-Management Program

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Background: The effectiveness of behavior change programs has been shown to be related to the amount of exposure to the intervention. We designed two dyspnea self-management programs (DSMPs) that were as similar in content as possible, but delivered via either traditional (fDSMP) or Internet (eDSMP) modalities. These groups were compared with a general health education control group (GHE).

Aim: Compare the number of monthly education sessions (face-to-face meetings or text chats), biweekly follow-up contacts (telephone calls or email secure messages), and daily exercise and symptom log entries (paper or web/smartphone) across the 3 groups during the 12 month program.

Methods: Participants with COPD from two clinical sites were randomized to the eDSMP (n=43), fDSMP (n=41) or GHE (n=41). The content of the two DSMPs which focused on motivational interviewing, education, skills training, and ongoing support for dyspnea self-management was similar. The fDSMP participated in face-to-face group education sessions and telephone follow-up, and the eDSMP participated in group education sessions via text chats and email for follow-ups. The GHE group participated in face-to-face group health education sessions and received follow-up telephone calls. Frequency of successful follow-up contacts (28 contacts), participation in the educational sessions (6 possible sessions), and completion of daily exercise and symptom logs (365 maximum) either with paper and pencil or smartphone were tabulated.

Results: Participants in the fDSMP group attended the most number of educational sessions but was only significantly different from that of the GHE (fDSMP: 4.4±2.1, eDSMP: 3.1±2.2, and GHE: 2.2±2.1). Participants in the eDSMP group completed the most biweekly follow-up contacts but was only significantly different from that of the GHE (eDSMP: 24.1±6.1; fDSMP 21.8±7.3; GHE 19.2±6.8). Participants in both DSMP groups completed similar numbers of exercise (eDSMP: 195±135, fDSMP: 210±139) and symptom (eDSMP: 184±147, fDSMP: 202±140) logs.

Implications: Participation in the three core intervention components of the DSMP was similar whether or not patients were in the eDSMP or fDSMP groups. Although we found that use of Internet and mobile tools in this study did not enhance participation, qualitative feedback from participants suggests that future self-management research should focus less on testing intervention delivery channels but rather on the effects of tailoring information and communication tools according to patient preferences.

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INNOVATIONS IN METHODS AND MEASURES FOR INFANTS, CHILDREN AND ADOLESCENTS

Moderator:
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OVERVIEW: INNOVATIONS IN METHODS AND MEASURES FOR INFANTS, CHILDREN AND ADOLESCENTS

Lauri A. Linder, Catherine Fiona Macpherson, Lauren Clark, Lauren Thorngate

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IMPROVING MEASUREMENT PRECISION FOR PREMATURE INFANT BRAIN MONITORING

Lauren Thorngate, Shuyuann Wang Foreman

USING AN IPAD TO ENHANCE RESEARCH WITH HOSPITALIZED CHILDREN AND ADOLESCENTS

Lauri A. Linder

GIVING VOICE TO CHILDREN AND ADOLESCENTS WITH CANCER ON PHASE I OR II TRIALS

Catherine Fiona Macpherson, Pamela S. Hinds

ENHANCING PARTICIPATION OF PEOPLE WITH INTELLECTUAL DISABILITIES IN RESEARCH

Lauren Clark, Beth Cardell, Marjorie A. Pett, Cathy Chambless

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INNOVATIONS IN METHODS AND MEASURES FOR INFANTS, CHILDREN AND ADOLESCENTS

Overview: Innovations in Methods and Measures for Infants, Children and Adolescents

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Infants, children and adolescents pose unique challenges in developing reliable, valid, feasible, replicable, and generalizable research methods and approaches to measurement. Children's physiologic, psychologic, and cognitive abilities change rapidly and differ from adult characteristics that inform baseline expectations in measurement. Developmental abilities also may differ as a function of the child's health and illness state. As a result, measures and data collection approaches used with adults may not be feasible when conducting research with children, and may result in an inadequate knowledge base for addressing the health care needs of children. The purpose of this symposium will be to present innovative approaches to methods and measurement from studies involving infants, children and adolescents. The symposium will address innovation in several forms, from the application of emerging technologies to modifications in data collection and including issues in research with groups of children and adolescents typically excluded from research studies.

The first presentation will address amplitude-integrated EEG as an innovative research instrument for premature infants. This presentation will also address the development of a detailed protocol to ensure reliability and validity of data obtained through this technology. The second presentation will address the use of an iPad to enhance research with hospitalized children and adolescents. This presentation will include discussion of how a novel technologic device, the iPad, has served as a resource to support participant recruitment and data collection as well an incentive for research participation. The third presentation will discuss the use of Patient Reported Outcomes Measurement Information System (PROMIS) pediatric symptom and quality of life instruments in 8- to 18-year-olds with incurable or refractory cancer who are enrolled on a Phase I or II drug trial. This innovative approach to measurement emphasizes the patient's report of symptoms and quality of life measures rather than the clinician's report. This presentation will also address the unique experience of conducting research with children and adolescents nearing end-of-life. The final presentation will address a community-based participatory research approach to enhance the participation of adolescents and young adults with intellectual disabilities in research. This presentation will include a discussion of best practices in the research process and the development of innovative approaches to research participation in this population.

Taken as a whole, the presentations in the symposium challenge nurse-researchers to include children in research and do so in a way that acknowledges their developmental uniqueness and values their contributions as direct participants in the research endeavor.

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Improving Measurement Precision for Premature Infant Brain Monitoring

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Purpose: We describe practical improvements in obtaining reliable and precise brain function measures of premature infants, focusing on the goal of reducing measurement error. Amplitude-integrated EEG (aEEG) is a promising research instrument for vulnerable premature infants in the clinical setting. Careful attention to sources of error including environmental interference, device interface, adherence and standardization of procedures, and inter-individual variance is required to assure data integrity.

Background: Clinical research brings measurement challenges with the introduction of random and systematic error. Brain function is a complicated physiologic signal that holds the key to understanding the effect of nursing care on premature infants as well as neuro-organization and normal development of processes such as sleep rhythms and cognitive function. aEEG is an accepted clinical apparatus for screening cerebral electrical activity. There is strong potential for aEEG as a sensitive and noninvasive research instrument for premature neonates.

Approach and Methods: We used recordings from two descriptive studies to evaluate measurement techniques to enhance precision. Data from 16 stable premature infants and four infants on mechanical ventilation of lower gestational ages were reviewed. Brain function was continuously recorded during standard neonatal intensive care with an FDA approved limited channel a-EEG device (CFM 6000, Natus Medical, San Carlos, CA). Background EEG defined as continuous (baseline amplitude >5 µV), or discontinuous (baseline amplitude <5µV, intervals of low amplitude between high amplitude bursts) was obtained and compressed. Three hydrogel scalp electrodes were applied in P3-P4 placement (modified International 10/20) to form a single channel of continuous raw EEG (100 samples/second). MatLab R2010a (The Math Works, Natick, MA) was used to analyze aEEG, raw EEG and electrode impedance signal recordings.

Outcomes Achieved: Through the development of a systematic procedure for data collection and an analytic process to reduce artifact we were able to reduce measurement error in the aEEG signal. We established a specific protocol for skin preparation, electrode location and application, to assure a standardized process that assures reliability between infants. Simultaneous impedance signal recorded from the aEEG electrodes affords a continuous marker of data validity. We analyzed impedance to identify spurious or artifactual interruptions in data. We then censored the signal to remove high impedance sections thus enhancing the precision of data series. The process assures the reduction of measurement error related to patient/device interface and environmental electromagnetic interference.

Conclusions: Our electrode placement protocol allows replication of studies using aEEG with hydrogel electrodes for varied purposes, e.g. sleep/wake cycling, effect of nursing care. The statistical removal of high impedance data segments is useful to assure validity. With systematic reduction of measurement error we have demonstrated further value of aEEG as a reliable research instrument for use in the often unpredictable clinical setting.

Funding: F31NR011365, T32NR007106, UW Research Intramural Funding Program, Sigma Theta Tau (Psi Chapter), American Nurses Foundation, Integra Neuroscience Nurses Foundation.

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INNOVATIONS IN METHODS AND MEASURES FOR INFANTS, CHILDREN AND ADOLESCENTS

Using an iPad to Enhance Research with Hospitalized Children and Adolescents

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Purpose: The purpose of this presentation is to describe the use of an iPad as an innovative tool to support participant recruitment and data collection in research involving hospitalized children and adolescents (7 to 18 years of age) with cancer.

Background: New technology offers opportunities to expand approaches to participant recruitment and data collection in a developmentally appropriate and appealing manner. The iPad is a lightweight easy-to-use touch screen tablet. Applications can be developed to take advantage of the touch interface and allow the user to interact with the device not as a computer–with its inherent usability issues–but as a direct-input/output device. The iPad's portability and multiple interactive features enhance its utility as a tool to support research with hospitalized children and adolescents. Its ease-of-use allows even the very young to be able to use the device instinctually.

Approach and Methods: An iPad has enhanced research by serving as a resource for participant recruitment and instrument delivery as well as an incentive for study participation in a study assessing symptoms among hospitalized children and adolescents with cancer. The study has included daily assessment of common cancer-related symptoms using the Memorial Symptom Assessment Scale for 7- to 12-year-olds (MSAS 7-12) during the 3-day study period.

To support informed consent/assent, photographs illustrating study-related equipment and procedures have been uploaded to a document reader/display application on the iPad. Having images readily available provides a more engaging, multi-sensory informed consent/assent process and allows children and adolescents to gain a more accurate understanding of the study procedures.

The MSAS 7-12, has been converted to an electronic instrument that patients interact with using easy onscreen virtual controls. Electronically-administered items are delivered in a format requiring participants to complete each item prior to moving to the next item. Participants are able to complete the tool in approximately 5 minutes. Responses are stored on a secure, web-based, password-protected database and then uploaded into SPSS for analysis. No patient-related data are stored directly on the iPad.

After completing the MSAS 7-12, participants are offered the opportunity for "free time" to play games using a selected number of developmentally appropriate applications that have been loaded onto the iPad. iPad settings have been password-protected to prevent participants from changing or deleting applications and settings.

Outcomes Achieved: The iPad's portability and interactive features enhance its utility as a tool to support research with hospitalized children and adolescents. Children and adolescents have used the iPad with minimal instruction regardless of prior experience with technology. Electronic administration of the study instrument minimizes missing data and eliminates the need for hand entry of data. The iPad offers a developmentally appealing diversional activity for hospitalized children and adolescents. Although participants receive a gift card incentive for study participation, many children view the iPad as an additional incentive for study participation.

Conclusions: The iPad is a feasible and developmentally appealing tool to support participant recruitment and data collection among hospitalized children and adolescents.

Funding: Alex's Lemonade Stand Foundation Independent Nurse Researcher Award.

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INNOVATIONS IN METHODS AND MEASURES FOR INFANTS, CHILDREN AND ADOLESCENTS

Giving Voice to Children and Adolescents with Cancer on Phase I or II Trials

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Purpose: This presentation describes implementation of the Patient Reported Outcomes Measurement Information System (PROMIS) pediatric symptom and quality of life instruments in 8- to 18-year-olds with incurable or refractory cancer who are enrolled on a Phase I or II drug trial.

Background: Historically, documenting symptoms and treatment toxicity in pediatric oncology has been solely based on clinician-reporting rather than patient self-report. PROMIS is an innovative system of standardized measures of patient reported outcomes (PROs) including measurements of symptoms and quality of life. PROMIS instruments also support comparisons of PROs across disease states. Although PROs are included in multiple pediatric Phase III therapeutic trials, they have not been components of pediatric Phase I or II trials, which traditionally measure tumor response and toxicities but not symptoms and quality of life. Children and adolescents with incurable or refractory cancer are frequently excluded from studies addressing symptoms because of perceived participant burden. As such, their symptom experience and quality of life based on their own self-report is relatively unknown.

Approach and Methods: In a two-site, longitudinal study, PROMIS measures are administered at T1 (time of trial enrollment) and T2 (3-4 weeks later). Participants complete study measures via the online PROMIS Assessment Center with a study team member present. At T2, participants also rate whether their symptoms and quality of life have changed since T1 and by how much. They also are asked to respond to four questions: (1) Please share with me what makes a good day for you since you began your new study medication? A bad day? (2) Please share with me how being on this new study and its medication has been for you? Any surprises? (3) What else do you think your doctors and nurses need to know about what it is like for you to be on this new study medication? (4) Did the questions on the computer let you tell about what matters most to you? What was missing from those items?

Outcomes Achieved: The study has demonstrated innovation in measurement of symptoms and quality of life in children and adolescents with incurable or refractory cancer using a novel approach to measuring PROs using the PROMIS pediatric instruments. Study participants have not experienced significant burden due to data collection and eligible pediatric patients have actually been eager to participate.

Conclusions: The PROMIS pediatric instruments have demonstrated feasibility among children and adolescents with incurable or refractory cancer, a population who frequently is excluded from studies addressing symptoms and quality of life. Study participation has not resulted in increased participant burden, including physical and/or mental fatigue and emotional distress The use of these innovative measures in evaluating symptoms and quality of life provide children and adolescents nearing end-of-life a voice in describing their symptoms and quality of life and also give them the opportunity to know that this voice is their legacy in contributing to knowledge that may reduce the suffering of future children and adolescents with cancer.

Funding: NIH/NINR (1R21NR012716-01).

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Enhancing Participation of People with Intellectual Disabilities in Research

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Purpose: We describe the challenge of increasing meaningful research participation among adults with intellectual disabilities (ID). As researchers, we were committed to accepting the kinds of information our participants could provide, and then interpreting that information as data. To accomplish this, we asked two questions during the research process. First, what forms and formats of research participation do we accept as data from our participants? And second, once data are collected, how do we value and incorporate it in sequential research activities?

Background: In our community-based participatory research (CBPR), we explicitly embraced the value of participation by people with ID (n=32) and their families in all phases of the research process. Without close monitoring of our process, we risked degradation of participation into mere compliance with researcher-driven protocols. To guard against surface participation, we engaged people with ID in an inclusion model emphasizing flexibility and creativity in research design and measurement.

Approach: We identify an expanded array of forms of research participation and formats of data collection congruent with the preferences and abilities of people with ID. We also describe how we amplified the data we collected so we could acknowledge the input of our research participants and then analyze and apply those intermediate results to inform successive research activities.

Methods: Securing meaningful participation in CBPR with people with ID included best practices in our research processes and sensitivity to innovative forms of participation and formats of data. These best practices are oriented around the research phases of a) problem specification; b) program design; c) peer mentoring; d) retention and attendance; e) communication and feedback; and f) data interpretation and ongoing engagement. Forms of participation we emphasized included early input from an intervention specialist with disabilities, peer mentoring, acknowledging personal choices about lifestyle behaviors, review and debriefing about intervention segments, self-selection of portraits of self-identity, and newsletter spotlights. Standard formats of data collection included electronically-delivered measures of psychosocial assessments, biophysical status and performance, and anthropometrics. Innovative formats included fieldnotes and simple graphic displays of individual progress toward healthy lifestyle goals over time.

Outcomes Achieved: The multidisciplinary team generated interpretations of this data for presentation to lay and professional audiences to complete the CBPR process. Research participants themselves joined with us to present study results.

Conclusions: Innovating in our methods and measures can increase the participation of people with intellectual disabilities in research.

Funding: The University of Utah Research Foundation Seed Grant.

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MARKERS OF INFLAMMATION IN CANCER AND INJURY

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OVERVIEW: MARKERS OF INFLAMMATION IN CANCER AND INJURY

Marilyn Hammer

GLYCEMIC STATUS AND BIOMARKERS IN CANCER

Marilyn Hammer

CYTOTOXIC CANCER CHEMOTHERAPEUTIC AGENTS INDUCE IL-1β PRODUCTION BY IMMUNE CELLS

Lisa J. Wood, John Wong, Thomas Engstrom Jr., Kirsten Kelley-Howard, Eli Magun, Bruce Magun

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A THEORY FOR EARLY LEUKOCYTE INFILTRATION INTO CRUSH-INJURED MUSCLE

Barbara St. Pierre Schneider

WHAT IS BASELINE FOR IL-1-BETA, IL-6 AND TNF-ALPHA IN A CRUSH-INJURY MOUSE MODEL?

Joachim G. Voss, Joyce Tsuji, Cassandra Steiner, Jesse Tsai, Fred Farin, Barbara St. Pierre Schneider

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MARKERS OF INFLAMMATION IN CANCER AND INJURY

Overview: Markers of Inflammation in Cancer and Injury

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Purpose/Aims: The ability to measure disease-specific biomarkers has significantly advanced health outcomes in identifying individuals at risk for certain diseases. The analysis of biomarkers has impacted diagnosis and prognosis of certain disease outcomes and informed practice decisions for those actively managing a disease. Nursing scientists are an integral part of this research process. Current research efforts focus more on general underlying processes that span multiple diseases; for example, inflammation. The purpose of this symposium will be to discuss various areas in which nursing scientists are measuring inflammatory biomarkers and prepare to translate their findings into practice; specifically, in patients with cancer and skeletal muscle injury.

Rationale/Background: Inflammation is a nonspecific reaction of the immune system to a foreign invader causing a disruption in the balance of colloid osmotic and hydrostatic pressures. The inflammatory response is evidenced by the classic symptoms of redness, heat, swelling, and pain and the cellular response of increased cytokine expression. However, under chronic conditions of inflammation, such as with cancer, these overt symptoms can be evasive. One gap that is unanswered is the connection between the underlying response and the manifestation of symptoms and other physiological responses. Investigating the inflammatory response within various disease processes contributes to our understanding of the body's many responses to pathophysiological events and the subsequent intrinsic methods for striving to regain homeostasis.

Methods: A theoretical framework about leukocyte infiltration in crush injured muscle will be presented. Additionally, chronic responses describing the link between chemotherapy, inflammation, and cancer-related symptoms will be discussed, and the associations between glycemic status, inflammation, and outcomes introduced. Each of these research endeavors includes studies with humans and rodent models. Tissue and body fluid assays were processed. Various methods have been utilized to demonstrate the levels of inflammation including enzyme linked immunosorbant assays and western blot analysis to compare inflammatory cytokine expression from mice serum and tissue samples to blood glucose levels. Human blood glucose levels were also compared to white blood cell and absolute neutrophil counts in autologous hematopoietic cell transplant (HCT) recipients. Quantitative realtime gene expression was used to determine the gene expression levels of cytokine levels in mice exposed to crush injury.

Outcomes Achieved/Documented: Each of these studies revealed associations between the inflammatory biomarkers of measurement and the outcomes being measured. Of interest are the similarities in pathways between acute responses as seen in the crush injury and the chronic response that occurs in patients with cancer. The associations between the inflammatory response, immune function, and symptom experiences in patients with cancer are also notable.

Conclusion: Understanding the relationship between cytokines, symptoms and Inflammation within various disease states allows for opportunities to understand the body's mechanisms for maintenance and repair to reestablishing homeostasis. Applying this information to subsequent research studies and more importantly, to patient practice can aid decisions to achieve better outcomes for patients undergoing such pathophysiological events. Nurse researchers are contributing to a better understanding of markers of inflammation related to symptom perception, a highly relevant field of inquiry for multiple disease processes.

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Glycemic Status and Biomarkers in Cancer

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Purpose: Patients with cancer become immunocompromised due to a number of factors. Abnormal glycemic status, or maglycemia, is one contributor to immunosuppression becoming more evident. This study aims to prospectively evaluate glycemic status, inflammatory cytokine expression, and infection rates in autologous HCT recipients. This preliminary phase describes blood glucose (BG) trends and white blood cell (WBC) counts, including absolute neutrophil counts (ANCs), as an indicator of immune function. Additionally, a concurrent rodent model experiment was conducted to compare glycemic levels and various markers in mice with and without oral squamous cell carcinoma.

Rationale/Background: Malglycemica, particularly hyperglycemic states occur in patients with cancer whether or not they have pre-existing diabetes due to a variety of factors including older age, high BMI, nutritional imbalances, low physical activity levels, high stress levels, glucocorticoids and other therapeutic regimens, and from infections. Physiologically, hyperglycemia triggers the release of select hormone leading to increased insulin resistance, lipolysis, gluconeogenesis, glycogenolysis, and decreased insulin secretion; all further promoting hyperglycemia. Concurrently, hyperglycemia stimulates increased levels of cytosolic calcium that results in oxidative stress. The oxidative stress induces transcription factors to produce and secrete an overabundance of proinflammatory cytokines, chemokines, and prostaglandins, which cause an inhibition of immune cell signaling, leading to impaired immune function, thus allowing infections to manifest and thrive as well as progression of the malignancy. Evaluating the clinical manifestations in patients in addition to measuring underlying biomarkers is essential for finding interventions to best control glycemic status in patients with cancer. Additionally, the concurrent use of the rodent model enhances the physiological understanding and allows exploration into various types of malignancies.

Methods: Glycemic levels, WBCs/ANCs from routine laboratory tests were evaluated among adult (ages 18+) autologous HCT recipients treated at the NYU Cancer Institute in 2011. BG from whole blood and TNF-a and IL-6 cytokines, leptin and CRP from serum samples were measured in athymic, immunocompromised (BALD/c) mice with and without oral squamous cell carcinomas. Pearson's correlation was used for the human subject data analysis and the independent sample t-test was used for analysis of the mice.

Outcomes: Human autologous HCT recipients showed an inverse relation between BG levels and WBCs/ANCs ($p < .001$). Mice with oral carcinomas had higher blood glucose ($p = .007$), TNF-a ($p = .005$), and IL-6 ($p = .005$) levels, and lower leptin ($p = .045$) levels compared to non-cancerous mice. No statistically significant difference was seen with CRP levels.

Conclusions: In this preliminary phase of a larger study, the hyperglycemic component of malglycemia was associated with reduced WBCs/ANCs in human autologous HCT recipients. Mice with oral squamous cell carcinomas also had higher glycemic levels and proinflammatory cytokine expression and lower leptin levels compared to non-cancerous mice. These early study findings reinforce the underlying physiological processes of how glycemic status influences immune function in cancer. Further investigation is anticipated to lead to novel interventions for optimizing glycemic levels and, in turn, enhancing outcomes for patients with cancer.

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MARKERS OF INFLAMMATION IN CANCER AND INJURY

Cytotoxic Cancer Chemotherapeutic Agents Induce IL-1β Production by Immune Cells

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Purpose: Cancer patients treated with mechanistically distinct cytotoxic chemotherapeutic agents often experience a cluster of symptoms including, fatigue, lethargy, decreased appetite, sleep disturbance, difficulty thinking, and pain. These symptoms have a profound negative effect on physical functioning and quality of life (QOL). Our research group proposes that CTRS: *(i)* are mechanistically understandable at molecular and cellular levels and *(ii)* the onset and severity of CTRS are amenable for therapeutic modulation. It has long been recognized that these symptoms are remarkably similar to those associated with sickness behavior, a normal physiological response to activation of the innate immune system, in which pro-inflammatory cytokines such as IL-1β play a central role. The purpose of the present study is to determine whether cytotoxic chemotherapeutic agents from a variety of drug classes share a common ability to induce the production of IL-1β by immune cells *in vitro*.

Background/Rationale: IL-1β is an initiator cytokine that plays a central role in the regulation of immune and inflammatory responses. It is produced by activated macrophages and epithelial cells and requires two distinct signals for its synthesis, processing, and secretion. The first signal is mediated by p38 MAPK and results in the production of the 35 kDa pro-IL-1β a biologically inactive precursor of IL-1β. The second signal induces the processing of pro-IL-1β to the mature, 17 kDa biologically active IL-1β via the assembly of a multiprotein complex called the NLRP3 inflammasome. Doxorubicin, an anthracycline, stimulates the production of IL-1β in murine bone marrow derived macrophages (BMDM) *in vitro* by activating MAPK signaling and formation of the NLRP3 inflammasome. In vivo administration of doxorubicin in mice caused an increase in serum levels of IL-1β. In a mouse model of CTRS, a doxorubicin containing breast cancer chemotherapy regimen induced lethargy/ fatigue, weight loss, and anorexia, and peak symptoms were associated with systemic increases in IL-1b.

Methods: BMDM were exposed to clinically relevant concentrations of cisplatin (platinum compound), vincristine (mitotic inhibitor), or etoposide (topoisomerase inhibitor) for 12-hours hours. Cell lysates and culture media were analyzed for activation of p38 MAPK, pro-IL-1β and mature IL-1β.

Results: Like doxorubicin, cisplatin, vincristine, and etoposide were able to activate the MAPK signaling pathway as evidenced by increased levels of phosphorylated p38 MAPK in drug treated cells relative to untreated control cells. Increased activation of p38 MAPK was associated with increased expression of pro-IL-1β. All of the drugs tested were also capable of inducing the formation of the NLRP3 inflammasome resulting in the processing of cellular pro-IL-1β to mature IL-1β which could be observed in the culture medium.

Implications: Our *in vitro* data show that mechanistically distinct cancer chemotherapeutic agents trigger the production of biologically active IL-1β by immune cells. In vivo experiments are needed to determine whether blockade of MAPK signaling or formation of the NLRP3 inflammasome are feasible approaches to preventing or managing CTRS. Understanding whether cytotoxic chemotherapeutic agents trigger CTRS via a shared mechanism will facilitate the development of therapeutic strategies aimed at preventing or managing CTRS in the clinical setting.

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MARKERS OF INFLAMMATION IN CANCER AND INJURY

A Theory for Early Leukocyte Infiltration into Crush-Injured Muscle

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Purpose: The purpose of this paper is to describe a theory for early leukocyte infiltration into crush-injured skeletal muscle.

Description of the Theory: Crush muscle injury elicits the host defense, inflammation. When the crush stimulus is applied for a short period of time, the inflammatory response occurs within hours. Part of this response is the movement or infiltration of leukocytes into the injured muscle.

The theory of early leukocyte infiltration into crush-injured muscle involves two common leukocyte types: neutrophils and macrophages. Neutrophils, phagocytes, are the most common inflammatory cell type within 24 hours postinjury. Macrophages, other phagocytes, are present at the site too at this time. By 48 and 72 hours postinjury, more macrophages are present. By 72 hours, neutrophils have significantly decreased in number. By 120 hours (5 days), phagocytic neutrophils and macrophages are absent.

Internal Consistency of the Theory: Data from mouse and rat crush injury research reports were utilized to develop this theory.

Logic Linking the Theory to Nursing Practice or Research Problem: Crush muscle injury is a common injury that occurs during accidents or other traumatic events, including earthquakes. Nurses are frequently involved in the care of persons who sustain a crush muscle injury, and therefore, need a solid scientific foundation for understanding of the underlying host defense mechanisms, such as leukocyte infiltration. This theory helps nurses understand the sequence and timing of leukocyte infiltration after crush injury.

Conclusions: Soon after crush muscle injury, leukocytes infiltrate into the site to remove cellular debris and prepare the site for repair. As nurses care for persons who sustain this type of injury, they will want to be cognizant of factors that are likely to hinder or promote leukocyte infiltration. Through this awareness, nurses may be able to expedite recovery from a crush muscle injury.

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What Is Baseline for IL-1-Beta, Il-6 and TNF-Alpha in a Crush-Injury Mouse Model?

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Wounded soldiers suffer from hypobaric hypoxia (low blood oxygenation) after crush injury when transported by air for medical treatment at elevations of 8000 feet and above, from the battle field to a remote treatment facility. Since oxygen is an essential component of wound healing, acute hypobaric hypoxia exacerbates combat injuries and prolongs recovery. Providing external oxygen during the flight is not sufficient to augment hypoxia and our hypothesis is to reverse the effects of hypobaric hypoxia to the wounds by giving a single dose of estrogen during the flight. In order for us to study this phenomenon, we developed a mouse model to study the effects of estrogen in skeletal mouse model after crush injury and hypoxia. Every research project that focuses on inflammatory processes in skeletal muscle injury has to establish baseline values to which the injury model and the treatment course is compared to.

Here we report on the process, decisions and outcomes of our time 0 gene expression experiments studying three cytokines interleukin 1 beta (IL-1β), Interleukin 6 (IL-6) and tumor necrosis factor alpha (TNFα) in normal, hypobaric and crush injured mice.

Following tissue harvest, tissue was shipped from the University of Nevada to the University of Washington on dry ice. Reverse transcription was performed on previously extracted RNA with Applied Biosystems High Capacity cDNA Reverse Transcription (RT) Kit. Reverse transcription PCR experiments compared gene expression of 3 pro-inflammatory cytokine primers (TNFa, IL-1 β, IL-6) to 18S endogenous control with gastrocnemius cDNA. Means and standard error (SE) were recorded. The relative level of gene expression for the experimental sample was computed using a normobaric sample pool. The pools consisted of (n=5) normobaric mice, separated into right and left gastrocnemius muscle. Very little variation was observed for IL-1β, IL-6 and TNFα regardless of right or left muscle, injury or control, male and female sex. Best optimal pressure for crush injury was 45 PSI and comparisons ranged from 40-55.

Switching to an alternate reverse transcription kit improved detection of cytokines and significantly lowered the standard error between runs. Establishing baseline values in a mouse model is critical to normalize later values accordingly to these standard samples. Pooled samples are an excellent way to limit variability and establish reliable control and injury detection values in cytokine research.

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NEXUS OUTCOMES: EFFECTIVENESS OF A CONSORTIUM FOR DOCTORAL EDUCATION IN NURSING

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THE NEXUS CONSORTIUM EVALUATION: INTRODUCTION AND OVERVIEW

Janice S. Hayes, Patricia Pothier

EFFECTIVENESS IN MEETING NEXUS OBJECTIVES

Pauline Komnenich

ADDITION OF THE DNP

Cynthia Teel, Dianne Fuller

METHODOLOGY OF THE NEXUS EVALUATION

Marie L. Lobo

TRANSFORMING EVALUATION RESULTS TO AN ACTION PLAN

J. Kathy Magilvy

PROGRESS TOWARD SUSTAINABILITY

Gail M. Houck, Paula McNeil

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NEXUS OUTCOMES: EFFECTIVENESS OF A CONSORTIUM FOR DOCTORAL EDUCATION IN NURSING

The NEXus Consortium Evaluation: Introduction and Overview

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Purposes/Aims: The purpose of this paper is to introduce and provide an overview of the NEXus project.

Rationale/Background: NEXus was created as a consortium of Nursing PhD programs providing distance education with a purpose of sharing courses. Since its inception, DNP programs have been added. The project has completed three years of funding and received a report from its external evaluator. This symposium will present the results of the evaluation and discuss the resulting action plan.

Undertaking/Best Practice/Approach/Methods/Process: The evaluation consisted of a survey and interviews from the stakeholder membership of NEXus, a survey of students who have taken NEXus courses, and a survey of WIN Board Members. External evaluation was conducted by an outside reviewer and provides summative outcome data in the report.

Outcomes Achieved/Documented: Data on the growth of the project, outcomes of the project, and recommendations from the evaluation will be presented during the symposium.

Conclusions: NEXus is a successful consortium of doctoral nursing programs who offer distance education to their students. The sharing of courses has been enriching to students and enhanced their programs of study. A realistic sustainability plan has been put into place. Growth of NEXus has been substantial and has added new Universities to its membership as well as adding the DNP program.

Funding: US Department of Health and Human Services, Health Resources and Services Administration (D09HP09070).

NEXUS OUTCOMES: EFFECTIVENESS OF A CONSORTIUM FOR DOCTORAL EDUCATION IN NURSING

Effectiveness in Meeting NEXus Objectives

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Purposes/Aims: Over the past three years the NEXus program made significant progress in meeting its goals. The purpose of this paper is to report on the effectiveness of the program based on an analysis of the formative and summative evaluation plan completed this past year. Specifically three areas that will be covered are: (a) the growth in the number of students served and courses offered; (b) the marketing plan; and, (c) the evolution of policy and procedures to improve services to participating students and consortium members.

Rationale/ Background: Continued evaluation of the NEXus collaborative approach to doctoral education insures that the program is making a difference in promoting useful exchange of institutional resources to enhance educational programs.

Best Practice/Approach/Methods/Process: Consortium agreements among doctoral programs have been implemented in a variety of settings; however, the breadth and scope of NEXus provides a somewhat unique approach to expand collaboration among programs that enriches participation of faculty and students.

Outcomes Achieved/Documented: Analysis of the success of the program based on student growth and the impact of marketing on the recruitment of students will be presented. Implications of the results of accomplishments and recommendations for improvement in policies and procedures will be discussed.

Conclusions: Progress toward sustainability and a future action plan will be addressed by other presenters as part of the symposium.

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NEXUS OUTCOMES: EFFECTIVENESS OF A CONSORTIUM FOR DOCTORAL EDUCATION IN NURSING

Addition of the DNP

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Purposes/Aims: In this paper, we present findings from our experience in expanding the NEXus program. Students from PhD programs have been participating since program inception. We now also include courses and students from Doctor of Nursing Practice programs.

Rationale/Background: Schools participating in the NEXus collaborative join either as an Academic Collaborator or an Academic Affiliate. NEXus Academic Collaborator schools, i.e., home institutions, make selected online doctoral level courses available through the collaborative. Students in both Academic Collaborator and Academic Affiliate schools can enroll in courses offered by NEXus Academic Collaborators. The original NEXus collaboration among Schools and Colleges of Nursing with doctoral programs, focused on courses and students within research-focused PhD programs. More recently, with the proliferation of nursing practice doctorate programs, the need to expand participation criteria to include DNP courses and students was addressed. Participating NEXus schools agreed that the shared goal of expanding capacity of nursing doctoral programs should include expanded access for students enrolled in either research or practice programs.

Undertaking/Best Practice/Approach/Methods/Process: As a pilot project, participating NEXus schools with accredited DNP programs reviewed their courses to determine which offerings were appropriate for inclusion on the master listing of NEXus courses. All NEXus courses and the number of seats available in each course are listed on a common database that is available to students and faculty (Western Interstate Commission for Higher Education Internet Course Exchange Catalog, www.wiche-ice.org). Home institutions identify each course as open to PhD and DNP students, PhD students only, or DNP students only. Currently, over 160 courses are available through NEXus to doctoral students enrolled in participating schools.

NEXus courses also are grouped within general topic areas. Creating course clusters facilitates the process of searching through myriad course offerings and making appropriate selections for individual student needs. Using this clustering approach, the DNP courses initially were grouped in a DNP cluster so students could easily identify practice-focused doctoral courses.

Outcomes Achieved/Documented: The DNP pilot project has been completed. NEXus members with accredited DNP programs, or programs in the process of seeking accreditation, are now eligible to offer courses as Academic Collaborators. The number of DNP courses has expanded to the point that new DNP clusters have been added. For example, a new DNP cluster of “Scientific Underpinnings for Advanced Nursing Practice” includes courses in genetics, clinical epidemiology and pharmacotherapy. Other new DNP clusters include “Ethics and Interprofessional Collaboration”, and “Advanced Nursing Practice”.

Conclusions: The Institute of Medicine’s (2011) recent report on the future of nursing offers recommendations for doubling the number of doctorally-prepared nurses by 2020 and also highlights the need to prepare nurses for leading change. Expanding the NEXus collaborative to include both practice and research-focused doctoral courses moves the profession toward achieving these critical goals. In the face of faculty shortages, the innovative programming in NEXus not only helps maximize student access to doctoral courses – it also fosters an environment where practice and research-focused students can study together and build key relationships for future professional practice.

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NEXUS OUTCOMES: EFFECTIVENESS OF A CONSORTIUM FOR DOCTORAL EDUCATION IN NURSING

Methodology of the NEXus Evaluation

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Purposes/Aims: The purpose of this paper is to review the methodology used in the outcomes study of NEXus.

Rationale/Background: A comprehensive evaluation plan was developed at the start of the NEXus HRSA grant. Both formative and summative evaluation plans were developed. This report will focus on the summative evaluation plan.

An experienced outside evaluation consultant was hired to implement an objective evaluation of NEXus. An evaluation of all aspects of the NEXus project, from marketing plans to stakeholders' telephone interviews and surveys were used to gather data across the various constituency groups.

Undertaking/Best Practice/Approach/Methods/Process: Telephone interviews of 31 stakeholders were conducted. The stakeholders included the Campus Faculty Coordinator, the Campus Staff Coordinator, and DNP representative from all 12 member campus. A survey of the same population as the interviews was done with 15 stakeholders responding. A survey was done with WIN Board members with 4 responding. Finally, a survey of the 88 students who had taken a NEXus course was done with 33 responding.

Specific interview questions to the different stakeholders will be discussed. Examples of types of data sought from faculty included their level of knowledge about NEXus on specific campuses. Knowledge about how information was disseminated to students was also obtained. Campus Staff Coordinators were asked about processes of entering students into NEXus from the perspective of registering students in a NEXus course at another school as well as registering a student from another school in a course at their school. Students were surveyed on the number of courses taken as well as processes related to enrolling in a NEXus course and receiving a grade. Western Institute of Nursing Board members were surveyed on the role WIN has played in the development of NEXus and the impact of NEXus on WIN.

Outcomes Achieved/Documented: The evaluation was implemented in Spring 2011. Suggestions for improvements in NEXus policies and procedures were sought from all who participated. All data were collected by the individual hired to conduct the NEXus evaluation.

Conclusions: The next speaker will report the specific findings from this methodology.

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NEXUS OUTCOMES: EFFECTIVENESS OF A CONSORTIUM FOR DOCTORAL EDUCATION IN NURSING

Transforming Evaluation Results to an Action Plan

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Purposes/Aims: Results of the summative evaluation of the Nursing Education Exchange (NEXus) project (final year of HRSA grant) were used to develop an action plan for the future of this educational collaborative. The purpose of this paper is to describe the action plan based on the evaluation discussed earlier in the symposium.

Rationale/Background: The NEXus collaborative is an innovative project initiated over 7 years ago and funded by two external grants. A formative evaluation has been ongoing but the results of a summative evaluation of the final year of HRSA funding led the NEXus Board at the annual project meeting to identify specific action items for the future of this educational innovation. (www.winnexus.org)

Undertaking/Best Practice/Approach/Methods/Process: Transformation of evaluation results to an action plan is a best practice in evaluation and quality improvement research. Group discussion by the partner representatives based on interpretation of evaluation data was the foundation for identification of action plan items. Needs were indicated to further delineate project outcomes and to determine the influences of this collaborative on the doctoral and nurse educator workforce.

Outcomes Achieved/Documented: Elements of the action plan are identified and described in this presentation, including: increased and targeted communication with students, faculty advisors to increase NEXus enrollments; develop shared courses to address less available topic areas; better define and measure outcomes; continue sustainability efforts and marketing to recruit new collaborating schools.

Conclusions: The NEXus collaborative has a bright future and looks forward to inclusion of new partner universities. The action plan is a step toward moving the collaborative into a sustainable and productive educational innovation increasing the capacity of nursing doctoral education.

Funding: US Department of Health and Human Services, Health Resources and Services Administration (D09HP09070).

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NEXUS OUTCOMES: EFFECTIVENESS OF A CONSORTIUM FOR DOCTORAL EDUCATION IN NURSING

Progress toward Sustainability

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Purposes/Aims: The purpose of this paper is to describe the funding history and strategies for sustainability of the NEXus course exchange program.

Rationale/Background: NEXus, a course exchange program designed for a consortium of doctoral programs in nursing, is a response to the long-term fiscal, faculty personnel, and curricular realities faced by all schools of nursing in this country. Whereas the demand for nursing education is growing, the nursing professoriate is shrinking and public funding for nursing education is declining. NEXus is a practical alternative model for delivering courses and managing faculty expertise.

Undertaking/Best Practice/Approach/Methods/Process: Initially funded by FIPSE and subsequently funded by a HRSA grant, the NEXus Program has accomplished the development of an effective infrastructure: built a meaningful alliance among schools and programs, devised and implemented policies and procedures, offered a variety of courses, and served a growing number of students each year. With its recent HRSA grant funding, NEXus established a plan for generating revenue to achieve sustainability. The sustainability plan included a common tuition fee for NEXus courses, with a portion allocated to administration of the program, membership fees for collaborators (full exchange) and affiliates (do not teach courses but students enroll in courses), and a plan for adding academic collaborators and increasing courses and enrollments in order to attain self-sufficiency.

Outcomes Achieved/Documented: Progress toward sustainability has been made and will be described. Strategies for addressing the end of grant funding and an unexpected lack of opportunity for further application will be discussed. The plan for achieving full sustainability within 2-3 years will be shared.

Conclusions: Through creative yet realistic planning, sustainability for the NEXus Program is attainable. The financial model and its success to date make it possible to implement the course exchange in a way that is fiscally responsible and academically sound.

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NOVEL BIOLOGIC AND BEHAVIORAL RESEARCH: POPULATIONS WITH SUBSTANTIAL HEALTH DISPARITIES

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OVERVIEW: NOVEL BIOLOGIC AND BEHAVIORAL RESEARCH: POPULATIONS WITH SUBSTANTIAL HEALTH DISPARITIES

Benissa E. Salem, Adeline Nyamathi

RISKING UNINTENDED PREGNANCY, HIV AND STIS AMONG METHAMPHETAMINE-USING WOMEN

Margaret S. Stemmler

NOVEL METHODS EXAMINING STRESS, REST AND GROWTH IN NICU VULNERABLE INFANT POPULATIONS

Isabell B. Purdy

IMPACT OF AN INTERVENTION TO IMPROVE ART ADHERENCE AMONG RURAL INDIAN WOMEN WITH AIDS

Adeline Nyamathi, Sanjeev Sinha, Kalen Ganguly, Maria Ekstrand

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SOCIOENVIRONMENTAL DETERMINANTS OF HEALTH STATUS AMONG VULNERABLE POPULATIONS

Benissa E. Salem

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NOVEL BIOLOGIC AND BEHAVIORAL RESEARCH: POPULATIONS WITH SUBSTANTIAL HEALTH DISPARITIES

Overview: Novel Biologic and Behavioral Research: Populations with Substantial Health Disparities

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Purpose: To understand the application of biological and behavioral nursing research among three diverse domestic and global vulnerable populations with substantial health disparities; namely, United States (US) -based methamphetamine (MA) -using women, preterm infants in the neonatal intensive care unit (NICU), and women living with HIV/AIDS (WLA) in India.

Rationale: Both domestically and internationally, there is a paucity of nursing research which focuses on the nexus of biological and behavioral research among MA-using women, NICU preterm infants and WLA in India. The substantial unmet health needs and disparities are compounded by the combination of behavioral, psychosocial and physiological risk factors. Utilizing the Socioenvironmental Determinants of Health model (SDH) enables a greater understanding of inhibition and unprotected sexual encounters which increase the risk for unintended pregnancy among MA-using women. Further, among preterm infants in NICU, differences in environmental resources, and perinatal and biophysiologic stressors are factors that influence risk for poorer outcomes. Similarly, among WLA in India, the combination of specific behavioral conditions, psychosocial as well as physiological factors place them at risk for poor adherence to antiretroviral therapy (ART) and poor health outcomes.

Methods: Both qualitative and quantitative methods have been utilized among these populations to support biological and behavioral research. Among 19 preterm NICU infants, a randomized controlled blinded multi-center pilot study was used to examine a structured NICU music intervention while recording environmental noise over a 7 day period. Among 17 MA-using women, qualitative methods were used; in particular, constructivist grounded theory and symbolic interaction provided a sound framework and interpretive bridge. Among WLA in India, a randomized controlled trial engaging 68 Asha village women as the intervention was examined to assess ART adherence improvement.

Results: Among preterm NICU infants, mean cortisol levels were lower during the stress reactivity tests, a slightly higher number of sleep bouts, lower activity counts, increased Insulin and IGF-1, and slightly lower length of stay were noted compared to the controls. Among MA-using women, disinhibition of severe substance dependence, lack of knowledge, and poor problem solving interfered with safer sexual practices. Among WLA in India, adherence significantly improved in the intervention group; ranging from 93% -100% for the AL group (mean 99%; 0.02) and 60% - 95% for the UC group (mean 67%, 0.22).

Implications: MA-using women, preterm infants and WLA in India are substantially affected by health disparities due to the interplay of psychosocial, behavioral and physiologic risk factors. Future research needs to target health and developmental outcomes of at risk infants in the NICU, adherence strategies for WLA in India, as well as, a greater understanding of the various factors which lead to MA-use and unintended pregnancy.

Funding: NIH/NINR T32 NR007077 Health Disparities and Vulnerable Populations Research Training Program.

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NOVEL BIOLOGIC AND BEHAVIORAL RESEARCH: POPULATIONS WITH SUBSTANTIAL HEALTH DISPARITIES

Risking Unintended Pregnancy, HIV and STIs among Methamphetamine-Using Women

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Purpose: To describe the contextual factors and perceptions of methamphetamine-related behaviors that influence sexual risk for unintended pregnancy, HIV and sexually transmitted infections (STI) among methamphetamine-using women.

Background: Among methamphetamine users, the gender ratio is equal between women and men, but women start using at a slightly younger age and have more complex psychosocial problems due to childhood traumas. As a potent long-acting stimulant, methamphetamine's neurobiological effects last for eight to twelve hours, during which users describe euphoria, increased energy, decreased appetite, and enhanced sexual desire. Research has identified an independent association of the drug and sexual activity and likelihood for sexual encounters to occur while under the influence of methamphetamine. Descriptive studies report high frequency of risky sexual behaviors that are practiced by heterosexual users, including: unprotected vaginal intercourse, receptive anal intercourse, and sexual encounters with multiple intimate or anonymous partners. Methamphetamine use poses gender-specific risks for women who become regular users of the drug, especially related to sexual risk for pregnancy, HIV, and sexually transmitted infections.

Method: Passive recruitment was conducted by flyer placement in southern California drug treatment facilities, WIC sites, and a maternal-fetal medicine practice seeking participation by pregnant or postpartum women who used methamphetamine during a portion of their pregnancy. Eligible candidates were 18 years of age or older, English speaking, and claimed methamphetamine was their primary drug of choice. A sample of 17 participants self-identified as White, Hispanic, mixed race Hispanic and Asian, ranged in age from 18 to 37 years of age; four were married, and all were unemployed. Under the protection of a Certificate of Confidentiality, one or two audio taped, semi-structured interviews were conducted regarding their lives before pregnancy, methamphetamine use, and their experience of pregnancy. Using Constructivist Grounded Theory and the symbolic interactionism for understanding meaning-making, simultaneous data collection and analysis was conducted.

Findings: The women reported initiation to methamphetamine averaging at 15.8 years of age and half of the sample had a first pregnancy by the age of 16. They had minimal knowledge of and exposure to reproductive education or services; thus, they chose not to use contraception and voiced no concern for sexual risk with multiple partners. From their description of sexual behaviors surrounding methamphetamine use, a core category, *Risking unintended pregnancy, HIV, and STI* emerged with four categories of factors that contribute to understanding the participants' sexual risk-taking: seeking sexual satisfaction, gambling with sexuality, fulfilling intrapersonal needs, and using sex as a commodity.

Implications: The process contributes to understanding the complex relationship between methamphetamine and sexuality among female users. The findings point to the need for early timing of supportive interventions, including psychological counseling with adolescents regarding adverse childhood traumas, introduction to reproductive services, contraceptive education, and ongoing availability of appropriate resources into adulthood. Further research with a broader population of methamphetamine users remains critical.

Funding: NIH/NINR, T-32 NR007077, for Vulnerable Populations-Health Disparities.

NOVEL BIOLOGIC AND BEHAVIORAL RESEARCH: POPULATIONS WITH SUBSTANTIAL HEALTH DISPARITIES

Novel Methods Examining Stress, Rest and Growth in NICU Vulnerable Infant Populations

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Purpose: To describe novel methods used to investigate stress reactivity, growth and rest in preterm infants randomized to a music intervention while quantifying noise levels in the neonatal intensive care unit (NICU).

Background: Innovative techniques are available to study the sensitive balance of the hypothalamic-pituitary-adrenal axis and neuroendocrine system function among infants in NICU who are at risk for increased stress, poor rest and decreased growth. Music has the unique ability to reduce stress, enhance rest and promote growth. Due to characteristic challenges of these babies, minimal research has been conducted in these areas as it is impractical to obtain large quantities of blood commonly needed to test biomarkers for stress and growth. Further, equipment for evaluating rest and noise is often cumbersome around the tubes, wires and monitors attached to tiny babies.

Methods: We conducted a randomized controlled blinded multi-center pilot study to examine a structured music intervention over a seven day period. Using Urn Randomization, eligible preterm infants (N=19) were randomized to: 1) a music or 2) sham intervention based on high versus low degree of perinatal stress identified on standardized instruments, namely, the Perceived Stress Scale (PSS) reported by mothers and the Clinical Risk Index for Babies (CRIB). The Neurobiologic Risk Score (NBRS) was used to score infant biophysiologic stress over the NICU stay. Growth variables of weight gain in grams and serum insulin and IGF-1 were obtained before and after the one week study period. Hours of rest were quantified by actigraphy and validated with the Newborn Behavioral Observation (NBO) tool. NICU environmental noise decibels and frequencies were analyzed with portable noise dosimeters. Stress reactivity was examined at timed intervals before and after a stressor blood stick with salivary cortisol strips collected pre and post the one week intervention.

Analyses: Descriptive statistics and two-sample independent t-tests were used to examine the data and determine group differences in stress, weight gain, rest, Insulin, and IGF-1.

Results: The data suggests that stress scores (PSS, CRIB, and NBRS) were similar between the two groups. Compared to the controls, the music group was found to have lower salivary cortisol levels during the stress reactivity tests, a higher number of sleep bouts, lower activity counts, increased Insulin and IGF-1, and lower lengths of stay.

Implications: Lingual cortisol strips offered a non-invasive method of obtaining cortisol levels to examine stress reactivity. Actigraphy provided a means of quantifying rest that was validated by the NBO tool and nurses notes. Noise dosimeters were shown to be useful for assessing NICU noise. In sum, clinical scientists need innovative ways to examine variables that impact health outcomes of at-risk infants cared for in the NICU.

Funding: 1) NIH/NINR-T32 NR007077 Health Disparities and Vulnerable Populations Research Training Program. 2) Oppenheimer Complimentary Alternative, Integrative Medicine Grant. 3) American Association of Critical Care Nurses Clinical Care Grant.

NOVEL BIOLOGIC AND BEHAVIORAL RESEARCH: POPULATIONS WITH SUBSTANTIAL HEALTH DISPARITIES

Impact of an Intervention to Improve Art Adherence among Rural Indian Women with AIDS

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Purpose: To assess the impact of an innovative intervention delivered by lay village women in India, Ashas, on improving antiretroviral therapy (ART) compliance and psychological and physical health of rural women living with AIDS (WLA) in India.

Background: WLA in India continue to face profound challenges in accessing and following treatment regimens, caring for family members, and maintaining positive mental health. In 2005, the Government of India launched a National Rural Health Mission to address the health needs of the rural population by engaging Ashas, lay village women who interface with nurse midwives and physicians at local primary health centers. Ashas in India have predominantly focused on reproductive health for pregnant and postpartum women and infant wellbeing; however, the investigators trained Ashas to improve the adherence of rural WLA and enhance their physical and psychological health.

Method: A prospective, randomized clinical trial was utilized to assess the outcomes of an innovative theoretically-based Asha Life intervention on ART compliance and physical and psychological health among 68 WLA. These WLA, residing in one of two villages, were randomized into Asha Life (AL) or usual care (UC) groups. Ashas worked closely with nurses and other health care providers, focused on providing supportive care and overcoming the barriers to compliance of ART. These included illness, difficulty in transportation, etc. WLA were eligible if they were between the ages of 18-45; and 2) screened as receiving ART for a minimum of three months. Structured instruments assessed ART adherence, depressive symptoms and body composition. Additionally, percent body fat, fat and lean mass were measured with a 310e Bioimpedance analyzer.

Findings: At six-month follow-up, findings revealed that adherence was significantly improved ranging from 93% -100% for the AL group (mean 99%; 0.02) and 60% - 95% for the UC group (mean 67%, 0.22). In multivariate analyses, the AL participants also had significantly greater odds of reducing depressive symptoms, improving CD4 levels and weight, BMI, percent fat, fat weight, and lean weight significantly higher in the AL group compared to the UC group.

Implications: The findings provide a basis for addressing the challenges which rural WLA face and support the AL intervention which focuses on supportive care, education, overcoming barriers to care. As a package, the AL intervention was significant in impacting the outcomes assessed.

Funding: Support provided by NIMH - MH82662.

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NOVEL BIOLOGIC AND BEHAVIORAL RESEARCH: POPULATIONS WITH SUBSTANTIAL HEALTH DISPARITIES

Socioenvironmental Determinants of Health Status among Vulnerable Populations

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Purpose: To apply the Socioenvironmental Determinants of Health (SDH) framework to guide the exploration of health outcomes among three diverse domestic and global populations: United States (US) - based methamphetamine-using women, preterm infants in the neonatal intensive care unit (NICU), and women living with HIV/AIDS (WLA) in India.

Description of Theory: The SDH model, conceptualized in 1993 by Labonte and Thompson, characterizes a convergence of predictors, namely, physiological, behavioral, psychosocial risk factors which predict health outcomes. Specifically, poverty, low education and inadequate access to healthy food are considered risk conditions for premature morbidity and mortality. Equally important are behavioral risk factors such as poor diet, use of alcohol, cigarettes, and lack of adherence to antiretroviral medication (ART). Alternatively, psychosocial risk factors, composed of low perceived power, lack of social support and isolation likewise impact poor health outcomes. Finally, genetic factors, comorbidities, and a compromised immune system, accounts for physiological risk factors which can often compromise health status and health care outcomes, ultimately contributing to health disparities. To illustrate among methamphetamine-using women, behavioral factors and at-risk conditions affect health sexual practices and reproductive health seeking. Likewise, among preterm infants in NICU, variations in environmental resources, and perinatal and biophysiologic stressors are factors that influence risk for poorer outcomes. Moreover, among WLA in India, the combination of specific behavioral conditions, psychosocial as well as physiological factors place them at risk for lack of adherence to ART and poorer outcomes.

Internal Consistency of Theory: The constructs within the SDH framework have been aptly described in the literature. Yet, despite the wide disparity of populations reviewed in this presentation, the SDH model continues to serve as a sound guide in terms of understanding the predictors of health status among populations who evidence significant health disparities.

Logic Linking Theory to Practice: Understanding antecedents of health status among this triad; in particular, methamphetamine-using women in the US, preterm infants in the NICU and WLA in India will enable the development of sound interventions which will guide nursing practice. Further, the nexus between theory and practice will arm nurses with the ability to identify sound translational interventions which will inform better outcomes.

Conclusion: Both domestically and internationally, the SDH framework enables a greater understanding of the factors which predict health status among the aforementioned populations that have been studied.

Funding: NIH/NINR T32 NR007077 Vulnerable Populations and Health Disparities Research Training Grant.

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OVERCOMING THE BARRIERS: SUCCESSFUL MODELS OF INTERPROFESSIONAL EDUCATION

Moderator:
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OVERVIEW: OVERCOMING THE BARRIERS: SUCCESSFUL MODELS OF INTERPROFESSIONAL EDUCATION

Barbara Richardson

AN INTERPROFESSIONAL EXPERIENCE IN REQUIRED PHARMACY AND NURSING COURSES

Debbie Brinker, Linda Garrelts-MacLean

INTERPROFESSIONAL JOURNAL CLUBS: AN APPROACH TO INTERPROFESSIONAL COLLABORATION

Brenda Bray

PROMOTING INTERPROFESSIONAL TEAMWORK THROUGH THE HEALTH CARE TEAM CHALLENGE

Barbara Richardson

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OVERCOMING THE BARRIERS: SUCCESSFUL MODELS OF INTERPROFESSIONAL EDUCATION

Overview: Overcoming the Barriers: Successful Models of Interprofessional Education

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Purpose: The purpose of this symposium is to 1) provide an overview of the importance for providing interprofessional (IPE) learning opportunities for health professions students; 2) discuss common challenges to implementing IPE and strategies to overcome barriers; 3) examine desired outcomes of IPE; and 4) provide examples of three successful models of IPE.
Rationale/Background: With increasing prevalence of chronic diseases, new advancements in treatments, and growing complexity of health care delivery systems, the need for coordination and integration of patient care through a multidisciplinary approach has become essential. Recognizing this issue, the Institute of Medicine (2003) called for a redesign of health professions educational programs in order for health care providers to have the necessary knowledge, skills, and attitudes to work effectively in interprofessional teams. In May of 2011, experts representing the American Association of Colleges of Nursing (AACN), along with colleagues in pharmacy (AACP), medicine (AAMC), public health (ASPH), dentistry (ADEA), and osteopathy (AACOM) identified a framework of core competencies that aims to prepare students who can practice effectively in teams in order to provide safe, high quality, collaborative care. Paradoxically, students receive little training in how to function within an interprofessional teamwork context.
Description: Integrating IPE in already full curricula is daunting for faculty in all health professions. It is helpful to have institutional policies, leadership, financial support, and faculty development for IPE initiatives, but in a time of diminished resources, IPE may not be a priority. Even so, it is critical to create opportunities for today's students to learn with, from, and about other health professions. IP experiences can be a single exposure, longitudinal in nature, occur in academic or clinical settings, be required or extra-curricular, and occur face-to-face or through various interactive technologies. Included in this symposium are examples of successful IPE models developed without significant additional resources, between health professions programs at three universities. The Health Care Team Challenge^{TM}, RADICAL interprofessional journal clubs, and an innovative required-course collaboration involving nursing and pharmacy students will be presented.
Outcomes: Student evaluations of all three IPE models have been overwhelmingly positive. Additionally, faculty enthusiasm and willingness for incorporating IPE experiences in existing classes has grown following success of the models presented.
Conclusions/Implications: IPE is *not* about creating additional assignments in already over-loaded curricula, but rather developing core competencies in all health professional students through experiential, learner-centered strategies. Competent patient care increasingly requires practitioners to know how each of the different health professions contributes to the goal of optimizing health outcomes. Challenges remain, including developing valid and reliable instruments to assess long-term impact of IPE on collaborative practice and improvement of health outcomes.

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OVERCOMING THE BARRIERS: SUCCESSFUL MODELS OF INTERPROFESSIONAL EDUCATION

An Interprofessional Experience in Required Pharmacy and Nursing Courses

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Purpose: The aims of this interprofessional classroom-based experience required of all third year pharmacy students and senior semester nursing students are to; 1) dispel commonly held stereotypes of pharmacists and nurses; and 2) create opportunities for students from two health professions to learn with, from, and about each other to improve collaboration and the quality of care.

Background: The concept of interprofessional education (IPE) has been endorsed by the American Association of Colleges of Nursing and the Accreditation Council on Pharmacy Education. Yet, most nursing and pharmacy programs have been slow to develop and *require* inter-professional opportunities for all students. Significant barriers exist for implementing innovative inter-professional educational (IPE) programs. Timing of course content, unwillingness of educators to change teaching and learning strategies that have worked well for years, and a scarcity of successful model programs are just a few of the challenges facing faculty that embrace the concept of IPE. Recognition of the importance of creating IP opportunities in spite of numerous challenges led to the development of this learner-centered IP program.

Description of Program: Lead faculty in the nursing and pharmacy programs agreed that content in their required courses overlapped enough to teach their respective 3-credit classes at the same time, in order for students in both programs to work together. Planning began two months prior to implementation. Common core competencies and learning objectives were identified. Learning and assessment strategies were developed to meet course objectives. Students met for 3 hours each week for four consecutive weeks. The majority of time was spent in small groups developing case-based patient-centered care plans. Each week focused on a different set of potential issues facing nurses, pharmacists, and other health professionals. Three groups met using distance learning technologies. Time at the end of each class was set aside to reconvene as a large group (200 students), in order to debrief the experience.

Outcomes Achieved: Student evaluations of the experience were overwhelmingly positive. Students desire further opportunities to learn about communication, teamwork, and the roles and responsibilities of other health professions by interacting with one another, rather than reading or hearing about these topics using a didactic format.

Conclusions/Implications: The first time any collaboration of this magnitude is implemented, the learning curve is steep. In order to accomplish the desired outcomes, many of the barriers often cited as reasons for IPE not being incorporated in health professions curricula were encountered. Scheduling the specific nursing and pharmacy classes concurrently, finding an auditorium with distance learning technology large enough to hold all students at one time, and enough rooms for 20 small groups of students to meet simultaneously took significant coordination. Creating patient scenarios specific to nursing and pharmacy was a challenge. Was it worth it? Absolutely. Key faculty of other health professions are lobbying for dedicated IPE time to be set aside each week in order for *all* students in *all* of the health programs to experience the challenges and rewards of working together as members of a health care team.

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OVERCOMING THE BARRIERS: SUCCESSFUL MODELS OF INTERPROFESSIONAL EDUCATION

Interprofessional Journal Clubs: An Approach to Interprofessional Collaboration

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Purpose: In an effort to overcome common barriers to interprofessional education (IPE) such as different curricula, variances in academic scheduling (quarters vs. semesters), lack of faculty time and limited resources for developing collaborative programs, interprofessional journal clubs were implemented to provide a structured learning activity for students from nursing, pharmacy, and other health professions. The purpose was for students from various programs to improve their understanding of the different roles and perspectives each profession brings to a health care team.

Background/Rationale: Journal clubs can create a forum for students from all health professions to learn with, from, and about one another. Journal clubs are a flexible, effective, and low cost means of promoting interprofessional learning, developing critical appraisal skills, disseminating information, and stimulating interest in research. Journal club participants meet to critique pre-selected articles, improve their understanding of research design and statistics, and discuss implications for patient care decisions and collaborative clinical practice.

Description of Activity: Interprofessional journal clubs are a versatile learning activity that may be a required element in health sciences curricula or a voluntary extra-curricular opportunity for students interested in learning with peers from other health professional programs. Doctor of Pharmacy (PharmD) and Speech and Hearing Science students were the first groups to participate in interprofessional journal clubs. Students completed a modified version of the Readiness for Interprofessional Learning (RIPLS) survey pre-and post-participation. The following semester, the RADICAL (read, ask, discuss, inquire, collaborate, act, and learn) approach to journal clubs was piloted with undergraduate nursing and PharmD students as part of their required coursework. Twenty groups of ten students, comprised of five from each program, reviewed an article on stereotypes of various health professions and together answered questions designed to promote dialogue among participants. Selected groups were video-taped during the journal club meeting. Rich discussions were stimulated by this activity and included dialogue about the roles and perceived responsibilities of nurses and pharmacists in a variety of clinical settings.

Outcomes Achieved: Results from the initial journal club activity pre- and post-RIPLS surveys demonstrated that participation in the interprofessional journal club increased students' understanding of other healthcare professionals and also improved understanding of their own limitations. Student evaluations demonstrated positive support for using the RADICAL format to engage all participants in the journal club activity.

Conclusions/Implications: Interprofessional journal clubs are a versatile learning activity that may be used in academic and/or practice settings to promote meaningful interactions between groups of learners from all health professions. Using a structured approach such as the RADICAL format helps promote discussion and provides a foundation for students who may be novices at reviewing research with implications for collaborative practice.

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OVERCOMING THE BARRIERS: SUCCESSFUL MODELS OF INTERPROFESSIONAL EDUCATION

Promoting Interprofessional Teamwork through the Health Care Team Challenge

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Purpose: The purpose of the Health Care Team Challenge (HCTC)™ is to simulate "real-life" team based patient-centered care. This versatile interprofessional learning activity can easily be adapted to meet core competencies for collaborative care in all health professional programs.

Background/Rationale: Historically, education for health care providers has been profession specific. However, as patients today seek care for increasingly complex health problems, an interprofessional (IP) team approach is necessary to ensure safe, high quality patient care. The AACN (2011) recently endorsed the concept of IPE and encouraged integration of four core competencies in health professions curricula including: (1) values and ethics, (2) roles and responsibilities, (3) collaborative communication, and (4) teams and teamwork. The HCTC is an IP simulation activity designed to provide an authentic teamwork experience that can be implemented with students from two or more health professions programs.

Description of the HCTC™ Model: Two weeks prior to the HCTC, interprofessional teams of students are formed and provided with an identical patient/family/community based scenario. Following an orientation session, teams are challenged to create a collaborative plan of care that will be presented at the HCTC event, which is played out in front of an audience of other health professional students, faculty, and community practitioners. The case study is structured to ensure relevance for all participants. Teamwork skills are fundamental to success at the HCTC event, where each team is challenged with a "plot twist," an additional round of previously unknown information in the clinical scenario. Teams are evaluated by a panel of judges on the quality of the plan they create *and* the core competencies necessary for effective collaborative practice. The HCTC may be easily adapted to allow for local differences in programs and availability of resources. For example, specific themes may include acute or chronic patient care, community based emergency preparation, care of vulnerable, underserved, or marginalized populations, or challenges associated with providing care in rural communities. This presentation will describe the international development and key characteristics of the HCTC model, and how the model was successfully implemented for students enrolled in nine health professions, representing programs from three universities.

Outcomes Achieved: From both faculty and students' perspectives, the HCTC successfully provides an interactive experience to develop the skills and knowledge required for collaborative practice. 100% of students stated they would participate again, even though it was a time-intensive extra-curricular activity. One participant wrote, "In the HCTC I was able to do as a student what I hope to do as a professional. Experiences rewire the brain, and this was a wonderfully positive experience that no book learning or same-discipline team project could duplicate!"

Conclusions/Implications: Holding a HCTC event can demonstrate to faculty how enthusiastically students embrace IP learning opportunities. The HCTC model may be adapted to provide IP experiences in both classroom and extra-curricular settings. Designing assessment strategies to measure impact in collaborative practice setting is a critical next step.

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PROJECT ECHO: EXTENDING COMMUNITY HEALTHCARE OUTCOMES

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OVERVIEW: PROJECT ECHO: EXTENDING COMMUNITY HEALTHCARE OUTCOMES

Jeanne F. Boyle

PROJECT ECHO HEPATITIS C: BUILDING COMMUNITY PARTNERSHIPS TO IMPROVE QUALITY CARE

Paula Cox, Kenton Unruh, John Scott

PROJECT ECHO EXTENDS CLINICAL EXPERTISE IN HEART FAILURE TO RURAL AND UNDERSERVED

Rebecca Mayo, Sen Nguyen

CREATING A COMMUNITY OF PRACTICE FOR PAIN MANAGEMENT

Ardith Z. Doorenbos

PROJECT ECHO: EXTENDING COMMUNITY HEALTHCARE OUTCOMES

Overview: Project ECHO: Extending Community Healthcare Outcomes

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Purpose: A significant portion of the U.S. health burden and health care costs are attributable to chronic diseases for which treatment capacity is limited – a problem that will only worsen with health insurance expansion rapidly approaching. One answer to these overwhelming limitations to access is described here.

Background: The Extension for Community Healthcare Outcomes (ECHO) model was developed by the University of New Mexico Health Sciences Center as a platform for disseminating effective medical practice to community-based primary care and corrections settings, originally for hepatitis C virus (HCV) and expanding to 15 other common processes including chronic pain, addictions, behavioral health, rheumatology, asthma, diabetes, heart failure, palliative care, dementia and others.

Method: The ECHO Model

- Use web-based technology to optimize scarce healthcare resources
- Improve outcomes by reducing variation in processes of care
- Case-based learning: Co-manage patients with academic specialists
- Monitor program and patient outcomes

Process: In the ECHO Model, clinical experts at the academic healthcare center create a real-time learning community to discuss complex and challenging patient problems with remote-site colleagues. These learning communities meet weekly to offer both clinical expertise and multi disciplinary support. In contrast to other telehealth models where specialists provide services directly to patients using remote technology, ECHO uses telehealth technology to improve primary care providers' capacity to directly treat a complex range of their patients' needs.

Outcomes Achieved: ECHO has been shown to provide high-quality primary and specialty care outcomes for HCV. Using the ECHO Model, we found as good HCV patient outcomes when compared to our academic hepatitis clinic. Participating community colleagues endorse a greatly enhanced knowledge-base and greater confidence in managing complex chronic diseases.

The ECHO Model has been replicated successfully at the University of Washington, the University of Chicago, the University of South Florida and the University of Nevada, and is currently being replicated in all seven regions within the VA system. In addition to HCV, ECHO clinics are now operating for a range of other complex, costly chronic diseases including asthma, chronic pain, diabetes and cardiovascular risk reduction, high risk pregnancy, HIV/AIDS, integrated addiction and psychiatry, palliative care, pediatric obesity and rheumatology.

Conclusion: Replication of the ECHO Model enables logarithmic expansion in the capacity of the existing health care workforce to treat chronic, complex diseases that commonly present to the primary care clinic. The ECHO Model supports the patient-centered medical home and other innovative integrated delivery models, providing a cost-effective mechanism for clinical collaboration between specialists and community-based primary care providers, who are most often advance practice nurses.

Project ECHO already bridges the gap between the academic center and community practice clinics while boosting the ability to deliver best practice care for common complex conditions. Untapped implications for nursing are waiting for practice, education and research innovations.

PROJECT ECHO: EXTENDING COMMUNITY HEALTHCARE OUTCOMES

Project ECHO Hepatitis C: Building Community Partnerships to Improve Quality Care

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Purpose: The purpose of ECHO hepatitis C (HCV) program is to improve the access of minorities and other underserved populations to best-practice care for HCV infection.

Background: Chronic hepatitis C affects more than 1.3% of the US population. Antiviral treatment rates are lower than 30%, and fewer than 25% receive recommended vaccinations–both quality indicators included in Medicare's 2009 Physician Quality Reporting Initiative. Studies show that provider practice pattern is an important determinant of receipt of quality care in patients with HCV, and that patients seen by both generalist and specialist providers receive highest-quality care. One of the objectives of the ECHO hepatitis program is to improve access of rural underserved populations and their generalists to specialized medical resources centered around management and treatment of chronic hepatitis C.

Methods: Surveys were completed by participating providers at baseline before project ECHO participation and then every 6 months. The population completing surveys consisted of 16 physicians, 14 nurse practitioners or physician assistants, and 7 "other" healthcare providers from rural sites in Washington, Idaho, Montana, Alaska, and Oregon. The baseline questionnaire is 12 pages long containing 28 questions; subsequent questionnaires are 14 pages long with 33 questions. There are three main categories addressed in the surveys 1) benefits of a telemedicine hepatitis C clinic, 2) treatment practices 3) screening and vaccination.

Outcomes:

Value to patient	**Baseline** (N=20)	**6-month** (N=7)
Improve quality of care for patients with hepatitis C	5 (25%)	1 (14%)
Limited or no access to local specialists	3 (15%)	1 (14%)
Unable to refer to specialist due to financial/insurance issues	2 (10%)	1 (14%)
Easier access for patient	1 (5%)	3 (43%)
Value to provider		
Educational value to increase skill level	6 (30%)	5 (71%)
Trusted consultation	6 (30%)	2 (29%)

Number patients treated in last year	Baseline (n=20)	6 months (n=6)
None	50%	33%
1-5	14%	50%
>10	15%	17%

New HCV diagnosis last year	Baseline (n=20)	6 months (n=6)
1-5	55%	60%
6-10	20%	40%

Conclusion: Our surveys found that prior to joining this telemedicine clinic, 50% of the providers did not feel comfortable treating any patients with hepatitis C; this number decreased to 33% after 6 months of participation. There was a 38% increase in HCV treatment and a 25% increase in risk factor screening among ECHO rural providers over this 6 month period, and the value of project ECHO to providers in caring for patients with HCV increased by 4 fold. Participating in this telemedicine clinic has helped increase the number of new patients diagnosed with hepatitis C, increase the number of patients being treated, and increase the confidence in the provider's ability to become more proficient in treating hepatitis, thereby improving quality of care.

Funding: This project has been supported by a grant from the Robert Wood Johnson Foundation.

PROJECT ECHO: EXTENDING COMMUNITY HEALTHCARE OUTCOMES

Project ECHO Extends Clinical Expertise in Heart Failure to Rural and Underserved

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Introduction: HF, a costly and chronic disease, is generally associated with older age. It is generally accepted that early diagnosis and aggressive treatment of systolic HF can potentially forestall deterioration and may improve ejection fraction. It is important to understand and recognize characteristics of specific populations that differ in significant ways from national norms. Based on clinical observation, it appeared that New Mexicans with systolic HF were much younger than would be expected based on US extant data.

Hypothesis: We assessed the hypothesis that men and women in New Mexico present with systolic HF at significantly earlier ages than do their national counterparts.

Methods: Data were collected on all systolic HF patients (EF <40%) admitted to the Cardiology Service at the University of New Mexico Health Sciences Center who had a primary diagnosis of HF. Data were collected from 2007-2010. Age at first diagnosis was the primary variable of interest.

Results: New Mexicans (n=1113), when compared with US HF patients (n= 555,421) were strikingly younger with an average age 60.3 as compared with 70.4 (95% CI, -13.7 to -7.3, P<0.001). This difference remained statistically significant when NM data were compared independently with academic, interventional, west, and mountain hospitals (P<0.001). NM men were considerably younger than their US counterparts: NM average 58.5: US 67.8 (95% CI, -12.5 to -7.1, P<0.001). NM women had an average age of 63.3: US women 73.8 (95% CI, -13.7 to -7.3, P<0.001).

Conclusions: When patients in NM present with symptoms of HF, assumptions about the probability of HF based on national age norms should be made with caution. Possible explanatory factors for our findings include a higher prevalence in NM of DM in the 45-64 age group and generally poorer health; NM ranks 47th in the CDC overall Health Index and it is likely that early HF in NM represents multifactorial co morbidities. Altitude may play an exacerbating role. Early recognition and appropriate treatment may lessen the burden of HF in NM.

Project Echo: To increase the opportunity for effective care delivery, especially in the more rural and underserved areas of the state, the UNM HF program began participation in Project ECHO in August 2011. A multidisciplinary team participated in initial training and HF outreach, and the program is in the early stages of implementation and evaluation with positive feedback from all participants. The success and effectiveness of the UNMHSC HF mission is supported by participation in Project ECHO.

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PROJECT ECHO: EXTENDING COMMUNITY HEALTHCARE OUTCOMES

Creating a Community of Practice for Pain Management

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Purposes/Aims: This project aims to describe our experience in creating a community of practice for pain management with healthcare providers in rural areas, most of whom are nurse practitioners in Washington State and Alaska.

Rationale/Background: In the United States, pain is a significant burden to patients and to society and is often undertreated. Managing pain effectively is often challenging for the rural healthcare provider. With comprehensive pain management services located in urban areas, the opportunity for consultation with pain management specialists is limited. Project ECHO/UW Pain transcends these geographical boundaries and facilitates consultation with rural providers and specialists. Through collaborative inquiry and discourse, communities of practice are established to improve pain management.

Description of the Undertaking/Best Practice: Project ECHO/UW Pain facilitates weekly case conferences by videoconference to health care providers at rural clinics in Washington State and Alaska with pain experts at the University of Washington. To date, there have been 454 total attendees at 110 sites who attended the case conferences. A cross-sectional, descriptive study design was used to survey the participating providers. Measures included satisfaction with the telehealth system and self-perceived competence in pain management.

Outcomes Achieved/Documented: Providers participating in the weekly case conferences scored significantly higher on perceived competence in treating pain compared to clinic providers who did not attend ($p < .01$). Participants also reported a high level of satisfaction with telehealth.

Conclusions: Project ECHO/UW Pain is a feasible and effective way to deliver pain management education and increase pain management competence among rural health care providers.

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PROMOTING PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

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OVERVIEW: PROMOTING PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

Amy L. Silva-Smith, Adriana Perez, Carol E. Rogers, Janet Purath

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SIGN CHI DO EXERCISE IMPROVES FUNCTIONAL FITNESS IN OLDER ADULTS

Carol E. Rogers, Stacey Nseir, Colleen Keller

THE EFFECT OF INCENTIVES ON MODERATE PHYSICAL ACTIVITY IN SEDENTARY OLDER ADULTS

Janet Purath, John Roll, Colleen Keller

REDUCING THE RISK OF STROKE: A RANDOMIZED CONTROLLED TRIAL

Amy L. Silva-Smith, Julie Fleury

FEASIBILITY AND IMPACT OF A PHYSICAL ACTIVITY INTERVENTION IN OLDER HISPANIC WOMEN

Adriana Perez, Julie Fleury, Michael Belyea, Nelma Shearer

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PROMOTING PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

Overview: Promoting Physical and Functional Health in Older Adults

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By 2030, the number of U.S. adults aged 65 or older will more than double to about 71 million. Older adults who are physically active are more likely to remain healthy, live independently, and incur fewer health-related costs. In addition, the growing numbers of older adults and the burden of inactivity-related health problems mandate that researchers develop and test physical activity interventions for this population. The health of older adults will be directly affected when useable, effective interventions to increase physical activity and functional fitness are identified. Strategies to increase activity and fitness among community-dwelling older adults vary from individual, to group, to community, and societal-based interventions.

The objectives for the symposium are to 1) highlight interventions that focus on individuals or groups of older adults who live in the community and 2) discuss barriers to physical activity intervention research with this population.

Dr. Silva-Smith's will discuss results from an intervention to promote physical activity and healthy eating in order to decrease the risk of stroke among low and low-moderate income older adults. Dr. Perez's will discuss the acceptability, feasibility, and efficacy of a physical activity intervention trial with older Hispanic women. Dr. Rogers will present findings on the effect of Sign Chi Do, a meditative movement intervention, on objectively measured physical function in community-dwelling older adults. Dr. Purath's will present findings on the feasibility, acceptability, and effect of a contingency-management individual intervention to increase moderate intensity physical activity. Dr. Silva-Smith's and Dr. Perez's work are group-based randomized controlled trials. Dr. Rogers and Dr. Purath will present one group pre-test post-test design studies. The randomized trials in this symposium provide relevant and practical interventions that may be useful in practice. The single group design studies explore new areas of research. Taken together, this research serves to identify key strategies for physical activity interventions and extends the science of physical activity among older adults.

PROMOTING PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

Sign Chi Do Exercise Improves Functional Fitness in Older Adults

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Purpose: The purpose of this pilot study was to test the effect of a low intensity Sign Chi Do (SCD) exercise intervention on selected field measures of functional fitness in older adults currently not participating in balance, strength or flexibility training. SCD is an innovative exercise that incorporates diaphragmatic breathing, choreographed sign gestures, meditation, and music to create harmony between the mind and body.

Rationale/Background: National guidelines recommend older adults participate in strength training at least 2 days per week plus balance and flexibility training. Functional fitness components necessary for older adults to perform everyday activities safely and independently without undue fatigue include balance, strength, and flexibility training. However, over 80 % of all older adults fail to do so. SCD includes the fitness components described. A previous RCT demonstrated SCD participants significantly improved balance and endurance compared to a sedentary control group (N = 49). There is no evidence of the effect of SCD on strength or flexibility.

Methods: A pre-test/post-test single group design was used to test the effect of a 12 week SCD exercise intervention on upper and lower body strength (arm curls and chair stands), balance (Timed Up & Go and One-leg stance), and flexibility (back scratch).

Results: Five community dwelling older adults (age range 61 to 80 years) with a history of cardiovascular disease and arthritis; and not currently participating in strength, flexibility, or balance training, completed the study. Strength scores improved by at least 2 arm curls or chair stands for those at risk for loss of physical function. Most transitioned from the 25th to the 50th percentile according to age and gender from pre to post intervention. Timed Up & Go scores improved by an average of 3.83 (range 1.98-4.98) seconds for those at risk for falls. All flexibility scores were high at baseline and remained in the upper 75th percentile.

Implications: While underpowered to conduct any statistical analysis, the participants demonstrated clinical improvement in balance and strength. Continued practice of this innovative, low intensity exercise called SCD has the potential to improve functional fitness for older adults.

Funding: The research described in this article was supported by an Arizona State University College of Nursing and Health Innovation Small Grant Program awarded to N. Dounskaia, PhD, PI.

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PROMOTING PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

The Effect of Incentives on Moderate Physical Activity in Sedentary Older Adults

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Purposes/Aims: This study evaluates the feasibility, acceptability and effect of a contingency management intervention on physical activity (PA) levels among a group of community-dwelling older adults.

Rationale: Despite the well known benefits of PA for older adults, only 27% of men and 19% of older women engage in PA at the recommended levels. In many behavioral intervention research studies, older adults increase their activity, but still do not achieve recommended levels of 150 minutes/week or more of moderate-intensity activity. In fact, most PA intervention researchers prescribe less than the recommended amount to older adults in their studies. This may be in part due to researcher concerns about recruitment and retention when interventions are too demanding for participants.

Contingency management–based interventions are among the most powerful behavior change strategies available. These interventions deliver an incentive contingent on the initiation or completion of a specified behavior. The strategy of providing modest financial incentives in a contingency management protocol to increase PA is endorsed by older adults. However, to date we have limited information on the efficacy of contingency management to promote activity among this population. This pilot study evaluates a new approach to the problem of physical inactivity and tests the hypotheses that sedentary older adults who receive a contingency management intervention will increase 1) objectively measured and 2) self-reported moderate PA over time. We also sought to determine the acceptability and feasibility of the intervention components.

Methods: A single group repeated measures design with baseline and weekly follow-up for four weeks was used to determine changes in PA over time in 7 physically inactive or underactive older adults. Participants wore an accelerometer at all times when awake. Accelerometer and self-reported PA data were collected weekly. Participants who had accelerometer results of 30 minutes of moderate activity on 5 days per week or more received a monetary incentive. Acceptability and feasibility were evaluated with a researcher-made questionnaire. Data were analyzed using descriptive statistics and ANCOVA.

Results: Based on accelerometer measurement, five of the seven participants met or exceeded PA guidelines during all 4 weeks of the study; one met recommendations for 3 of 4 weeks and one was active for 15-30 minute 5 days/week or more. Participants significantly increased their weekly self-reported moderate activity ($F = 4.6; p = .046$) over time. Accelerometer-measured minutes spent at moderate PA also increased ($F = 3.50; p = .023$) as did weekly energy expenditure of moderate activity ($F = 9.92; p < .005$) over time. The intervention was found to be acceptable and feasible.

Implications: The project provides initial support for the hypothesis that incentives can increase moderate PA and serves as a basis for a larger study.

PROMOTING PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

Reducing the Risk of Stroke: A Randomized Controlled Trial

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Purpose: The aims of this study were to evaluate the feasibility of the Promoting Older Adult Wellness Intervention (POW) and to explore its effects on increasing physical activity and healthy eating to reduce stroke risk factors.

Rationale: Worldwide, stroke is the second leading cause of mortality. Preventing stroke and heart disease are key objectives in the Healthy People 2020 Agenda, which recommends the development of behavioral and social approaches to increase physical activity and healthy eating patterns. Research findings suggest that the level of motivation experienced by older adults impacts physical activity levels and healthy eating behaviors. Wellness Motivation Theory was used to design an intervention aimed at reducing stroke risk by fostering social contextual resources and behavioral change process skills related to physical activity and healthy eating.

Method: Sixty-nine multi-ethnic, low to low/moderate income older adults were randomly assigned to the intervention or control groups. Six participants did not complete the posttest measurement. The POW intervention included 8 weekly sessions and the control group received newsletters for 8 weeks. Measurements occurred at baseline and after the 8-week period. Data analyses included descriptive statistics, frequencies, Chi square, and ANCOVA. Significance was set at $p < .10$ for the preliminary analysis of the POW intervention.

Results: The intervention group participants reported high intervention acceptability. Intervention participants scored significantly higher on social support after the intervention, $F(1, 59) = 4.48$, $p = .039$. Steps in the intervention group were significantly higher post intervention, $F(1, 57) = 3.73$, $p = .058$. Dietary variables and mental and physical health, as reported using the SF-12, were not significantly different between groups at posttest. Theoretically mediating variables, including subscales of the Index of Self-Regulation, were significantly higher at posttest in the intervention group.

Implications: This study provides support for the hypothesis that older adults at risk for stroke would find the POW intervention, a theoretically-driven behavioral intervention, acceptable and have improved theoretical and behavioral outcomes following the 8 week motivational intervention.

Funding: This study was supported by a JAHF/BAGNC 2009-2011 Claire M. Fagin Postdoctoral Fellowship to Dr. Amy Silva-Smith [AAN # 09-228].

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PROMOTING PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

Feasibility and Impact of a Physical Activity Intervention in Older Hispanic Women

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Purpose: Evaluation of intervention feasibility and impact can help to determine when behavioral change interventions should be recommended for efficacy testing. The aim of this study was to evaluate the feasibility and impact of a Wellness Motivation Intervention (WMI) designed to promote physical activity in older Hispanic women.

Rationale: Recommendations from the American College of Sports Medicine and the American Heart Association emphasize physical activity as a priority in preventing disease and disability among older adults. Moderate intensity physical activity has been shown to reduce cardiovascular risk in older adults. Older adults are the least physically active of any age group; one-third report no physical activity. Older Hispanic women are at highest cardiovascular risk due to overweight, obesity, hypertension, and Type 2 diabetes, yet 64% report no physical activity. Evaluation of the feasibility and impact of interventions designed to promote physical activity in older Hispanic women is essential.

Methods: A randomized experimental design was used with 1 between factor (WMI, Attention Control (AC)) and 1 within factor (baseline, 12 weeks). Evaluation of intervention feasibility included: acceptability, demand, fidelity records to assess implementation and practicality; adaptation, integration, and expansion. To evaluate WMI impact, the 7-Day Physical Activity Recall Questionnaire and pedometer measured time spent in physical activity and steps per day; RMANOVA compared outcomes in WMI and AC groups.

Results: Hispanic women (N = 60) age 50 to 87 years old were randomized to WMI and AC groups. The 12 week WMI was found to be "very acceptable" (M = 3.64, SD = 1) based on questionnaire responses and interventionist field notes. Attendance was high (68% to 100%) with 71.4% completing all 12 sessions, and attrition was low (<10%). The WMI was implemented as planned, with strong fidelity evaluation. Adaptation and expansion included WMI modifications to ensure cultural relevance and participant requests for WMI delivery. Integration evaluation supported the feasibility of the WMI. There was a significant change in time spent in physical activity between baseline and post intervention at 12 weeks ($F_{1,\ 53} = 45.20$, $p \leq .001$, $\eta^2 = .46$); this change over time differed by the WMI and AC groups ($F_{1,\ 53} = 30.66$, $p \leq .001$, $\eta^2 = .37$). There was no significant difference over time between the groups for pedometer steps.

Implications: Recommendations for research on physical activity include identifying feasible interventions that can be built upon to extend the science for application to diverse settings. This randomized controlled trial provided initial support for the hypotheses that delivery of the WMI to older Hispanic women was feasible and would show a significant increase in physical activity. The results provide a beginning understanding of the effects of the intervention in promoting physical activity in older Hispanic women.

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RURAL HEALTH: ADVANCING SCIENTIFIC INNOVATION ACROSS THE LIFESPAN

Moderator:
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OVERVIEW: RURAL HEALTH: ADVANCING SCIENTIFIC INNOVATION ACROSS THE LIFESPAN

Heather M. Young

INTERACTIVE THEATER TO IMPROVE RURAL PARENT COMMUNICATION ON PREGNANCY PREVENTION

Joanne Noone, Maggie Sullivan, Tiffany L. Allen

NURSE TELEHEALTH COACHING FOR RURAL DIABETICS: INNOVATION IN CARE

Heather M. Young, Sheridan Miyamoto, Debbie Ward, Erin Griffin, Frances Patmon

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DEMENTIA CARE IN RURAL ASSISTED LIVING: AN ECOLOGICAL PERSPECTIVE

Glenise McKenzie, Juliana Cartwright, Elena Siegal

RECRUITMENT FOR A RURAL TELEHEALTH INTERVENTION ON DIABETES SELF-MANAGEMENT

Sheridan Miyamoto, Heather M. Young, Debbie Ward,
Vanessa Santillan, Stuart Henderson

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RURAL HEALTH: ADVANCING SCIENTIFIC INNOVATION ACROSS THE LIFESPAN

Overview: Rural Health: Advancing Scientific Innovation across the Lifespan

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Purpose/Aims: The purpose of this symposium is to present current research in three rural populations: adolescents, adults with diabetes, and adults with dementia living in assisted living settings. These studies each address one aspect of scientific innovation in rural health.

Rationale/Background: Health disparities in rural communities are well-documented, with rural residents experiencing higher rates of chronic illness, more poverty, less health insurance coverage, and less access to specialized and preventative services. Rural adolescent girls are at higher risk for unintended pregnancies than their urban counterparts related to lower income and education. Furthermore, access to contraceptive counseling is limited for a variety of reasons including conservative values in rural communities and lack of anonymity for adolescent girls seeking assistance. Diabetes is more prevalent in rural communities, reaching epidemic proportions in the central valley of California, particularly among Hispanic adults. Clinics are underfunded, and rarely offer specialized diabetes education and support. Finally, the prevalence of dementia continues to increase, and rural assisted living settings are a common setting for care for this population. Yet, access to geropsychiatric expertise is minimal in rural communities.

Methods: This symposium includes four presentations of research in rural communities that advances scientific innovation while addressing rural health disparities. The first evaluates the feasibility of a parenting intervention using interactive theater and a self-reflective guidebook to facilitate parent communication with adolescent children about sexuality and pregnancy prevention. The second addresses recruitment of rural participants for a diabetes intervention study using a structured rapid collaborative approach. The third evaluates the effectiveness of a telehealth intervention for diabetic adults. And the fourth explores care practices in assisted living settings related to the identification and management of dementia-related behaviors.

Implications: Together, these studies highlight innovative approaches to addressing rural health disparities in targeted populations. In addition to valuable feasibility results, they provide information about considerations for research in rural communities.

Interactive Theater to Improve Rural Parent Communication on Pregnancy Prevention

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Purpose/Aims: The purpose of this exploratory study was to evaluate the feasibility of a parenting intervention using interactive theater and a self-reflective guidebook to facilitate parent communication with adolescent children about sexuality and pregnancy prevention.

Rationale/Background: Over 80% of pregnancies to women aged 15-19 are unintended, and unintended pregnancy is associated with poor outcomes for the adolescent mother and her child. Parents, by their consistent presence throughout the adolescent years, have a significant role in the development of adolescent sexual health. Parental communication and support can play a vital role in assisting adolescent children to navigate decisions about sexuality and pregnancy prevention.

Methods: A one-group pre-test post-test design was used with a sample of twenty-six parents of adolescent children ages 12-15 from two rural counties in southwestern Oregon. The intervention used teen actors to educate parents of adolescents in an interactive community theater setting, consisting of performance and active participation. The self-reflective guidebook used take-home activities for the participant to use and practice communication skills. Descriptive data on recruitment, retention and fidelity intervention were used to assess the feasibility of this method. Acceptability and perceived benefits and deficits of the intervention were assessed with both qualitative and quantitative process evaluations. Valid and reliable measures of parental communication (self-efficacy, comfort, intention to communicate and parent-child sexual communication) were employed at baseline and at 3 month follow-up.

Results: A guidebook, show order, and script for the interactive theater performance were developed for this study. Twenty-six participants received the intervention and twenty-five were retained to three-month follow-up. Data from the feasibility study indicated that the intervention was delivered in a rehearsal and in two performances according to the script and show order. In the evaluation of the theater acceptability as an intervention to help participants talk with their adolescents about sexuality, participants rated the intervention a mean of 4.69 immediately after the performance and a mean of 4.32 at 3 month follow-up on a range from 1 meaning "Strongly Disagree" to 5 meaning "Strongly Agree" on measures of acceptability of the intervention. On follow-up, 88% of participants used information from the theater performance and 72% used information from the guidebook to talk with their adolescent. Using the Wilcoxon signed-rank test, there was also a statistically significant difference between pretest and posttest scores of communication, comfort, and self efficacy with a P value of 0.0002, 0.0348, and 0.0395 respectively. Posttest values improved for all measures, but were nonsignificant for intention scores.

Implications: Feasibility of the intervention was demonstrated as well as acceptability of the intervention by the participants. The intervention was associated with increased parental communication, comfort and self-efficacy at three month follow-up. Next steps are to test the intervention in a randomized control trial.

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RURAL HEALTH: ADVANCING SCIENTIFIC INNOVATION ACROSS THE LIFESPAN

Nurse Telehealth Coaching for Rural Diabetics: Innovation in Care

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Purpose: This study tested the benefit of nurse telehealth coaching for persons with diabetes living at home in rural communities. This model employed a person centered approach that emphasized self-management, the techniques of motivational interviewing, and telehealth technology and compared outcomes of those receiving the telehealth intervention to those receiving usual care.

Background: The incidence of diabetes in the U.S. is escalating at alarming rates. In California, the cost of health care for individuals with diabetes is estimated to be approximately $12 billion a year which includes an estimated $3.4 billion for over 300,000 diabetes-related hospitalizations. The chronic care model emphasizes self-management and encourages persons with diabetes to take an active role in improving their health. Diabetes educators and self-management programs are scarce in rural communities, where the need is often the greatest.

Methods: This study used a randomized experimental design to compare the control group receiving usual care and the intervention group receiving nurse health coaching in six rural communities. The intervention included a 2 hour orientation at the clinic, followed by a series of five phone or video contacts with participants, approximately 2 weeks apart. English- and Spanish-speaking nurses provided the coaching in the language of the participant's choice. Self-efficacy/empowerment and satisfaction with overall care (Diabetes Empowerment Scale-Short Form and Diabetes History Form from the Michigan Diabetes Research and Training Center) were assessed at baseline and post-enrollment at 16 weeks and 9-months. A multilevel modeling approach was used for all statistical analyses. Generalized linear mixed models were employed to estimate intervention effects while allowing appropriate control of explainable within-site correlations.

Findings: The sample (n=121), included 44% women. Ages were categorized in blocks and ranged between 18-25 years to the highest category, 76 years and older, with a mean age of 59 years (SD=11.47 years). Ethnic background: 38% Hispanic, 62% Caucasian, 1.6% Native American, 1% Asian, and 3.3% other. Ethnicity with more than one category checked in some instances. Highest grade completed: 8th grade or less- 16%; some high school- 12%, high school graduate or GED- 13%; some college or 2 year degree- 28%; 4 year college graduate- 20%; more than a 4-year college degree- 23%. From baseline to 9-months post enrollment, the intervention was associated with gains in five of eight indicators of self-efficacy ($p<.05$), relative to the control group. The intervention group had increased levels of satisfaction with their diabetes care from baseline to 16 weeks and baseline to 9 months ($p<.05$), relative to the control group.

Conclusion: Significant improvement in participant self-efficacy indicates a treatment effect with nurse health coaching. The increase in levels of satisfaction with care validates acceptability of coaching through home-based telehealth technology. This approach holds promise as an innovative way to improve health in rural communities by empowering individuals to work on goals to self-manage their diabetes.

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Dementia Care in Rural Assisted Living: An Ecological Perspective

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Purpose/Aims: The purpose of this study was to explore care practices in rural assisted living facilities (ALF's) related to the identification and management of dementia-related behaviors.

Background: The number of older adults with dementia who live in assisted living facilities (ALFs) is increasing. Psychological and behavioral symptoms of dementia are prevalent in ALFs and gaps in identification and management of dementia and related symptoms are associated with increased morbidity and mortality, decreased quality of life, earlier discharge to nursing home and increased costs.

Methods: A qualitative descriptive study was conducted in three rural ALF's providing dementia-specific care. Interview questions explored current facility practices and systems related to identification and management of psychological and behavioral symptoms of dementia. Because care delivery for this at-risk population is a function of individual, family, facility, community and policy factors an ecological perspective was used to guide data interpretation of 21 individual in-depth interviews.

Results: Facilitators and barriers to identifying and managing dementia-related behaviors were evident at all four levels of the ecological model: microsystem (resident, family and staff characteristics and roles), mesosystem (physical environment, documentation, resident acuity), exosystem (rural community, funding, resources) and macrosystem (regulation, workforce development, resource planning).

Implications: This study is addressing timely issues: care practices in an understudied and growing practice area (dementia care in ALF) and with underserved populations (older adults with dementia and their ALF caregivers in rural settings). The findings from this study will inform policy makers and industry leaders (including AL nurses) when addressing the challenges of enhancing the quality of care delivered to individuals with dementia in settings such as rural ALF's.

Funding: OHSU Center for Healthy Aging, Betty Gray Rural Health Development Fund.

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Recruitment for a Rural Telehealth Intervention on Diabetes Self-Management

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Background: Recruiting rural and underserved participants in behavioral health interventions has proven challenging. Community-based recruitment approaches have shown promise, but these approaches are not always feasible in multi-site, cross-regional interventions.

Purpose: This study evaluates the feasibility of a modified approach- a structured, rapid collaborative approach- to engage clinic site coordinators to recruit and engage participants, allowing for more rapid participant engagement than traditional approaches. This approach involved reaching out to communities with established ties with the investigators, meeting with providers and coordinators in each community to establish recruitment strategies and providing a financial stipend to offset cost of onsite coordination.

Methods: Adults with diabetes were recruited from rural Federally Qualified Health Center clinics. Recruitment feasibility was assessed by analyzing the site and participant recruitment process through project manager's, health coaches' notes and 8 in-depth, semi-structured interviews with clinic coordinators and champions at the conclusion of the study. Thematic analysis was used to analyze the notes and interviews.

Findings: Forty-seven rural sites were contacted to obtain the 6 sites that participated in the study, yielding 121 participants. Facilitators to site recruitment included offering site stipends, prior relationship or reputation of group initiating the project, and the opportunity to improve diabetes services. Deterrents to recruitment were HIPPA requirements hindering research staff from direct contact with potential participants. The primary facilitator for participant recruitment was the opportunity to receive nurse coaching to help manage diabetes. Deterrents to participation were lack of transportation for initial study orientation, complexity and volume of study materials in areas with low literacy rates and a distrust of research.

Conclusion: The structured, rapid collaborative approach led to quick and efficient recruitment of clinic sites and participant recruitment success in some, but not all, rural sites. The study highlights the opportunities and challenges of recruiting rural clinics and rural, underserved participants in multisite research and identifies suggestions for improving recruitment for future interventions.

Funding: The National Institute of Health American Recovery and Reinvestment Act of 2009. Grant Number: 3UL1RR024146-04S2.

SEEKING THE OBJECTIVE: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Moderator:
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OVERVIEW: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Karen A. Thomas

PROTEOMICS AS BIOMARKERS IN SLEEP DISTURBANCE

Teresa M. Ward

HEART RATE VARIABILITY AS A BIOMARKER OF AROUSAL IN INSOMNIA

Diana M. Taibi

ROLE OF SLEEP IN THE REGULATION OF APPETITE AND GLUCOSE METABOLISM

Andrea M. Landis

CORTISOL DURING SLEEP IN RESPONSE TO IMPENDING PUBLIC SPEECH IN WOMEN WITH IBS

Monica E. Jarrett, Kevin C. Cain, Robert L. Burr, Anne Poppe,
Wimon Deechakawan, Margaret Heitkemper

INDIVIDUAL VULNERABILITY TO SLEEP DISTURBANCE: GENOTYPING CLOCK GENES

Karen A. Thomas

SEEKING THE OBJECTIVE: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Overview: Biomarkers in the Measurement of Sleep Disturbance

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Inadequate sleep is a prevailing health problem affecting a substantial portion of the population and contributing to escalating health care costs. Sleep consequences are multifaceted involving varied physiologic and behavioral processes. The associations of sleep disturbance with autonomic and neuroendocrine alteration, inflammation, metabolism, and daytime functioning indicate crucial areas for health research. While sleep effects historically have focused extensively on subjective self report, the burgeoning field of biomarkers adds innovation to the study of sleep and expands appreciation of sleep effects. Biomarkers are defined by National Institutes of Health as objectively measured molecular, biological, or physical characteristics indicating physiological states, biological or pathologic processes, or effects of intervention. While biomarkers in sleep research offer tremendous promise, considerations include basic measurement principles including accuracy, precision, sensitivity, and specificity as well as auxiliary theory linking conceptual and operational measures. Further issues in sleep disturbance biomarkers involve instrument development, procedural fidelity, collection and handling of samples, replication, feasibility, cost, and analytic approaches. Biomarker measurement entails ethical concerns related to detection of unknown conditions, sharing results with subjects, and confidentiality. Further, there is mounting interest in developing biomarkers across the lifespan, particularly application of noninvasive measure in children.

Usage of biomarkers is exemplified in five methods papers addressing associations and consequences of sleep disturbance. Mounting evidence substantiates the association between sleep and metabolic processes. The biomarkers adiponectin, ghrelin, and leptin characterize appetite and glucose regulation in response to sleep alteration. Inflammation is fundamental in the pathologic effects of sleep disturbance. Proteomics offers measurement of gene protein expression providing evidence of inflammatory effects. Heart rate variability reflects autonomic nervous system regulation which is altered by sleep disturbance. Neuroendocrine effects of sleep disturbance are evidenced by cortisol, a measure of hypothalamic-pituitary-adrenal axis activity. Genotyping of clock genes, particularly PER3, reveals phenotypic variation in individual susceptibility to the effects of sleep disturbance and circadian characteristics.

Combined, these biomarkers of sleep disturbance represent future directions in the study of sleep and sleep outcomes. Such biomarkers may be employed in screening and diagnosis as well as tracking intervention effects. Such objective measures will direct attention to the health consequences of sleep disturbance and open avenues for treatment.

Funding: P30NR011400 awarded by NINR.

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SEEKING THE OBJECTIVE: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Proteomics as Biomarkers in Sleep Disturbance

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Purpose: The purpose of this symposium is to provide: 1) an overview of proteomics; 2) urine proteomics findings in pediatric sleep disordered breathing; 3) challenges and procedural considerations in collection of urine proteins.

Background: There is a critical need for cheaper, quicker, and child-friendly tools for the diagnosis of obstructive sleep apnea (OSA). Characteristics of OSA, including gas exchange abnormalities accompanied by sleep fragmentation and deprivation, open a new opportunity to identify specific biomarkers that accompany the presence of OSA. Development of noninvasive biomarkers in the urine capable of distinguishing children with primary snoring from those with obstructive sleep apnea would facilitate timely screening and diagnosis of obstructive sleep apnea in children. Urine proteomic strategies are a noninvasive approach that may permit the identification of biomarkers linked to disease etiology and pathophysiologic mechanisms that reliably screen for obstructive sleep apnea.

Methods: Proteomics involves the analysis of cellular proteins with mass spectrometry based techniques, image analysis, amino acid sequencing, or reverse-phase protein array to identify and quantify a large number of proteins. Two popular methods of protein quantification include one or two dimensional gel electrophoresis with mass spectrometry that separate protein spot intensities on gels, and shotgun proteomics that involves a mixture of proteins digested into peptides that are analyzed by mass spectrometry to identify the proteins from which they were derived.

Implications: Advances in mass spectrometry have allowed researchers to identify low and high abundant proteins in complex mixtures. In spite of the development of shotgun proteomic approaches, comprehensive proteome coverage remains a challenge due to the expense of assays, variability among urine samples and composition (pH, creatinine concentrations), diet, and exercise. As a result there is continual research into improved methods for separation of peptides, mass spectrometry systems and data analysis tools. Many promising biomarker candidates in pediatric sleep research (uromodulin, urocortin, kalikretin) are in the "discovery" stage and still need verification with follow up studies. Advances in proteomic biomarkers provide new opportunities to conduct research studies with banked and fresh urine to benefit diagnosis, respond to therapeutic interventions, and evaluate outcomes in sleep disorder research.

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SEEKING THE OBJECTIVE: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Heart Rate Variability as a Biomarker of Arousal in Insomnia

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Overview: Insomnia is a major public health problem, affecting an estimated 15% or more of the U.S. population. In recent years, research has provided growing support for the contribution of physiological factors, in addition to well-understood cognitive and behavioral factors, in the onset and perpetuation of insomnia. Evidence implicates *physiological hyperarousal* processes, both in the central nervous system and in the periphery, as contributors to the severity and chronicity of insomnia. It is also hypothesized that pre-existing, dispositional arousal may contribute to the risk for developing insomnia. This presentation will review heart rate variability as a biomarker of peripheral arousal in persons with chronic insomnia.

HRV as a Biomarker: Heart rate variability (HRV) refers to various computed outcomes used to quantify the time interval in between heart beats as well as beat-to-beat changes in this interval. Physiological studies show that high variability of the inter-beat interval (IBI) generally corresponds to parasympathetic nervous system (PSNS) activity and low variability of the IBI generally corresponds to sympathetic nervous system (SNS) activity. This is attributed to differences in the mechanisms of heart rate modulation; PSNS exerts cardiac effects directly via vagal efferents, resulting in quick changes (high variability). In particular, respiration causes immediate variability of heart rate (respiratory sinus arrhythmia) via vagal stimulation. The SNS exerts cardiac effects through hormonal mechanisms resulting in slow, persisting changes (low variability). Although it is accepted that high frequency heart rate changes reflect PSNS activity, low frequency changes do not reflect pure SNS activity but rather the relative balance of SNS and PSNS activity. Therefore, increased levels of low frequency variability could be related to increased SNS activity, reduced PSNS activity, or some combination of the two.

Measurement of HRV: HRV outcomes are calculated from electrocardiographic data. Outcomes may characterize the frequency domain or the time domain. Frequency domain outcomes quantify the relative occurrence of often high-frequency versus low-frequency variation in the IBI and are typically calculated using power spectral density. Time domain outcomes also quantify overall variability in the IBI, but are based in standard statistical calculations (e.g., standard deviation) versus frequency analysis.

HRV and Insomnia: Examination of heart rate data in persons with insomnia has shown higher overall heart rate, along with some evidence of reduced low-frequency and increased high-frequency HRV. This evidence suggests overactive SNS, but clinical implications remain unclear and more research is needed.

Implications: The relationship of peripheral arousal, as evidenced by HRV, to insomnia influences both the theoretical understanding of insomnia and its treatment. Current models of chronic insomnia strongly emphasize the contributions of maladaptive cognitive and behavioral factors, but physiological influence of arousal may also need to be incorporated into etiologic and treatment models. Peripheral arousal mechanisms may be related to risk of insomnia, progression from acute to chronic insomnia, and/or risk of negative health consequences from chronic insomnia such as hypertension. Thus, evidence of peripheral arousal on HRV outcomes may support reduction of arousal (i.e., SNS activity) as an important treatment target in insomnia.

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SEEKING THE OBJECTIVE: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Role of Sleep in the Regulation of Appetite and Glucose Metabolism

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Purpose/Background: The prevalence of adolescent obesity has increased worldwide. One modifiable risk factor that has received little attention is quantity of sleep. Sleep loss has become a common behavior across the lifespan in modern society. Cumulative evidence suggests a dose-response relationship between short sleep duration and high body mass index (BMI) has been reported across all age groups. How sleep loss may interact with body weight is unknown, but the circadian rhythmicity of the hormones regulating appetite and energy expenditure may be involved. A number of hormones may mediate the interactions between short sleep duration, glucose metabolism, and high BMI. Two key opposing hormones in appetite regulation, leptin and ghrelin, play a significant role in the interaction between short sleep duration and high BMI. Leptin is an adipocyte-derived hormone that suppresses appetite. Ghrelin is predominantly a stomach-derived peptide that stimulates appetite. Other mediators of metabolism that may contribute include adiponectin and insulin. Adiponectin is a novel hormone secreted by adipocytes and is associated with insulin sensitivity.

Methods/Results: To substantiate the association between sleep and metabolic processes in adults and children, fasting (to control hormone fluctuations after food ingestion) blood samples are taken in the morning and stored at -80 C until assayed. For children, local anesthetic cream may be applied to the cubital fossa prior to blood draw. Similarly, overnight urinary collection may be a less-invasive option for children. Leptin and insulin are determined using enzyme-linked immunoassays (ELISA). Total ghrelin (which mainly reflects unacylated or inactive ghrelin levels) and adiponectin are measured by radioimmunoassay. To interpret the assay results, standard curves are plotted using software which can perform four-parameter logistic regression models. Coefficients of variability (CV) should be noted for each assay performed. It is important to understand that leptin circulates at levels proportional to body fat or BMI (possible confounding factors). Profiles of homeostatic model assessment (HOMA) levels, an index of insulin resistance directly proportional to the product of fasting insulin-glucose, are measured with higher values suggesting low insulin sensitivity. Previous studies in adults suggest that major neuroendocrine and metabolic alterations associated with sleep loss are upregulation of appetite, with lower leptin and higher ghrelin levels, leading to increased hunger (especially for high carbohydrate foods) and an abnormal disturbance of glucose regulation that involves decreased insulin sensitivity (elevated HOMA levels), possibly mediating weight gain.

Implications: Mounting evidence suggests that sleep loss, a behavior that is specific to humans and appears to have become more prevalent during the past few decades, may increase the risk of obesity and type 2 diabetes mellitus (T2DM). Furthermore, the biological mechanisms underlying these adverse effects of sleep loss remain to be identified, especially in children, and are likely to be multifactorial. The measurement of appetite-regulating hormones and glucose metabolism biomarkers are critical for 1) understanding potential mechanisms among sleep loss, obesity, and T2DM, 2) identifying individuals at greatest risk for obesity and metabolic disorders, and 3) designing interventions to provide primary prevention or early intervention for improved sleep and health outcomes.

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SEEKING THE OBJECTIVE: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Cortisol during Sleep in Response to Impending Public Speech in Women with IBS

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Purpose: The purpose of this analysis was to compare cortisol levels over the night before a public speaking task in women with irritable bowel syndrome (IBS) compared to a healthy comparison (HC) group, and to evaluate the association between cortisol and sleep quality.

Methods: Forty women with IBS and 24 HC women gave written consent and completed questionnaires (Pittsburg Sleep Quality Index [PSQI]) at the initial visit. Women slept for three nights in a sleep laboratory. On the third night serial blood samples for cortisol were collected every 20 minutes (8 PM – 7 AM). Immediately prior to bedtime, women were reminded that the next morning they would give a brief talk on their experiences to an audience. Plasma cortisol levels were assayed with an Immulite kit for serum cortisol (Siemens, Deerfield, IL). The next morning, they self-reported the quality of sleep relative to their typical sleep at home. For the analysis, cortisol levels were collapsed into one hour blocks.

Results: High cortisol in the 2 hours prior to and the first 2 hours after the onset of sleep is associated with worse sleep efficiency (p-values .010 to .052) and weakly associated with poor sleep quality by PSQI over the prior month (p-values .099 to .244). Paradoxically, we found that higher cortisol was associated with better sleep as self-reported on the morning after the third sleep lab night (p-values .001 to .016).

Conclusion: Women with IBS had higher cortisol levels compared to HC. The association between cortisol and sleep quality is complicated, and depends on how sleep quality is measured. These results may be due to differences in reactivity to stressors, an IV line and public speaking.

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SEEKING THE OBJECTIVE: BIOMARKERS IN THE MEASUREMENT OF SLEEP DISTURBANCE

Individual Vulnerability to Sleep Disturbance: Genotyping Clock Genes

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Purpose/Background: Phenotypic variation among the genes that govern sleep homeostasis and circadian rhythm is the basis for individual differences in sleep-wake pattern, sleep requirement, and responses to sleep disturbance. Clock genes regulate the activity of the superior chiasmatic nucleus, the central pacemaker for circadian rhythm, and are implicated in sleep homeostasis. PER3, a clock gene and member of the PERIOD gene family, has been identified as a genetic marker for individual differences in vulnerability to sleep disturbance. PER3 exhibits a variable number tandem repeat (VNTR) polymorphism involving 4 to 5 repeats of a 54-nucleotide segment: $PER3^{5/5}$, $PER3^{4/5}$, and $PER3^{4/4}$. PER3 polymorphisms are associated with phenotypic variations in sleep-wake pattern and chronotype such as diurnal preference, rigidity of circadian control, and sleep homeostasis pressure defined as increased need for sleep with increasing length of the wake period. The PER3 genotype is also related with cognitive response to sleep deprivation including working memory tasks, brain activation, and executive function. Thus the genotype for PER3 as well as additional clock genes appear to influence factors contributing to daytime functioning and tolerance for sleep disturbance; however, currently there is limited research connecting clock gene genotype with biomarkers for obesity, inflammation, neuroendocrine, and other outcomes.

Method: Genotype sampling may involve blood or buccal swab specimens. While blood samples are more efficacious, buccal swab samples have higher subject acceptability and are generally acceptable. Genotyping for PER3 using buccal swab samples requires specialized laboratory settings and attention to collection and handling of samples including reduction of food contaminants and freezer storage. Procedural descriptions should include approach to DNA extraction, polymerase chain reaction (PCR) primers, and DNA band size as well as security measures for human genetic materials. Sample collection procedures for buccal samples are well suited to research across the lifespan.

Implications: Genetic makeup is a central component of person-environment fit. Environmental demands altering sleep pattern produce differential effects based on PER3 and other clock gene genotypes. A genetic predisposition to adverse effects of sleep disruption is particularly relevant when considering the interaction of individuals with differing sleep patterns, such as couples or family units. Vulnerability to sleep disturbance is not only a foundation for understanding adverse outcomes to sleep disruption but also the basis for individualized intervention.

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STARTING A DEPARTMENT OF DEFENSE-FUNDED RESEARCH PROJECT

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OVERVIEW: IMPLEMENTING DEPARTMENT OF DEFENSE (DOD)-FUNDED RESEARCH

Barbara St. Pierre Schneider

NEW STRATEGIES FOR TIMELY COMMUNICATION AND DOCUMENTATION OF DOD-FUNDED RESEARCH

Barbara St. Pierre Schneider, Nadia Deashinta

MANAGING DOD-FUNDED RESEARCH

Kirsten Speck, Barbara St. Pierre Schneider

DEVELOPING A RESEARCH SUBJECT APPROVAL PLAN FOR DOD-FUNDED RESEARCH

Georgina Dobek, Barbara St. Pierre Schneider

A SUBCONTRACT COLLABORATION PLAN FOR DOD-FUNDED RESEARCH

Joachim Voss, Barbara St. Pierre Schneider

STARTING A DEPARTMENT OF DEFENSE-FUNDED RESEARCH PROJECT

Overview: Implementing Department of Defense (DOD)-Funded Research

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In 2011, the Congressionally Directed Medical Research Programs offered $400 million to support research in 14 health-related areas, including autism, cancer, and multiple sclerosis. Additionally, the Air Force Medical Support Agency (AFMSA)/ Modernization Directorate announced $49.5 million to fund 10-20 projects focused on one of five areas: (a) force health protection; (b) enroute care; (c) operational medicine; (d) expeditionary medicine; and (e) human performance. This funding portfolio suggests that the DOD offers viable funding opportunities for nursing research.

However, DOD-funded research is structured differently than most funding agencies, including the National Institutes of Health. For the DOD, the research proposal is written as a statement of work. The research timeline is organized into milestones and deliverables, with specific expected dates of completion assigned to both. Progress is reported through regular reports and program reviews.

Therefore, the objectives of this symposium are two-fold: to (a) discuss developing a DOD research proposal; and (b) share our experience of implementing a DOD-funded project. This overview will discuss the development of a DOD research proposal. Each of the four presentations will describe a different project initiated to implement the research**.** The first project focuses on the implementation of organizational and team-building strategies and tools. The second project concentrates on the development of a research subject approval plan within the DOD system. The third project discusses strategies for timely communication and documentation to the DOD. Lastly, the fourth project describes the creation of a plan for establishing a subcontract collaboration.

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STARTING A DEPARTMENT OF DEFENSE-FUNDED RESEARCH PROJECT

New Strategies for Timely Communication and Documentation of DOD-Funded Research

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Purpose: The purpose of this project was to create a plan for implementing strategies for timely communication and documentation of Department of Defense (DOD)-funded research within the team.

Background: The DOD requires a detailed timeline and deadlines to be met. Additionally, the DOD expects monthly or quarterly reports and biannual formal presentations. Therefore, timely communication and documentation about the science within the research team is needed. The traditional approach to timely communication and documentation is to hold regular face-to-face meetings. However, for complex research with a 7-member local team, these meetings can be long, tiring, or ineffective in covering topics. Therefore, an alternative plan was devised to ensure timely communication and documentation without delaying the completion of research tasks.

Approach: The team identified research information needing and not needing action or notice. Then the team allocated information not needing immediate action to a web-based forum. A forum with email notification to the entire team was created for each research milestone. Conversely, information that needed immediate action or notice was allocated to email or weekly face-to-face meetings, depending on the urgency of the issue. To keep the weekly meetings to a 2-hourr-time period, the team developed a milestone checklist. This checklist lists the milestone tasks with their projected date of completion and the responsible person/s.

Outcomes Achieved: The use of the web-based forum has helped to avoid lengthly weekly meetings, track and update the team on research-related issues, communicate and permanently document unanticipated events, and organize information for future reports, site visits, or other deliverables. The weekly meetings with milestone checklists as the focus have helped to understand the nature and sequence of the scientific tasks, avoid lengthy meetings, and prevent the omission of critical tasks.

Conclusion: The strictness of the timeline of DOD-funded research requires a diverse timely communication and documentation plan so that the team is continuously well-informed. Research-focused doctoral student training will be enhanced if this training includes the use of strategies to stay on track with a research project.

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STARTING A DEPARTMENT OF DEFENSE-FUNDED RESEARCH PROJECT

Managing DOD-Funded Research

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Purpose: The purpose of this project was to integrate organization and team-building strategies and tools into a Department of Defense (DOD)-funded research project.
Background: To investigate the estrogen effects after a crush muscle injury and acute exposure to hypobaric hypoxia, a highly skilled research team of 10 individuals was created. DOD-funded research is structured such that certain dates (milestones and deliverables) are identified at the start of the project for completing specific research activities. The DOD requires frequent communication and notification for all milestones and deliverables when items are accomplished by sending a report via e-mail specifying developments that have a significant impact on award-supported activity. To ensure that this large research team stays on track with DOD expectations, organizational strategies and team-building activities were integrated into the research.
Approach: Once these resources were identified, organizational strategies were implemented. For example, the team adopted a web-based project management software system to (a) list tasks for each milestone, (b) store project documents by milestone, and (c) automatically e-mail the team about meetings. Team-building strategies that were initiated included (a) creating team norms, (b) applying Lencioni's Five Dysfunctions of a Team, (c) training on team communication, and (d) celebrating mini milestones.
Outcomes Achieved: Incorporating organizational strategies has aided in the completion of milestones and deliverables in a timely manner. Holding frequent team-building activities has assisted with role clarification and created an environment of clear communication and candor amongst team members.
Conclusion: Management of DOD-funded research is complicated, but different organizational strategies can aid in keeping the project on schedule. Continual team-building activities will foster effective communication and ensure that all team members are focused on the milestones and deliverables. Additionally, the training of research-focused doctoral students will be enriched by incorporating content on organizational strategies and team-building activities.

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STARTING A DEPARTMENT OF DEFENSE-FUNDED RESEARCH PROJECT

Developing a Research Subject Approval Plan for DOD-Funded Research

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Purpose: The project's purpose was to develop a plan for obtaining research subject protection for Department of Defense (DOD)-funded research in a timely manner.

Background: Although the DOD requires institutional assurances, this U.S. government entity often performs a secondary research subject protection review of its funded research. Approval from the DOD Institutional Animal Care and Use Committee (IACUC) requires a site visit and additional detail on subjects including training, veterinary care, and husbandry. Before conducting research with human research subjects, approval from the DOD Institutional Review Board (IRB) is required, including additional policies mandated from each branch of the DOD.

Approach: As one of the deliverables of the project, we developed a plan to obtain research subject approval. To accomplish this task, we identified reasonable approval dates for both IACUC committees, employed a doctor of veterinary medicine with laboratory animal medicine and IACUC experience, ensured consistency between the institution and DOD protocols, became familiar with the information needed by both committees, and established strong rapport among both committees and the research team.

Outcomes Achieved: The research team received timely approval of the IACUC protocols in order to meet the established milestones and deliverables.

Conclusion: Research teams should consider the added time and effort necessary for IACUC and IRB protocol development and review by two committees. Because of the emphasis placed on training by the DOD, research-focused doctoral programs should include content about training a research team in the curriculum. These recommendations will provide a better knowledge of the process of research subject approval and aid those interested in undertaking DOD-funded research.

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STARTING A DEPARTMENT OF DEFENSE-FUNDED RESEARCH PROJECT

A Subcontract Collaboration Plan for DOD-Funded Research

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Purpose: The purpose of this project was to create a subcontract collaboration plan for Department of Defense (DOD)-funded research.

Background: Multisite collaboration is often needed in multimillion-dollar research because the research question involves multiple, highly technical skills. As with most funding agencies, DOD will allow this collaboration as long as the research milestones and deliverables are met according to the established timeline. Because of the DOD's strict expectations regarding deliverables and the large subcontract budget, a plan was created for establishing a subcontract collaboration.

Approach: The subcontract collaboration plan occurred in three phases. During the initial discussion phase, meetings between the principal investigator and subcontractor were held to review the study and budget and identify proposal expectations for the subcontractor. The principal investigator and subcontractor also independently prepared their own team for this multisite collaboration. The next phase consisted of subcontract collaboration formalization. During this phase, the Air Force contracting officer explained administrative, dissemination, financial, and reporting expectations for the principal investigator and subcontractor. After this explanation, the collaboration phase began. In this phase, the two teams initiated strategies to perform the research in a timely manner, communicate about the research, and handle budget issues.

Outcomes Achieved: The subcontract collaboration plan has led to three major outcomes. The primary outcome is the timely completion of research milestones and deliverables within the estimated budget. Secondary outcomes are (a) an expansion of the scientific base in the area of inquiry and (b) advanced experience by the subcontract team in the area of inquiry.

Conclusion: A subcontract collaboration provides additional technical expertise to research. A plan that supports this collaboration ensures that this technical expertise effectively and timely contributes to the research. Research-focused doctoral student training will be enhanced if this training provides instruction on the value of a subcontract collaboration and the development of a subcontract collaboration plan.

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STORYTELLING: AN INNOVATIVE APPROACH TO STRENGTHENING NURSING RESEARCH AND PRACTICE

Moderator:
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OVERVIEW: STORYTELLING: AN INNOVATIVE APPROACH TO STRENGTHENING NURSING RESEARCH AND PRACTICE

Janelle F. Palacios

SHARING STORIES: EMBODIED MEANINGS OF EARLY CHILDBEARING AMONG AMERICAN INDIAN WOMEN

Janelle F. Palacios

AMERICAN INDIAN CANCER SURVIVORS AND STORYTELLING

Felicia Schanche Hodge

HER-STORY: DEVELOPING AN HIV STORYTELLING INTERVENTION FOR AFRICAN AMERICAN WOMEN

Ann K. Anaebere

STORYTELLING AS A METHOD AND INTERVENTION WITH VULNERABLE POPULATIONS

Cynthia R. Albarrán

SCHUTZ AND STORYTELLING: AN INTERPRETIVE FRAMEWORK

Teodocia M. Hayes-Bautista

STORYTELLING: AN INNOVATIVE APPROACH TO STRENGTHENING NURSING RESEARCH AND PRACTICE

Overview: Storytelling: An Innovative Approach to Strengthening Nursing Research and Practice

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Purpose: To present a collection of nursing scholarship wherein the concept of storytelling, contextualized by culture, is explored both as a method for data collection and an intervention among three vulnerable populations: American Indian (AI) women who were teen mothers; AI cancer survivors and HIV/AIDS prevention among African American (AA) women.

Rationale: Storytelling is a basic cultural phenomenon and recently has been recognized by science as a valuable method for collecting data and creating interventions. Understanding a basis for shared meaning is central to understanding storytelling, and can lead to the nurse researcher creating meaningful and culturally effective methods for data collection and interventions with an emphasis on improving health behaviors.

Methods: Employing the Walker and Avant method of concept analysis, storytelling is first explored among health research, law, education, linguistics, anthropology, and creative arts. In particular, research conducted primarily with American Indian and African American populations are explored. An interpretive framework for understanding shared meaning created by Alfred Schutz is presented as a philosophically-informed theoretical basis for the method of storytelling in nursing science. Interpretive phenomenology elicits American Indian women's stories of early childbearing. Grounded Theory both provides a route to identifying the value and use of storytelling among American Indian cancer survivors, and explores themes and contexts related to sexual decision-making among urban African American women.

Results: Vulnerable populations have increased poor health outcomes and risky behaviors. Methods that engage these populations in culturally appropriate manners are needed to help improve health. Storytelling is one such method that when ground within a culturally appropriate milieu has potential for effecting positive health behavior changes.

Implications: Both nursing research and practice can benefit from the use of storytelling as a method to elicit rich data and as an intervention to reduce risky behaviors among vulnerable populations.

Funding: Funding is gratefully acknowledged by the following sources: NIH/NINR T32 NR007077 Vulnerable Populations and Health Disparities Research Training Grant, NIH/NINR NRSA Grant F31 NR009627, NIH/NIGMS Biomedical Sciences Research Fellowship #1 R25 GM56847, and NCI/NIH R01 CA115358.

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Sharing Stories: Embodied Meanings of Early Childbearing among American Indian Women

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Purpose: The purpose of this presentation is to describe the findings from a qualitative interpretive phenomenological study that aimed to understand the lived experience of early childbearing or teen pregnancy among adult American Indian women, with a particular focus on the meaning of early childbearing.

Background: Early childbearing among American Indian women is common and despite a decrease in teen pregnancy for the general population since 1991, early childbearing continues to rise among Native women. In addition to higher substance rate use, these women are at greater risk for poor perinatal outcomes such as gestational diabetes, gestational hypertension and preterm deliveries than the general population. Little is known about the early childbearing experiences among American Indian women and how their lives are affected.

Method: A convenience sample, comprised of 30 self-identified American Indian adult women aged 18 and older, was recruited from a Northwestern tribe and interviewed according to a semi-structured interview guide. Interviews were digitally recorded and transcribed verbatim. Interpretive phenomenology, as presented by Benner, with the use of thematic analysis, exemplars and paradigm cases was used to identify themes. All interviews, field notes and interpretive memos were transcribed and imported into Atlas.ti, a qualitative software program that aids in coding, organization, interpretation and thematic analysis. Each interview was repeatedly read for a global understanding and a summary was written to create a paradigm case. Similarities and comparisons were made across paradigm cases by means of thematic analysis, a tool to help identify meaningful patterns and concerns. Finally, exemplars were selected to demonstrate a particular salient situation or meaning.

Results: The findings are contextualized within each woman's life world, or *lebenseweldt*, which includes the shared experience of growing up as a woman on a reservation. Three overarching themes were identified from women's stories: mourning a lost childhood, seeking fulfillment, and embodying responsibility. Women indicated that despite their tumultuous childhoods, early childbearing presented an opportunity to carve out new roles and embrace distinctive positive actions. Many women expressed that for without becoming pregnant early, their lives would have been set upon destructive paths.

Nursing Implications: Understanding begins with listening, and listening to one's story can yield much information to help nurses and clinicians effect change. Nurses and clinicians are uniquely positioned to support positive changes and healthy behaviors by helping these women identify and end their risky behaviors which may help improve parenting practices, in addition to preventing and delaying early childbearing.

Funding: NIH/NINR NRSA Grant F31 NR009627, NIH/NIGMS Biomedical Sciences Research Fellowship #1 R25 GM56847, and the NIH/NINR T32 NR007077 Vulnerable Populations and Health Disparities Research Training Grant.

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STORYTELLING: AN INNOVATIVE APPROACH TO STRENGTHENING NURSING RESEARCH AND PRACTICE

American Indian Cancer Survivors and Storytelling

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Purpose: This paper explores the use of storytelling as a data collection method among American Indian cancer survivors enrolled in a study of the management of cancer-related symptoms. How taboo topics are handled by researchers may have significant consequences for the on-going sharing of information by American Indian research participants.

Background: Cancer is rapidly becoming diagnosed in American Indian communities. To better understand the cancer phenomena, storytelling was used as a method to gather information on the cultural constructs of cancer and cancer-related symptom management in pain, depression, fatigue and loss of function. We explore taboo topics, learn how to respond to them, and explore approaches, successes and lessons learned.

Method: One-hundred and twenty six (126) American Indian adult cancer survivors participated in focus groups and 20 were interviewed separately when they arrived at an Arizona hospital for treatment or for provider appointment in 2009-10. Focus groups and interviews (as storytelling) were audio taped and transcribed verbatim. Transcriptions were analyzed independently by three project researchers. Identified common themes were coded and formed into categories following Grounded Theory analytical procedures. Relationships between categories were analyzed.

Results: American Indian cancer survivors recounted their experiences and difficulties in talking with healthcare providers during cancer treatment. In general, providers came across as: too direct, not compassionate, unlikely to provide more in depth information, did not listen to/or believe patient report of symptoms (i.e. pain). In addition, while taboos appear to impact elders the most, younger generations are also influenced by community traditions/beliefs. Four categories of information were identified explaining the value and the use of storytelling: oral tradition, pedagogical method, control, culturally sensitive imparting of information.

Implications: Identifying and understanding the cultural constructs of cancer symptom management will aid nurses in providing cancer symptom management and support to American Indian cancer survivors. Storytelling gives the survivor a method for illustrating the cancer experience, describing pain and communicating healthcare needs. Storytelling also aids the nurse in describing the potential consequences of behaviors and invites the listener to reflect on personal behaviors. It grounds history, relationships, and situations and provides information that may not be obtainable in any other fashion.

Funding: This research was supported by a grant from the National Cancer Institute, NIH, R01 CA115358.

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STORYTELLING: AN INNOVATIVE APPROACH TO STRENGTHENING NURSING RESEARCH AND PRACTICE

HER-Story: Developing an HIV Storytelling Intervention for African American Women

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Purpose/Aims: Prior qualitative research assessing the factors that influenced African -American women's sexual decision making patterns identified story telling as a tool for supporting HIV prevention knowledge and risk reduction strategies among African American women. In this presentation, we describe the process involved in formulating narratives to be used in a proposed HER-Story intervention.

Background: The rate of HIV/AIDS diagnosis for African American women is now approximately 23 times the rate of their white female counterparts and is consistently rising among African American women between the ages of 18-39. Intervention studies to date have primarily focused on exploring the causes of high risk sexual behaviors among African American women. However, understanding the factors that have contributed to African American woman's risk for HIV acquisition is only a portion of the solution. Recent research findings have emphasized the importance of understanding the sexual decision-making patterns of heterosexual African American women. Storytelling may be key as women interviewed via qualitative methodology verbalized that stories and scenarios about HIV risk and safety shared by media programs, friends (peers) and via health educators provided positive sexual health information that increased their knowledge about HIV prevention and decreased episodes for engaging in risky sexual behaviors. The developed HER-Story intervention seeks to increase HIV knowledge and reduce HIV sexual risk behaviors through the use of storytelling.

Methods: A qualitative study design using a grounded theory approach was used to explore themes and contexts related to sexual decision-making among 14 urban African American women ages 18-30 in Los Angeles County. The framework that guided this research was the Transcultural Nursing Theory. This theory provided a useful conceptual lens that allowed for the unique exploration of the stories of African American women and aided in an examination of how various cultural factors impact their sexual behaviors. Semi-structured interviews were used for data collection. A content analysis was additionally done to identify the most common themes from the data collected.

Findings: Forty-eight narrative themes were identified from the 14 interviews. The most repeated themes were organized and ranked from most to least frequently occurring using a frequency matrix. The top 10-20 themes exclusively grouped examined the following factors: 1) condom use, 2) sex partner selection behaviors, and 3) sexual risk were included in the six stories developed for use in the HER-Story intervention. The six stories developed were finalized by an expert panel.

Implications: Current efforts to curb HIV/AIDS for African American heterosexual women from urban communities have not been efficacious. The narratives developed for the HER-Story project can provide insights into how the cultural realities of African American women can be addressed and incorporated in HIV prevention programming.

Funding: NIH/NINR T32 NR007077 Health Disparities and Vulnerable Populations Research Training Program.

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STORYTELLING: AN INNOVATIVE APPROACH TO STRENGTHENING NURSING RESEARCH AND PRACTICE

Storytelling as a Method and Intervention with Vulnerable Populations

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Purpose: To analyze the concept of storytelling and present it as both a method for data collection and as an intervention for illness prevention with vulnerable populations, using research examples of storytelling with adolescent American Indian mothers, American Indian cancer survivors, and African American women as risk for HIV/AIDS.

Definition of the Concept: The origins of storytelling date back to what historians, archeologists, and anthropologists know about the primitive beginnings of humankind: from etchings on the walls of caves, to oral traditions passed down through generations, to the Ancient Greek and Roman myths. Today, storytelling is a process that is being adopted for use as a cultural tool to motivate vulnerable groups towards healthier behavior. As a part of science, storytelling is used in qualitative research methods to elicit narratives that give insight into lived experiences, perceptions, and decision-making. Used around the world and across disciplines, storytelling serves universal human needs by making sense of the world and giving examples of how humans problem solve and overcome challenges.

Concept Analysis Approach: The Walker and Avant (1995) method of concept analysis was used. The health sciences (including nursing, medicine, psychology, and social work) literature was searched using PubMed, CINAHL, and PsycINFO to locate articles using the term "storytelling" in the abstract in the past 10 years. In addition, other literature including law, linguistics, anthropology, and the creative arts was searched to find additional understandings of the concept of storytelling. The antecedents, defining attributes, empirical referents, and consequences of the concept were explored.

Logic Linking the Concept to Practice: Storytelling has historically served to preserve tradition, to teach morality, to reaffirm culture and identity, and to guide rules and norms of behavior. Storytelling can also have the emancipatory function of validating and affirming one's experience and providing catharsis through sharing life events in story form. Both of these purposes serve nursing research and practice, as researchers seek to understand the world and practitioners work to improve health outcomes and risky behaviors that are influenced by cultural and societal norms. Storytelling can be used to shed light into the meaning of early childbearing for American Indian women. It can also be used to collect data from American Indian cancer survivors that may not be obtainable by any other fashion. Finally, storytelling can be used as an intervention for HIV risk reduction among African American women.

Conclusion: Both nursing research and practice can benefit from the use of storytelling as a method to elicit rich data and as an intervention to reduce risky behaviors. Storytelling is an innovative strategy for use among vulnerable populations, including adolescent American Indian mothers, American Indian cancer survivors, and African American women at risk for HIV/AIDS.

Funding: NIH/NINR T32 NR007077 Health Disparities and Vulnerable Populations Research Training Program.

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STORYTELLING: AN INNOVATIVE APPROACH TO STRENGTHENING NURSING RESEARCH AND PRACTICE

Schutz and Storytelling: An Interpretive Framework

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Purpose: Nurse scientists using a storytelling intervention when working with different social and cultural groups need to understand the process by which shared meaning is developed within a group. This paper presents a framework for understanding how a group creates shared meaning, and how nurse researchers can create meaningful and culturally- effective storytelling interventions. The three different studies in this paper that utilized storytelling with vulnerable populations are: 1.) "Utilizing traditional storytelling to promote wellness in American Indian communities"; 2.) "Sharing stories: Embodied meanings of early childbearing among Native American women"; and 3.) "Her-story: Developing an HIV storytelling intervention for African American women."

Schutz and the Creation of Meaning in a Group: The philosopher and psychologist Alfred Schutz (1899-1959) was a key figure of phenomenology, and focused on the ways in which humans engage socially to create meaning. In his view, an individual is socialized into a group and taught to recognize and interpret certain experiences as the familiar, ordinary and predictable "common sense life" of the group. From childhood to adulthood and throughout their lives, individuals create a common-sense life, the texture of which is made from the vast number of "recipes" accumulated to understand a group's shared experiences, and that allows different members to identify the "unusual" as it arises against the background of the familiar. Schutz described humans as individuals existing within a particular social structure that has taught them to typify that which is ordinary and familiar into "stocks of knowledge" that are accessible to all and help them interpret what they encounter in the world; thereby infusing it with meaning. Schutz provides a philosophically-informed theoretical basis for the method of "storytelling" in nursing science.

Linking Theory to Practice: As nurse scientists engage in the creation of stories that might serve as educational interventions, we must imaginatively identify with our patients to view a situation, which they may face, as they themselves might view it. Then, we need to infuse similar emotions, attitudes, and purpose into the situation and offer an explanation of overt behaviors. To accomplish this we must share a particular "stock of knowledge" with our patients and we must have insight into the biographical situation that each member of the patient-audience might possess. Cultural competency is, as a result, built into the created story that takes place on a field of shared meanings with relevant structures, where the members of the audience and we, live, act and think.

Conclusions: Storytelling in nursing science can benefit from an understanding of Schutz's concept of socially created meaning. With this, Schutz's concepts may be used to reframe nursing science interventions to be compatible with the "daily stock of knowledge" of a particular social group of patients to increase meaning and effectiveness.

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SYMPTOM CLUSTERS DURING THE MENOPAUSAL TRANSITION AND POSTMENOPAUSE: FROM IDENTIFICATION TO THERAPEUTICS

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OVERVIEW: SYMPTOM CLUSTERS DURING PERIMENOPAUSE: IDENTIFICATION TO THERAPEUTICS

Nancy Fugate Woods

SYMPTOM CLUSTERS DURING THE MENOPAUSAL TRANSITION AND EARLY POSTMENOPAUSE

Lori Cray, Ellen Sullivan Mitchell, Nancy Fugate Woods

BLACK COHOSH FOR HOT FLASHES AND ASSOCIATED SYMPTOMS: EVIDENCE FROM A SYSTEMATIC REVIEW

Rita Ismail, Ellen Sullivan Mitchell, Nancy Fugate Woods

ACUPUNCTURE FOR HOT FLASHES AND ASSOCIATED SYMPTOMS: EVIDENCE FROM A SYSTEMATIC REVIEW

Lisa Taylor-Swanson, Nancy Fugate Woods, Ellen Sullivan Mitchell

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SOY FOR HOT FLASHES AND ASSOCIATED SYMPTOMS: EVIDENCE FROM A SYSTEMATIC REVIEW

Annette Thomas, Nancy Fugate Woods, Ellen Sullivan Mitchell

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SYMPTOM CLUSTERS DURING THE MENOPAUSAL TRANSITION AND POSTMENOPAUSE: FROM IDENTIFICATION TO THERAPEUTICS

Overview: Symptom Clusters during Perimenopause: Identification to Therapeutics

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Although most menopause research on therapeutics focuses on a single symptom, typically hot flashes, most women experience multiple symptoms. The purpose of this symposium is to report results of a multi-method approach to studying symptoms clusters and therapeutics for multiple symptoms during the menopausal transition and early postmenopause. In this symposium we will:

1) Propose a model guiding research about symptom clusters during the menopausal transition and early postmenopause;

2) Describe methods for conducting systematic reviews of non-pharmacologic therapies for multiple-symptom outcomes;

3) Report results of latent class analysis to identify prevalent symptom clusters spanning the period from late reproductive aging through early postmenopause;

4) Examine results of systematic reviews of acupuncture, soy and isoflavone preparations, and black cohosh preparations for managing symptoms of hot flashes and at least one additional symptom, including mood, sleep, pain, and cognitive symptoms.

The symposium will reveal a synthesis of results of multiple components of a research program blending empirical evidence from latent class analysis to identify symptom clusters from the late reproductive stage of reproductive aging through the early postmenopause with systematic reviews of studies of nonpharmacologic therapies for multiple symptoms.

Funding: This work was supported by grants from the National Institute of Nursing Research (NINR 1R21NR012218-01 Menopause Symptom Clusters: Refocusing Therapeutics; NR 04141 - Menopausal Transition: Biobehavioral Dimensions; P30 NR 04001, P50-NR02323 – Center for Women's Health and Gender Research).

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SYMPTOM CLUSTERS DURING THE MENOPAUSAL TRANSITION AND POSTMENOPAUSE: FROM IDENTIFICATION TO THERAPEUTICS

Symptom Clusters during the Menopausal Transition and Early Postmenopause

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Purposes: Identify symptom clusters that characterize women's experiences through the late reproductive stage, the menopausal transition and early postmenopause; and explore the influence of the menopausal transition stages and early postmenopause, compared to the late reproductive stage, on the clusters of symptoms women experience.

Background: Although investigators have not identified a true "menopausal syndrome," there is evidence that symptoms women experience during the menopausal transition tend to cluster together. Our earlier investigation of symptom clusters during the late menopausal transition stage revealed four symptom clusters based on data from symptom diary ratings of the severity of hot flashes, problem concentrating, joint aches, mood changes, and night-time awakening. In our efforts to extend our understanding of the types of and stability of symptom clusters women experience throughout the transition through menopause, we undertook analysis of symptom clusters through the late reproductive stage of reproductive aging, the early and late stages of menopausal transition, and the early postmenopause.

Methods: Participants from the Seattle Midlife Women's Health Study who were staged provided data for a total of 6857 occasions. Multilevel latent class analysis was used to identify classes using scores for hot flashes and symptom groups (sleep, cognitive, mood, pain, tension).

Results: Class 1 included observations of low severity levels for all symptoms, whereas class 2 included low severity hot flashes and moderate severity levels for all other symptom groups. Class 3 included high severity hot flashes with lower severity levels of all other symptom groups. During the early and late menopausal transitions stages and early postmenopause, the likelihood of being in class 3 was significantly greater than being in class 1. There were no significant effects of menopausal transition stages on the likelihood of being in class 2.

Implications: Because all three classes of symptoms are likely to occur during the menopausal transition and postmenopause, women will benefit from clinicians attending to the specific groups of symptoms they experience and considering multi-symptom approaches to therapeutics.

Funding: This work was supported by grants from the National Institute of Nursing Research (NINR 1R21NR012218-01 Menopause Symptom Clusters: Refocusing Therapeutics; NR 04141 - Menopausal Transition: Biobehavioral Dimensions; P30 NR 04001, P50-NR02323 – Center for Women's Health and Gender Research).

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Black Cohosh for Hot Flashes and Associated Symptoms: Evidence from a Systematic Review

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Purpose/Aims: Review controlled clinical trials of black cohosh effects on hot flashes and at least one other symptom including sleep, cognitive function, mood, and pain symptoms women report during the menopausal transition and early post menopause.

Rationale: Black cohosh has been effective for treatment of hot flashes in some clinical trials, but not in others, with results depending on the dose and type of preparation. To date there have been no systematic reviews of effects of these preparations on multiple symptoms.

Methods: A systematic review of randomized, controlled clinical trials published between 2004 and 2011 revealed 10 clinical trials of black cohosh in which women reported the frequency, severity, bother or interference associated with hot flashes and at least one other symptom from these groups: sleep, mood, cognitive functioning, and pain.

Results: Of the10 trials reviewed, black cohosh was tested in 8 studies and mixtures or combined herbs and black cohosh were used in two trials. Controls included placebos of various types. Comparisons to estrogen were included in 4 trials and tibolone in one trial. Result indicated that 50% of the studies suggest that black cohosh is effective in reducing the number of hot flashes in women during the menopausal transition. Black cohosh was effective for other symptoms, including sleep, mood and pain. Only one study focused on the effect black cohosh on cognitive function, but there was not a significant effect of black cohosh on cognitive function. In addition, studies showed that herbal mixtures or combination of black cohosh and St. John's wart (*Hypericum perforatum*) extracts were effective in reducing hot flushes and other symptoms, particularly sleep and mood.

Implications: Black cohosh may offer promise in management of multiple symptoms during the menopausal transition and early post menopause. Further study with adequate sample size is needed to confirm the efficacy of black cohosh in reducing menopause symptoms.

Funding: NINR 1R21NR012218-01 Menopause Symptom Clusters: Refocusing Therapeutics.

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SYMPTOM CLUSTERS DURING THE MENOPAUSAL TRANSITION AND POSTMENOPAUSE: FROM IDENTIFICATION TO THERAPEUTICS

Acupuncture for Hot Flashes and Associated Symptoms: Evidence from a Systematic Review

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Purpose/Aims: We reviewed controlled clinical trials (CCTs) of acupuncture's effects on hot flashes and at least one other associated symptom including sleep, cognitive function, mood, and pain. Women studied were in the menopausal transition and early postmenopause.

Rationale/Conceptual Basis/Background: Acupuncture has effectively treated myriad symptoms over at least two millennia. Recently, much interest has been generated regarding acupuncture's effectiveness in treating menopausal hot flashes (HFs). This is due in part to women's concerns about the use of hormone replacement due to potentially increased adverse risks (Hulley et al., 1998; Writing Group for the Women's Health Initiative Investigators, 2002). Therefore, we reviewed all the CCTs of acupuncture for the treatment of MT symptoms to provide summarized information on this modality.

Methods: A systematic review of randomized CCTs published between 2004 and 2011 revealed nine trials of acupuncture in which women reported the frequency, severity, bother or interference associated with HFs and at least one other associated symptom (sleep, mood, cognitive functioning, pain).

Results: A total of seven CCTs found statistically significant improvement in HFs and other symptoms with acupuncture (sleep, pain, cognitive functioning, mood). Five of those studies compared acupuncture with sham acupuncture, of which two studies reported that acupuncture and sham acupuncture were both significantly beneficial. One study grouped their data according to 'responders' and non-responders to the acupuncture intervention and found there were no significant differences between the two groups in their Traditional Chinese Medicine (TCM) diagnosis. Lastly, one study found at six and twelve months follow-up that initial findings of significant improvement with twelve weeks' acupuncture care were no longer present, suggesting that acupuncture has no long-term effect on HF frequency.

Implications: Acupuncture offers promise in the management of multiple symptoms during the menopausal transition and early postmenopause. Significant findings were found with twelve weeks' treatment. However, only one study followed up participants at six and twelve months. They found that initial significant improvement at twelve weeks had dropped off at follow-up. Further longitudinal studies are needed to determine the effectiveness trajectory of acupuncture. No study reported harms or adverse events. We conclude that acupuncture is a safe and possibly effective treatment for hot flashes and other related symptoms such as sleep, mood, cognitive functioning and pain. Further investigations are also warranted regarding sham acupuncture to determine if it truly is a sham intervention.

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Writing Group for the Women's Health Initiative Investigators. (2002). Risks and benefits of estrogen plus progestin in healthy menopausal women: principal results from the women's health initiative randomized controlled trial. *Journal of the American Medical Association*, 3, 321-33.

Funding: NINR 1R21NR012218-01 Menopause Symptom Clusters: Refocusing Therapeutics.

SYMPTOM CLUSTERS DURING THE MENOPAUSAL TRANSITION AND POSTMENOPAUSE: FROM IDENTIFICATION TO THERAPEUTICS

Soy for Hot Flashes and Associated Symptoms: Evidence from a Systematic Review

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Purpose/Aims: Review controlled clinical trials of soy and isoflavone preparation effects on hot flashes and at least one other symptom including sleep, cognitive function, mood, and pain symptoms women report during the menopausal transition and early postmenopause.

Rationale: Soy and isoflavone preparations have been effective for treatment of hot flashes in some clinical trials, but not in others, with results depending on the dose and type of preparation. In addition, results differ for women who are equol-producers and those who are not. To date there have been no systematic reviews of effects of these preparations on multiple symptoms.

Methods: A systematic review of randomized, controlled clinical trials published between 2004 and 2011 revealed 15 clinical trials of soy or isoflavone preparations in which women reported the frequency, severity, bother or interference associated with hot flashes and at least one other symptom from these groups: sleep, mood, cognitive functioning, pain.

Results: Of the 15 trials reviewed, soy preparations were used in 4 trials, isoflavone preparations in the remainder. Two of the trials used equol-producing soy or s-equol supplements. Controls included placebo, including a casein protein placebo for isoflavone soy protein, wheat muffins, and placebo soy. Comparison therapies included estrogen, tibolone, calcium and Vitamin D, and lifestyle changes. Of the 15 trials reviewed, 11 trials used soy with varying concentrations of Genistein, Daidzein and Glycetein isoflavones. Nine of the 11 soy preparations had positive results resulting in decreased hot flashes (45-80%). Two trials indicated that at least 60-70 mg of isoflavones per day was required to significantly reduce vasomotor, sleep, cognitive and pain symptoms. Equol supplements of 30 mg/d for non-Equol producing women showed significant decreases in vasomotor, psychological and somatic symptoms. Two trials indicated that single Genistein preparations reduced hot flashes by 30-51%, but were not significant for Green Climacteric Scores of psychological, vasomotor or somatic symptoms. Red Clover isoflavone (80 mg/d) significantly reduced hot flashes, night sweats, sleep, cognitive and pain symptoms using Kupperman Index scores. Soy milk and soymilk + exercise (walking 1 hour/day) significantly decreased hot flashes (by 72-83%) and decreased sleep, cognition and joint pain symptoms by 18-52%.

Implications: Soy and isoflavones may offer promise in management of multiple symptoms during the menopausal transition and early postmenopause. Differentiating women who are equol-producers from those who are not will be useful to clinicians prescribing these therapies. Further research is needed to develop tools to identify these women in a cost-effective way.

CHILDREN, FAMILIES AND HEALTH

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FEASIBILITY OF AN AFTER SCHOOL PHYSICAL ACTIVITY PROGRAM IN A RURAL LATINO COMMUNITY

Cynthia Perry, Beti Thompson, Brian E. Saelens

CHALLENGES AND STRATEGIES IN CONDUCTING RESEARCH WITH MENTALLY ILL YOUTH

Karen Schepp, Heeyoung Lee, Hyunjin Oh, Hyun Jung Kim, Helen T. Buckland

TESTING A PREDICTIVE MODEL OF WEIGHT-BASED STIGMA IN LOW-INCOME ADOLESCENTS

Rana Halabi Najjar, Bernard Weiner, Lorraine Evangelista, Eufemia Jacob,
Lorna Kendrick, Peggy Compton

AN OBESITY INTERVENTION PROGRAM FOR HISPANIC ADOLESCENTS

Carol J. Stevens

THE EXPERIENCES OF SIBLINGS OF CHILDREN WITH AUTISM

Beth Ward, Barbara Mandleco, Tina Dyches, Susanne Olsen Roper,
Donna S. Freeborn

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Feasibility of an After School Physical Activity Program in a Rural Latino Community

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Purpose: To assess the feasibility of an after school program designed to increase physical activity and reduce risk behaviors in middle school youth in a rural and predominantly Latino community.

Background: During the middle school years physical activity declines precipitously and risk behaviors, such as substance use rise. Latino youth are disproportionately inactive, with accompanying unhealthy weight gain, and more likely engage in other risk behaviors. In response to a community concern and given the evidence of the synergy among these behaviors, we set out to assess whether participation in an after school physical activity program had the potential to impact risk behaviors as well as increase physical activity and reduce unhealthy weight gain.

Methods: Using a community-based participatory research approach (CBPR), we co-developed with a community advisory group an after school physical activity program, *Go Active* and co-designed and co-conducted the feasibility study. During 2009-2010, we conducted three 8-week cycles of *Go Active* led by school nurses. We assessed feasibility (acceptability, practicality, and perceived benefits) through attendance, observation of classes using a protocol checklist, focus groups, and parent surveys. We measured physical activity with accelerometers, weight and risk behaviors with youth surveys.

Results: The program had overwhelming community acceptance, support and commitment. Parents reported that the program provided a safe place for their children to be active and that their children expressed excitement about the class. Participants described *Go Active* as fun and enjoyable and wanted it to continue and to be expanded to include summer. *Go Active* youth experienced peer bonding and relatedness; in focus groups participants stated, "It gives me a place to belong" and "I like the communication and interacting with others." The overall retention rate was 70%, with attendance increasing with each cycle; 54%, 64%, and 81% in successive cycles attending over half of the classes. We enrolled and retained obese and overweight youth and youth already engaging in risk behaviors and they fully engaged in *Go Active*. There was no significant overall pre-post change in accelerometer-measured physical activity and risk behaviors; however, we would expect to see a decline in moderate-vigorous physical activity and a rise in risk behaviors over this timeframe in this age group. Students in *Go Active* for 2 cycles lost 1- 4% of their initial body weight and decreased their average daily time watching television by 60-90 minutes ($p = .048$).

Implications: This physical activity program is feasible and testing the effectiveness in a large trial is warranted.

Funding: K23NR010557, National Institute of Nursing Research.

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Challenges and Strategies in Conducting Research with Mentally Ill Youth

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Purpose: The purpose of this paper is to discuss challenges and strategies for conducting clinical research with mentally ill youth using our completed Randomized Control Trial (RCT) of self-management for youth with schizophrenia.

Background: Schizophrenia is a complex mental illness with severe psychiatric symptoms that interfere with psychosocial functioning and require intensive and comprehensive care from family members. In spite of the importance of developing and providing an appropriate intervention program for schizophrenia, in particular, youth with schizophrenia and their family members, researchers have faced challenges in conducting clinical trials involving subjects with mental illnesses.

Methods: The study was a two-group randomized clinical trial with 40 families who had a youth aged 15 to 19 with schizophrenia. Subjects included the youth and their family members who were involved in the care of the mentally ill youth. The treatment group consisted of 49 parents and other adults such as grandparents, 24 teens with schizophrenia, and 20 siblings. The control group consisted of 59 family members with 25 parents and older adults, 16 youth with schizophrenia, and 20 siblings. The treatment consisted of 12 2-hour sessions with 6 intense weekly sessions followed by 6 monthly booster sessions.

Results: One of most challenging aspects of our clinical trial was recruiting and retaining eligible youth with schizophrenia because most of them were not aware of clinical trials, lacked motivation to participate in clinical trials, or had experienced stigma of mental illness and didn't want to admit to having a mental illness. For our study, a total of 117 out of 161 youth who were referred to the research team were screened for eligibility. Only 41 subjects met the eligible criteria, and a total 18 subjects in a treatment group and 13 in a control group completed follow-up assessment. Second, intervention content such as abstract concepts, wordy descriptions, or homework were not useful for this population because of cognitive impairments inherent to schizophrenia. Third, each family member expressed their own concerns. Younger siblings fear becoming mentally ill; Parents desperately expressed the need of psychoeducation, in particular, during the initial stages of schizophrenia in order to learn how to manage the illness.

Implications: Health care providers are in positions to initiate discussions regarding participating in clinical trials and to direct eligible subjects to research teams. We may develop a system for health clinicians to introduce research and direct potential subjects to research teams with less effort. A strategy most helpful in recruiting and retaining youth is involving the family, especially the primary parent in the youth's care. When the parent is involved in the clinical trial, the parent is in charge of attending intervention sessions and visiting research sites regularly. To be meaningful to the mentally ill youth, the content of the psychosocial intervention needs to be concrete and simple so the youth can understand the concepts being presented, and reflect each family member's specific concerns. Examples from such a clinical trial will be presented.

Funding: NIMH R01-MH56580.

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Testing a Predictive Model of Weight-Based Stigma in Low-Income Adolescents

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Purpose/Aims: The impact from weight-based stigma may have both immediate and potentially lasting ramifications on the health and well-being of overweight and obese adolescents. This study 1) describes body mass index (BMI), weight perception, personal control, guilt, blameworthiness, and weight-based stigma in low income and multi-ethnic adolescents; 2) examines the relationships between BMI, weight perception, personal control, guilt, blameworthiness, and weight-based stigma; and 3) tests a predictive model of weight-based stigma using the variables.

Background: Despite extensive literature examining the use of Attribution Theory to explain behaviors in overweight and obese adults, the theory has not been previously used to examine guilt and blameworthiness in low income adolescents. Examining the influences of attributes such as guilt and blameworthiness, and weight perceptions and how they affect weight-based stigma is an area of research that warrants further investigation.

Method: One hundred and five adolescents recruited from low-income neighborhoods completed a self-report questionnaire to assess perceived weight, personal control, guilt and blameworthiness, and weight-based stigma. Participant's heights and weights were measured at the time of data collection.

Results and Implications: Overall, 20.3% and 26.7% of the sample were overweight and obese, respectively. Participants with higher BMIs in our sample reported higher levels of weight-based stigma. One third of the participants believed that their body shape is completely within their control. Participants with average BMIs had lower means for guilt M=2.75 (SD=1.94) and for blame M=3.23 (SD=2.46) compared to the obese adolescents M=6.25 (SD=3.11) for guilt and M=6.64 (SD=2.92) for blame. BMI was significantly correlated to weight perceptions (r=0.72, p<.01), guilt (r=0.45, p<.01), blameworthiness (r=0.43, p<.01) and weight-based stigma (r=0.47, p<.01). In addition, income was negatively correlated to weight-based stigma (r= -0.19, p<.05). BMI, guilt, and blameworthiness accounted for approximately 34% of the variance in weight based stigma scores of the sample (F (6,98) = 10.029 p< .001). The overall model of BMI, guilt, and blame significantly predicted weight-based stigma. Changing perceptions of the causes and effects of obesity will be the first step in preventing discrimination against obese individuals. Awareness about weight-based stigma and its deleterious effects should occur at the local and national level. Future interventional studies should focus on reducing the effects of weight-based stigma, and decreasing the sense of guilt and blameworthiness felt by obese adolescents. Counseling and behavioral interventions are paramount to curve the financial costs and burden of obesity and also to continue to improve the quality of care of this low-income adolescent population.

Funding: Gamma Tau At Large Sigma Theta Tau Research Grant.

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An Obesity Intervention Program for Hispanic Adolescents

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Purpose/Aims: The purpose of the study was to evaluate the feasibility, acceptability and preliminary efficacy of a theory-based healthy eating and activity intervention (Sabor con Salud Latino para los Niños [SSLN]). Relationships between self-efficacy, peer and parent social support and acculturation as key factors associated with eating and activity behaviors in Hispanic youth were explored.

Background: Obesity in Hispanic youth has reached alarmingly high levels, increasing the risk of type 2 diabetes, hyperlipidemia, hypertension, and cardiovascular disease. In Mexican American children ages 6-11 years, 41.7% are overweight and obese, 24.7% are obese and 19.6% have a Body Mass Index (BMI) greater than the 97th percentile (Ogden et al., 2010). While personal, behavioral, and environmental factors contribute to these high rates, emerging literature suggests acculturation, self-efficacy and social support are key influences.

Methods: The one-group, pre- and post-test, quasi-experimental design used a community-based participatory research (CBPR) method to test the feasibility, acceptability, and preliminary efficacy of the 8-week intervention. Social Cognitive Theory (SCT) was used to guide the intervention. Measurements included an analysis of recruitment, retention, participant satisfaction, observation of intervention sessions, paired t-tests, effect sizes, and bivariate correlations between study variables (acculturation, nutrition and physical activity [PA] knowledge, attitude and behaviors, perceived confidence and social support) and outcome variables (BMI z-score, waist circumference and BP percentile).

Results: Findings showed the SSLN program was feasible and acceptable. Seventeen participants (10 females and 7 males) aged 11-14 years enrolled in the study. SSLN completers (n=16) attended 88.1% of the sessions. Retention strategies such as texting reminders for class, raffle prizes and phone calls to parents increased attendance and strengthened communication between parents, adolescents and the SSLN Instructors. Participants reported that the curriculum was fun ($M = 4.63$, $SD = .72$) and they learned about nutrition ($M = 3.81$, $SD = 1.42$) and PA ($M = 4.25$, $SD = 1.13$). The preliminary effects on adolescent nutrition and PA behaviors showed mixed results with small-to-medium effect sizes for nutrition knowledge and attitude, PA and sedentary behavior. Correlation analysis among acculturation and study variables was not significant. Positive associations were found between perceived confidence in eating and nutrition attitude ($r = .61$, $p < .05$) and nutrition behavior ($r = .62$, $p < .05$), perceived confidence in exercise and nutrition behavior ($r = .66$, $p < .05$), social support from family for exercise and PA behavior ($r = .67$, $p < .01$) and social support from friends for exercise and PA behavior ($r = .56$, $p < .05$).

Implications: These findings suggest a culturally specific healthy eating and activity program for adolescents was feasible and acceptable and warrants further investigation, since it may fill a gap in existing obesity programs designed for Hispanic youth. The positive correlations suggest further development and testing of the theoretical model.

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The Experiences of Siblings of Children with Autism

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Purpose: This study explored siblings' perceptions of their experiences of living with a child with autism (CWA) since little information exists examining the experiences from the siblings' perspectives.

Rationale: The social and behavioral issues of autism are unique and deeply impact families, particularly siblings. However, existing information often conflicts. For example, some studies indicate the CWA exhibits frightening and violent behavior, and siblings experience stress and less intimacy in sibling relationships and can be negatively affected socially and emotionally. On the other hand, other research found positive effects, such as increased sibling maturity and sense of responsibility, positive self-concept, less quarrelling and competition, admiration for the CWA, and satisfaction with the sibling relationship. Much of the information from these studies was gathered from parents or teachers.

Methods: 20 siblings (11 boys and 9 girls, 7-18 years old, mean age 11.11 years) of CWA took part in an audio recorded interview. Siblings were asked IRB approved open-ended questions about their experiences, such as how the family members learned about autism; what it was like growing up with the child; difficult or rewarding experiences; how they would change things about growing up with the child. The interviews were transcribed verbatim and analyzed using appropriate qualitative methods. Direct quotations that best represent the categories and sub-categories were identified through selective coding.

Results: Siblings growing up with a CWA view the experience with ambiguity: while they recognize difficulties, most siblings also recognize rewarding aspects. Difficult aspects included less attention from parents for normally-developing siblings, extra responsibility, bothersome behaviors (screaming, hitting, crying, tantrums, destructive behaviors, and repetitive behaviors) and lack of communication between siblings and CWA. Siblings also noted positive qualities of the CWA; valued time spent together, and expressed empathy, concern, love and appreciation for the CWA. Younger siblings focused on their current experiences and the child's behaviors, while older siblings were more likely to reflect back on their experiences with the CWA and what they learned. Even though most siblings would change the negative behaviors of the CWA, they would not change the disability or the child.

Implications: Practitioners should be aware of siblings' experiences and make sure they are afforded time and attention needed to positively cope with living with a CWA. Specifically, it would be important to help younger siblings understand reasons behind the negative behaviors they see in the CWA and assist them focus on positive aspects of the child's behaviors. It would also be critical to help older siblings share their perceptions with younger siblings so younger siblings can learn how their perceptions change over time. Finally, parents should be appraised of sibling perceptions and how they change over time.

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CHILDREN WITH CHRONIC ILLNESS

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CAREGIVER BURDEN AND FAMILY HARDINESS IN FAMILIES RAISING A CHILD WITH A DISABILITY

Devaun Sheppard, Barbara Mandleco, Susanne Olsen Roper, Tina Dyches, Donna S. Freeborn

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PLANNING FOR ADULTHOOD FOR YOUTH WITH COMPLEX NEEDS: PRIORITIES AND IMPACTS

Roberta S. Rehm, Lucille T. Fisher, Elena Fuentes-Afflick, Kit A. Chesla

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CHALLENGES OF LIVING WITH TYPE 1 DIABETES: CHILDREN/ADOLESCENT PERSPECTIVES

Donna S. Freeborn, Barbara Mandleco, Susanne Olsen Roper, Tina Dyches

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PEDIATRIC PATIENTS WITH ASTHMA: A HIGH RISK POPULATION FOR RE-HOSPITALIZATION

Michele R. Shaw, Kenn Daratha, Tamara Odom-Maryon, Ruth Bindler

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PEDIATRIC ASTHMA QUALITY OF LIFE QUESTIONNAIRE: MULTI- OR UNIDIMENSIONAL

Karen H. Sousa, Judith Harris, Susanne W. Cook

CHILDREN WITH CHRONIC ILLNESS

Caregiver Burden and Family Hardiness in Families Raising a Child with a Disability

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Purposes/Aims: We examined caregiver burden and family hardiness in families raising children with disabilities (CWD) to (a) determine if there are differences in ratings by parent gender and type of disability and (b) identify if hardiness was linked to caregiver burden.

Background: Caregiver burden refers to perceived stresses associated with caring for a CWD and the impact caregiving has on caregivers. It is related to the child's developmental delays, health complications, and cognitive/physical/behavioral impairments. Family hardiness refers to families who are more resistant to stress and able to cope better than other families, and includes perceiving life events as a challenge rather than a threat, believing families have a choice in how they react to stressors (internal locus of control), and being committed to/involved in family life. Although there is information in the literature on caregiver burden and family hardiness in families raising CWD, little is known about how these variables are linked or if ratings differ according to parent gender or type of disability.

Methods: After IRB approval, 209 families living in a western state who were raising children with autism (CWA); Down syndrome (DS); multiple disabilities (MD) that included both cognitive and physical disabilities; and other disabilities (OD) including developmental delay, emotional disability, hearing/communication impairment, or ADHD participated. After consenting, both parents independently completed the 20-item Family Hardiness Index (McCubbin, McCubbin, & Thompson, 1991) and a revised version of the Caregiver Strain Index (Robinson, 1983). Mothers completed a demographic questionnaire. Descriptive statistics, ANOVA, and correlations were performed to analyze the data.

Results: Mothers *(M* age = 39.92 years) rated caregiver burden between sometimes and a lot whereas fathers *(M* age = 41.75 years) rated caregiver burden between rarely and sometimes. The mean hardiness score for both parents was 3.20, suggesting parents were fairly hardy. Mothers scored significantly higher on caregiver burden than fathers *(M* mothers = 2.10; *M* fathers = 1.80; F = 36.33, p<.001), but there was no difference between parents on ratings of hardiness. Parents of CWA scored significantly higher in caregiver burden (F = 6.07, p< .001) and significantly lower in hardiness (F = 3.70, p<.01) than parents of children with DS, OD or MD. Higher levels of hardiness were related to lower levels of caregiver burden (r = -.40, p<.001) for both parents.

Implications: Mothers and parents of CWA experienced more caregiver burden than fathers or parents of children with DS, OD or MD. In addition, even though parents perceived themselves as fairly hardy, parents of CWA perceived themselves as having less family hardiness than parents raising children with DS, OD or MD. Therefore, it would be important to provide interventions and information about respite care and other appropriate community resources targeted to help mothers and parents of CWA as they care for their child.

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Planning for Adulthood for Youth with Complex Needs: Priorities and Impacts

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Purpose/Aims: The purpose of this study was to explore planning of families during the transition to adulthood for youth with co-occurring physical and developmental chronic conditions. Study aims were to explore planning processes, analyze impacts on families and youth, and describe interactions between parents, youth, educators and health care providers.

Rationale/Conceptual Basis/Background: Youth with chronic health conditions who are also developmentally disabled require assistance and support into adulthood, necessitating specific and thoughtful planning to assure ongoing availability of needed services, and optimize long term quality of life. Most youth with complex chronic conditions and disabilities live at home, receiving most of their care and support from parents and siblings, greatly impacting the lives of all. Conceptually, investigators drew upon Transitions Theory and Symbolic Interaction.

Methods: This was an interpretive field study including sixty youth, aged 14-26, 76 family members, mostly parents, 26 health care providers, and 37 educators. Data collection occurred in family homes, schools, and primary health care settings, and included interviews, observations, and review of relevant documents. Data were analyzed by a multistep process including coding, discussion at team meetings, written memos, and participant review.

Results: Parents believed they were providing excellent care and assistance to their youth, and worried that it would be difficult or impossible to find compassionate long term services of equivalent quality. Families were universally committed to lifelong care or monitoring of youth, though most hoped for less day to day responsibility over time. Priorities for planning included assuring ongoing supports for health and safety, finding meaningful post-high school activities, and seeking satisfying social relationships into adulthood. Major categories of family impact included a. Relentlessness of day to day responsibility &/or caregiving, b. Parental expectation of long term commitment and involvement with youth, and c. Ambivalence around expectations for long term sibling responsibility for youth. Parents and youth were mostly aware of long term needs in realms of health, safety, housing, and financial support, and demonstrated greater specificity in plans and goals in older age groups. Support for planning from educators and HCPs was inconsistent and uncoordinated. Overarching theme: Parents retained commitment and responsibility for youth well into adulthood, and most received little personalized guidance through transition.

Implications: Family-centered nurses could be helpful to families of youth with complex needs by facilitating assessment and planning for long term needs of individual youth, and learning and sharing information about available community resources.

Funding: National Institute of Child Health and Human Development R01: HD049433.

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Challenges of Living with Type 1 Diabetes: Children/Adolescent Perspectives

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Purpose: The purpose of this qualitative descriptive study was to discover challenges identified by children/adolescents with diabetes (CWD) during focus group sessions.
Background: Type 1 diabetes requires lifestyle changes involving diet modification, blood glucose monitoring, carbohydrate counting, and insulin administration. When children are young, parents manage their diet, glucose monitoring, and insuling administration, However, as children grow older, self-management skills become important. Learning self-care and developing positive attitudes toward diabetes management can improve glucose management and promote long-term benefits. Therefore, understanding CWD's challenges as they learn to manage diabetes themselves is an important first step in improving diabetes outcomes for this age group.
Methods: The project was part of a larger study in which parents, siblings and CWD participated in focus groups, a type of participatory action research that combine interviewing and open discussion of common issues. Six separate focus groups were held over a four month period with a total of fourteen CWD participating (9 males and 5 females, who ranged in age from 7 years to 16 years with a mean age of 9.08 years). The focus group discussions were audio recorded and then transcribed verbatim. The transcriptions were analyzed for common themes according to qualitative methodology.
Results: Three themes emerged after analyzing transcripts from the focus groups that embody challenges CWD faced: 1) dealing with low blood glucose; 2) checking blood glucose and administering insulin; and 3) feeling different and/or alone. The challenge of dealing with low blood glucose included identifying low glucose, having help when they had low glucose levels, and avoiding or being prepared for activities that caused low blood sugar. Challenges of checking blood glucose levels included enduring physical pain, dealing with the inconvenience of checking blood glucose and administering insulin, and being tempted to eat something without checking or administering insulin. Blood glucose and insulin management made CWD feel different because of increased parental involvement at school, overprotective peers, and not knowing anyone else who had diabetes. Participants also identified the need to interact with other CWD in settings that normalized glucose monitoring and insulin administration so they didn't feel alone.
Conclusions: Data indicated diabetes is challenging for CWD. It is important that nurses and health care providers discuss the challenges of diabetes with their CWD, listen to their concerns, and work with them to develop strategies to promote health, minimize complications, and reduce or eliminate feeling different or alone. Nurses and health care providers can also assist parents in understanding their CWD concerns and challenges so they can promote improved diabetes management and health outcomes.

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CHILDREN WITH CHRONIC ILLNESS

Pediatric Patients with Asthma: A High Risk Population for Re-Hospitalization

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Purpose: The purpose of this study was to examine the risk of re-hospitalization among pediatric patients hospitalized with asthma in all acute care hospital settings throughout Washington State.

Background: Asthma is the most common chronic condition among children and is one of the leading causes for pediatric hospitalizations. Prevalence of childhood asthma continues to rise every year and is now at an all-time high affecting 9.6% of all U.S. children under the age of 17 years. Roughly 50% of children with asthma experience at least one asthma attack per year, leading to an increased risk for poor health outcomes including hospitalizations and visits to the emergency room. During 2007, 640,000 children under the age of 17 years visited an emergency department and 157,000 were hospitalized for asthma. There is a critical gap in current data clearly describing variables associated with hospitalization and subsequent re-hospitalizations. More evidence is needed to clarify the longer-term risks of repeat hospitalization and the underlying factors contributing to adverse health outcomes among pediatric patients hospitalized with asthma.

Methods: The Washington State Comprehensive Hospital Abstract Reporting System (CHARS) was used to obtain data for the study. This data base contains admission and discharge information for every patient hospitalized in all private and public hospitals throughout Washington State. Data about 81,683 hospitalized pediatric patients admitted between 2004-2008 with a minimum of one year follow-up were available. The risk of re-hospitalization among children admitted for either a primary (n=4,773) or secondary (n=5,238) diagnosis of asthma as compared to a reference group was examined.

Results: The primary and secondary asthma groups had a 35% (99% confidence interval (CI): 23%, 49%) and 16% (99% CI: 8%, 25%) increased risk (respectively) of re-hospitalization within 5 years based on a model controlling for age, gender, index hospitalization primary diagnosis categorization, index hospitalization length of stay, index hospitalization primary payer, 12 month count of previous hospitalizations and Elixhauser comorbidity variables.

Implications: Findings from this study demonstrate that children with asthma are a high risk population for re-hospitalization. This finding held true even among the group of pediatric patients who had secondary admission diagnoses of asthma. Results from this study can be utilized in the development of appropriate interventions aimed at preventing and reducing hospital admissions, improving outpatient care, decreasing over all costs, and lessoning complications among pediatric patients with asthma.

Funding: This project was supported by WSU Spokane Seed Grant Program.

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CHILDREN WITH CHRONIC ILLNESS

Pediatric Asthma Quality of Life Questionnaire: Multi- or Unidimensional

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Background: Asthma is the most common chronic disease affecting children. It has been suggested that to gain a full picture of the impact of asthma on children, it is necessary to make direct measurements of quality of life (QOL). A valid conceptual model to measure QOL in children living with asthma would help providers learn about conditions that have the greatest impact on patients' lives and help evaluate the relative importance of different approaches to patient care. Juniper and colleagues (1996) developed a conceptual model to measure QOL of children living with asthma, the Pediatric Asthma Quality of Life Questionnaire (PAQLQ). The PAQLQ is a condition-specific questionnaire that assesses the QOL of asthmatic children between the ages of 7 and 17 years. They proposed that QOL for a child living with asthma has three dimensions: symptoms, emotional function, and activity limitations. The purpose of this analysis was to test this assumption.

Methods: Phoenix Children's Hospital operates a mobile asthma clinic for medically underserved, inner-city school age children. 234 English speaking children's Breathmobile charts were abstracted for this analysis. The PAQLQ has 23-items that attempt to assess the three domains: symptoms (10 items), emotional function (8 items) and activity limitation (5 items). Confirmatory factor analysis tests the hypothesis about the structure of the questionnaires and evaluates the extent to which a particular instrument actually measures the construct it is supposed to measure (in this case QOL). Since validity is concerned with whether a variable measures what it is supposed to measure, confirmatory factor analysis is an appropriate approach to further investigate construct validity. Confirmatory factor analysis is used when there is hypothesized knowledge of the underlying latent variable structure. In this case, it has been hypothesized that the PAQLQ is a multidimensional instrument. Analyses were conducted using MPlus (Muthen & Muthen, 2004).

Results: The overall fit of the three-factor hypothesized model was not acceptable ($\chi^2(167) = 390.68$, $p<.000$; CFI = .91; RMSEA = .08; SRMR = .05). Modification indexes and qualitative itemmetric analyses suggested that this is a unidimensional scale and that two sets of questions were identified as potentially having high correlated residuals due to their almost identical wording and content. A single factor model was tested allowing for the residuals of items 16 and 20, and items 15 and 19 to correlate. The fit of the model improved ($\chi^2(168) = 280.88$, $p<.000$; CFI = .96; RMSEA = .05; SRMR = .04).

Implications: Confirmatory factor analysis reliably evaluates the structural integrity of a measurement instrument. The hypothesized measurement structure of the PAQLQ had not been systematically tested previously. We found problems with the hypothesized three-factor structure; a one-factor structure with the same two correlated residuals to account for wording similarity provided an adequate and parsimonious fit. Decisions related to treatment, health resource allocations, and interventions are often based on the subscales of PAQLQ-generated data. This analysis clearly suggests that the PAQLQ should be used only as an overall scale score of QOL for children living with asthma. Implications will be further discussed.

Funding: This study was partially supported by funds from National Institute of Nursing Research (NIH #1R15NR010632-010).

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CHILDREN, WOMEN AND FAMILIES: THE ASIAN EXPERIENCE

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VERIFICATION OF MAMMOGRAPHY UPTAKE AMONG KOREAN AMERICAN WOMEN

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DISCREPANCY OF FAMILY CONFLICT LEVELS: ITS DEPRESSIVE SYMPTOMS IN KOREAN AMERICAN TEENS

Young Ju Nam, Eunjung Kim

KOREAN AMERICAN PARENTS' EVALUATION OF PARENTING STRATEGIES RECOMMENDED IN THE US

Eunjung Kim, Seunghye Hong

PARENTING AND CHINESE AMERICAN ADOLESCENTS' PSYCHOSOCIAL HEALTH: VOICES FROM PARENTS

Weichao Yuwen, Angela Chia-Chen Chen

KOREAN IMMIGRANT COUPLES' PERINATAL HEALTH ISSUES: CLINICAL IMPLICATIONS

Kyoung-Eun Lee

Verification of Mammography Uptake among Korean American Women

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Purposes/Aims: To examine self-reported bias in mammography screening rates among Korean American (KA) women and compare beliefs between women of those for whom we were able to verify mammography uptakes and those for whom we could not verify uptakes.

Rationale/Background: It is well known that women from ethnic minority groups tend to over-report mammography uptake, but actual mammography uptake rates compared to self-reports among KA women have not been reported in the literature. It would be necessary to explore whether any beliefs based on the Health Belief Model are related to verification rate.

Methods: Mammography rates were verified among KA women who participated in our randomized clinical trial, Korean Immigrants & Mammography—Culture-specific Health Intervention (KIM—CHI) at 15-months post-baseline. All KA women who reported having had a mammography during the study period, in both intervention and control groups, were asked to sign a Health Insurance Portability and Accountability Act (HIPAA) notification which they mailed to us if they agreed that we could verify their mammography uptakes.

Results: Out of 395 women who participated in the 15-months post-baseline data collection, 192 reported having a mammogram during the study period. Of those, 12 women refused to let us verify their mammography uptake and 22 women reported that they had had a mammogram in Korea, but it was not possible for us to verify those. Of the 158 women to whom we mailed HIPAA forms, 106 mailed back signed forms (67% return rate). Of those 106 women, we were able to verify 92 mammography uptakes with physicians or mammography facilities (87% verification rate). We did not find any differences in variables of sociodemographic and health beliefs between the two groups.

Implications: Even though we had an 87% verification rate among KA women who returned the HIPAA form, we speculate that the 33% who did not return signed HIPAA forms over-reported their mammography uptake. Verifying mammography uptakes from an ethnically minority group such KA women, who tend to not have regular physicians or places for health care, was challenging. Suggestions for future studies will be discussed.

Funding: This work was supported by the National Cancer Institute (R01CA127650).

Discrepancy of Family Conflict Levels: Its Depressive Symptoms in Korean American Teens

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Purpose: The purpose of this study was to explore the links between the discrepancy of teen-parents family conflict levels and the associated depressive symptoms among Korean American (KA) adolescents.

Background: Depression is one of the main health issues among adolescents. There is high rate (38%) of depressive symptoms among Korean American (KA) adolescents in the Pacific Northwest area. Family conflict is one of the associated factors with the depressive symptoms in this population.

Methods: This is a secondary analysis of the cross sectional data from 58 Korean American families, including mother, father, and adolescents, aged from 11 to 18 years old, who completed surveys. The family conflict was measured by the Asian American Family Conflict Scale (AAFCS) and the depressive symptoms were measured by the Center for Epidemiological Studies Depression Scale (CESD). Descriptive statistics were used to characterize the sample, and simple regression was used to assess the association between the variables using SPSS software program.

Results: Among 58 KA adolescents (mean age = 13.4) 22 adolescents (38%; 11 boys and 11 girls) reported to have depressive symptoms. Simple regression of participants indicated that discrepancy of likelihood child-mother conflict on sacrificing personal interests (n=39, p=.004), expression of love (n=39, p=.007), child's opinion expression vs. talking back (n=40, p=.001), and respect for elders (n=39, p=.035) were positively associated with higher depressive symptoms. Also discrepancy of seriousness child-mother conflict on making own decision (n=37, p=.031), expression of love (n=35, p=.010), and child's opinion expression vs. talking back (n=37, p=.004) were positively associated with higher depressive symptoms. However, discrepancy of likelihood or seriousness child-father conflict was not significantly associated with depressive symptoms.

Conclusion: The results suggest that among KA adolescents there is an association between discrepancy of family conflict level and the associated depressive symptoms. It did not conclude whether the high discrepancy caused the adolescents to be depressed or vice versa. There is a need for further analysis to determine whether other mediating factors, such as acculturation and parenting warmth, affect the perceived level of conflict and its depressive symptoms among KA adolescents. Also, the dyad between adolescents and their parents sampled was small, requiring future research with larger sample needed. Importantly, these findings will contribute to the development of intervention that will decrease depressive symptoms among KA adolescents by reducing family conflict.

Funding: This paper was supported by RIFP and IESUS from the University of Washington.

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Korean American Parents' Evaluation of Parenting Strategies Recommended in the US

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Background: Most of the parenting programs in the United States are originally developed for Americans who understand American culture and common American parenting strategies. Therefore, these training programs may not accurately reflect ethnic minority parents' culture or their parenting due to different cultural backgrounds. Therefore, when pilot-testing standardized parenting programs with minority populations, it is important to examine parents' perceptions of the specific parenting strategies in addition to measuring effectiveness and evaluating the cultural and linguistic appropriateness of the program delivery.

Purpose: The purpose of this study was to explore 21 Korean American parents' perceptions of effective parenting strategies in the U.S. taught in a standardized parenting program.

Methods: Interview data using open-ended questions were audio taped, transcribed, and analyzed using content analysis.

Results: Themes that emerged were: evaluation of the effective parenting strategies, changes in parenting strategies, and perceived effects on children. The findings indicate that Korean American parents perceived the strategies as based on Western cultural background. However, parents thought that playing, praising, using sticker charts, ignoring, and using timeouts were effective. Learning specific ways of using each strategy successfully was particularly helpful. After the program, they perceived that these strategies were useful for them in regulating their emotions, becoming more patient and consistent, and thinking from their child's perspective, which increased their self-efficacy and intimacy with their children. They also perceived that their children increased their self-confidence, self-expression, and compliance.

Implications: Healthcare providers and school teachers can use this study's findings to better educate Korean American parents. For example, when healthcare providers teach timeouts to immigrant parents, they would need to mention not only when to use them but also how to use them in specific way. It would be good to provide written instructions. These findings can also be used to develop a culturally and linguistically competent parenting program for Korean American parents.

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CHILDREN, WOMEN AND FAMILIES: THE ASIAN EXPERIENCE

Parenting and Chinese American Adolescents' Psychosocial Health: Voices from Parents

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Purpose: This qualitative study aimed to gain an in-depth understanding of Chinese American parents' parenting styles and how parenting styles might influence adolescents' psychosocial health.

Background: Asian Americans are one of the fastest growing minority groups in the U.S., with the Chinese being the largest group. While the model minority perception of Asian Americans persists, evidence suggests that Asian American adolescents experience higher levels of depressive symptoms than their same-gender White counterparts. Quantitative findings suggest associations between parenting factors (e.g., parental control, monitoring) and Chinese American youth's mental health. A qualitative understanding regarding Chinese American parents' parenting styles and their relationship with youth's psychosocial health is warranted.

Methods: The study was approved by the Institutional Review Board. Purposive sampling was used to recruit 13 Chinese American adolescents' parents (10 mothers and 3 fathers) through Chinese schools and churches in a southwest metropolitan area. Four focus groups were conducted in the participants' preferred language: English or Chinese. Group discussions were held in a safe room (60-90 minutes each) and were audiotaped with permission. Demographic characteristics, immigration history, and acculturation data were obtained in a survey (available in English and two Chinese written versions: traditional and simplified). Two investigators independently conducted a qualitative analysis of the transcribed transcripts and summarized the findings using an 8-step content analysis method (Downe-Wamboldt, 1992). Descriptive statistics were calculated for all measures in the quantitative survey.

Results: The 13 participants were ages 35 to 56 years old (M = 48; SD = 5.8). One parent (7.7%) was U.S. born, and one came to the U.S. before age 18. Most parents (n=12, 92.3%) held a bachelor's degree or higher; they worked as professionals such as engineers (23.1%), accountants (15.4%), or teachers (15.4%). Ten (76.9%) parents reported using Chinese when speaking to their children, and two (15.3%) only used English. Most (n=11, 84.6%) parents identified themselves as speaking and understanding English moderately or very well. They reported higher Chinese orientation scores (M = 30.0; SD =4.9) than U. S. orientation scores (M = 25.1; SD = 3.7). Four themes were generated from the focus groups data. Chinese American parents reported *high parental expectations* on academic performance, moral development, and career choice, with slightly different expectations for their boys and girls. *Strict family rules* were also reported, in particular regarding monitoring and control on their adolescent child's peer selection and computer use. *Differences in parenting styles* between mothers and fathers were found, with fathers generally being stricter than mothers. Parents expressed the concerns about *challenges in communicating effectively* with their adolescent children due to their different cultural values, which in turn increases conflicts between parents and their adolescent children. These parenting factors are found to be associated with Chinese American adolescents' psychosocial health.

Implications: Chinese American parents may find it challenging to discipline their adolescent children within a different culture context. Linguistically and culturally tailored resources (e.g., parent support groups, programs aimed at improving parent-child communication) may enhance parenting skills and consequently reduce emotional distress in their adolescent children.

CHILDREN, WOMEN AND FAMILIES: THE ASIAN EXPERIENCE

Korean Immigrant Couples' Perinatal Health Issues: Clinical Implications

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The rapid growth of culturally diverse populations brings special challenges to health care providers in the United States (U.S.). Childbirth, one of the most important life events in a family, is largely influenced and predetermined by the culture in which the birthing parents and their family originate. In each culture, health practices related to childbirth are uniquely ritualized based on traditional health belief system and empowered by support from family members. Experiencing childbirth in different sociocultural context can be intensively challenging for immigrant couples who oftentimes have limited support system in host country. In order to promote perinatal health outcomes, health care providers in obstetrical care settings are in a vital position to provide more culturally congruent quality health care to immigrant couples. To do so, they need to better understand multi-dimensional perinatal health issues experienced by the targeted immigrant couples. The purpose of this focused ethnographic study was to describe Korean immigrant couples' perceived health issues while they experienced childbirth and perinatal care in the U.S.

A purposive sample of 16 Korean immigrant couples was recruited from the State of Washington. In-depth interviews with participating couples were conducted in the Korean language within six months of their postpartum. Each couple was asked to verbally respond to semi-structured, open-ended interview questions developed to obtain data corresponding to the aim of this study. Leininger and McFarland's four phases of ethnographic analysis were used to analyze the interview data. The nature of dyad structure in analyzing couple interview data was thoughtfully considered in order to interpret the data as each couple's shared experience. Additional phone interviews were arranged to clarify unclear content during the data analysis process. The researcher's observations and her field notes were supplemented to the interpretation of the interview data.

The findings in this study revealed seven main themes as critical perinatal health issues experienced by participating Korean immigrant couples. Those were the issues related to: (1) confusion from unfamiliar health care delivery system, (2) culturally embedded expectations for perinatal health care, (3) difficulty in obtaining health care information, (4) difficulty in communication with health care providers, (5) conflicts between Western biomedicine and the practice of *Sanhujori* (Korean traditional postpartum health practices), (6) psychological hardship due to the lack of support system, and (7) the prevalent use of traditional health remedies during childbirth period in the U.S.

Given the nature of the qualitative research method, the transferability of the findings to all Korean or other Asian immigrant couples needs to be further examined in future research. Despite of the limitation, findings in this study suggest several important implications for nursing practice. Those include the need for developing a culturally congruent perinatal assessment tool, developing culturally tailored perinatal intervention programs, integrating immigrant husbands' health needs into perinatal care plan, and identifying any increased health risks associated with inappropriate cultural health practices. The findings in this study would also serve as an important knowledge base to design and evaluate the effectiveness of those suggested culturally tailored intervention programs.

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CHILDREN'S HEALTH

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USING COMPUTER-BASED, POINT-OF-CARE DRAWINGS TO ASSESS CHILDREN'S PAIN EXPERIENCES

Martha Driessnack, Juan Pablo Hourcade, Kelsey Huebner

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SHE'S LIKE MY SECOND MOM: A MIXED METHOD STUDY ABOUT HOMELESS YOUTH AND NATURAL MENTORS

Michelle Dang, Katherine Conger, Joshua Breslau, Elizabeth Miller

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TRAJECTORIES OF PARENT-CHILD RELATIONSHIP QUALITY: PREDICTORS AND CONSEQUENCES

JaHun Kim, Elaine Walsh, Karen G. Schepp, Elaine A. Thompson

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ENSURING ETHNIC REPRESENTATION IN THE NATIONAL CHILDREN'S STUDY, GRANT COUNTY SAMPLE

Julie Postma, Tom Burbacher, Phillip Butterfield,
Patricia Butterfield, Elaine Faustman

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EXTENT AND SOURCES OF KNOWLEDGE ABOUT THE NATIONAL CHILDREN'S STUDY

Beth Tigges, Robert Annett, Sally Davis, Renate Savich,
Kristine Tollestrup, Josala Fetherolf, Ronni Goforth

CHILDREN'S HEALTH

Using Computer-Based, Point-of-Care Drawings to Assess Children's Pain Experiences

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Background: While the development of point-of-care (POC) documentation has improved many aspects of patient care, including patient safety, it has unfortunately resulted in reductions in both verbal and visual interactions between providers and patients. There is a need for POC documentation mechanisms that instead sustain and/or enhance nurse/patient interactions. Nowhere is this more important than in interactions with children, where communication is often already a challenge.

Purpose: Children with chronic headaches were selected as a prototype population to explore using a novel, computer-based drawing application developed to enhance POC communication of children's pain experiences. Headache was selected as it is the most common and one of the most disabling types of chronic pain in childhood, affecting 60.5% of children.

Methods: This was an exploratory pilot using a modified cooperative inquiry approach. 20 children, 7-12 years of age with chronic primary headaches (e.g. migraines, tension-type) were recruited through two pediatric neurology clinics. Each child participated in a1:1 interactive interview about their headache pain experience using a 'zoomable' drawing application on a Dell XT2 tablet with multi-touch display and attached digital pen. Each session was videotaped and screen recording software (Camtasia©) was used to capture the drawing process. Data were analyzed using basic descriptive statistics and content analysis.

Results/Findings: Children's drawings and accompanying narratives were clear and focused. Children described very specific patterns of headache pain, including the location, primary and secondary symptom descriptors, and actions/behaviors that accompanied their headaches (e.g. placing an ice pack, lying down). The number of descriptors ranged from 7-19, with a median of 12. The ability to 'zoom' in/out using their fingers, offered children with the opportunity to provide additional details as well as context. The median time for completion was 5 minutes.

Discussion/Implications: Using a novel, computer-based drawing application, children to provided rich descriptions of their headache experiences, without any hesitation. The time it took would fit into a regular visit. Further, the format for these POC drawings and/or screen/voice recordings is able to be stored as electronic medical record files.

Funding: 2009-10 University of Iowa Social Science Funding Program Grant.

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She's Like My Second Mom: A Mixed Method Study about Homeless Youth and Natural Mentors

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In comparison with their housed peers, homeless youth experience considerably higher rates of mental illness, drug and alcohol abuse, victimization, sexual exploitation, and risky sexual behaviors. Past research on homeless youth has primarily focused on risks associated with homelessness and deviant peer networks. This study explored the presence and characteristics of natural mentoring relationships among homeless youth and whether these relationships could serve as a protective factor against poor health and developmental outcomes. Natural mentors are important nonparental adults who provide guidance and support. Natural mentoring relationships are a normative part of adolescent development and may be under-recognized as a source of intervention for at-risk youth.

The study included 197 homeless youth aged 14 to 21 (58% female and 42% male) who were recruited from multiple points of entry through a collaborative effort with community agencies that served homeless youth and various street locations. Participants responded to questionnaires using audio computer-assisted self-interviews (audio-CASI). Twenty-three of the 197 participants who reported having natural mentors participated in semi-structured interviews about the nature and characteristics of mentoring relationships. Data collection occurred over nine months. Measures included quality of mentoring relationship, family and school connectedness, peer relationships, social support, sexual behavior, and mental health. Results revealed that 73.6% of youth reported having natural mentors. Mentoring relationships emanated from diverse social relationships within the youth's social networks that included kin and nonkin adults. Chi-square and independent *t*-tests revealed that participants with natural mentors did not differ in age, gender, sexual orientation, ethnicity, educational attainment, employment, or history of homelessness from the nonmentored participants. Regression analyses demonstrated that participants with natural mentors reported higher satisfaction with social support even when controlling for family connectedness and less risky sexual behaviors. An iterative open-coding technique was employed to generate main ideas and experiences from the interviews. A list of codes was independently generated by two investigators, reviewed for agreement, and finalized. Themes from the interviews revealed that natural mentors served as surrogate parents and provided substantial social support. Participants with nonkin mentors met their mentors either through formal channels such as schools or community agencies or through people within their social networks such as romantic partners or friends. Participants reported that they became closer with their mentors over time and perceived their mentors as parental figures. These results indicate that homeless youth can have meaningful relationships with caring nonparental adults. The findings also suggest that natural mentors are a critical source of social support for homeless youth and could feasibly serve as an intervention for increasing social assets in the lives of homeless youth and assisting them out of homelessness. Furthermore, the fact that the majority of youth perceived their mentors as parental figures elucidates a possible psychological underpinning to natural mentoring relationships for homeless youth.

Funding: This study was supported by grants from the NIH/NICHD (#2G11HD043594-07) and the University of California, Davis, Graduate Research Mentorship Fellowship.

Trajectories of Parent-Child Relationship Quality: Predictors and Consequences

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Purpose/Aims: To advance understanding of resilience processes essential to the promotion of healthy adolescent development, this study examined changes and stabilities in parent-child relationship quality (PCRQ). Study aims were to: (1) describe trajectories of PCRQ, defined in terms of relationship support and conflict; (2) examine the influence of adolescent and parent factors on PCRQ trajectory membership; and (3) test the effects of PCRQ trajectory membership on adolescent developmental outcomes (depression, high risk behavior).

Background/Significance: Resilience theory, the conceptual basis for this research, posits that the interaction of risk factors (e.g., parent depression) and protective factors (e.g., relationship support and conflict) are processes central to adolescent adaptation. The resilience approach seeks to understand how protective factors influence or buffer the risks that adolescents experience, focusing away from the more limited deficit models used to describe adolescent problem behaviors and related developmental outcomes. Current research has uncovered compelling associations between maternal/parent depression and child developmental outcomes, but little is known about the effects of parent depression on longer-term relationship development and related outcomes. Few studies have examined the differentiation of parent-child relationship patterns *across time*; thus, little knowledge exists about predictors of PCRQ or its impact on child developmental outcomes, such as or adolescent depression and involvement in high risk behavior.

Methods: Using data drawn from the PAYS study, the sample included youth (N=110) at risk for school failure or dropout and their parents (typically mothers). Adolescent perception of PCRQ, measured in terms of perceived support and conflict, was assessed 5 times across a 2-year period. Predictor variables included child age, gender, and depression, and parent age, education level, and depression. Growth mixture modeling was used to identify trajectories of PCR support and conflict; multiple and multinomial regression were used to examine antecedents and consequences associated with the trajectories.

Results: For parent-child relationship support, a single class was the best fitting model. Child gender and depression (b=-1.13, b=-0.57) and parent depression and education (b=-1.16, b=-0.92) were significant predictors of PCR support. PCR support predicted decreased youth depression (b=-0.09) and hopelessness (b=-0.09). For relationship conflict, three trajectories characterized the best fitting model: (1) *low conflict, increasing* across time, (2) *high and decreasing*, and (3) *low and stable conflict*. Child and parent factors did not predict membership in PCR conflict trajectories. However, being in the *low-increasing conflict trajectory* was linked to high risk behavior (b=0.40), adolescent depression (b=0.97), and hopelessness (b=0.92). Parent depression independently predicted high risk behavior (b=0.11), adolescent depression (b=0.18), and hopelessness (b=0.23).

Summary/Implications: The observed differences in patterns of support versus those of conflict point to the specificity in the developing parent-child relationship, with greater differences for emotional adjustment than for involvement in high risk behaviors. The findings emphasize the need to design early interventions to strengthen PCRQ, to sustain parental support throughout adolescents, and to diminish PCR conflict and reduce the concomitant risk of adolescent maladjustment.

Funding: Data for this study were drawn from a National Institutes of Health research grant (R01 DA 10317) funded by the National Institute on Drug Abuse.

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CHILDREN'S HEALTH

Ensuring Ethnic Representation in the National Children's Study, Grant County Sample

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Purpose: The Pacific Northwest Center for the National Children's Study (NCS) recruited participants from Grant County, WA into the NCS using an Enhanced Household-Based Recruitment (EHBR) strategy. Ensuring ethnic representation in the sample was a primary goal of recruitment.

Background: Grant County is a large (over 2,600 mi2), diverse rural region with low population density (30.8 persons/sq mi). The county has experienced large population growth, with a 19% increase in the overall population and a 51% increase in the Hispanic population. To ensure sample representativeness, specific outreach and engagement strategies were implemented based on cultural responsiveness theory.

Methods: Outreach staff was hired locally. A cultural liaison was employed who spoke Spanish and was familiar with organizations serving the Hispanic community. The community advisory committee included representatives from Hispanic organizations. Outreach materials, media, and marketing were personalized and presented in English and Spanish. Targeted outreach events focused on areas with large Hispanic populations.

Results: These activities were successful in recruiting Hispanic participants. Current data indicate that 38% of the women who completed the pregnancy screening instrument were Hispanic (expected value is 33%). Consents indicate a higher rate of Hispanic women in the sample (49%) than expected, with the percent of consented women ranging from 3% to over 20% higher than expected over eight segments. When Hispanic women were asked "How did you hear about the NCS?" most respondents replied that they had heard about the NCS through outreach activities, with 29% from media and events.

Implications: Employing a conceptual approach to outreach and engagement has led to the successful inclusion of Hispanic women into the NCS. While personalized encounters between researcher and participant can be difficult to implement on a community-wide scale, choices made in outreach, marketing, and media can leverage existing trust and shared values between potential participants and local intermediaries to enhance recruitment.

Funding: *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (HHSN275200800015C).

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Extent and Sources of Knowledge about the National Children's Study

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Purpose: The purpose of this paper is to describe the extent and sources of community members' knowledge about a national, longitudinal, epidemiological study, the National Children's Study (NCS) in Valencia County, New Mexico, after an extensive community outreach and engagement campaign.

Background: The NCS is a prospective cohort study of 100,000 children nationwide who will be followed from before birth until 21 years of age. The purpose of the observational study is to examine genetic and environmental influences on children's health and development. Valencia County, New Mexico (55% Hispanic; 3% American Indian) is one of counties selected using probability-based methods for recruitment and retention of 1,300 pregnant women (1,000 children). As part of a preliminary national sub-study of alternate recruitment strategies for the NCS, women in Valencia County were recruited using door-to-door household contact. An extensive community outreach and engagement campaign was conducted to increase the probability that families would be willing to open the door to investigators, participate in enumeration, and enroll in the Study.

Methods: The extensive, multi-modal community outreach and engagement campaign involved a locally produced mass media campaign (billboards, printed posters, radio, television, and newspaper); advance mailings to homes; flyers in water bills, local newsletters, and day care backpacks; one-on-one and group meetings; $5 donations to the public schools per household; use of a Community Liaison, and a Community Advisory Council. Door-to-door recruiters visited households in selected segments of the County and asked residents to complete an enumeration procedure that provided information about household characteristics and composition. If a woman ≥ 18 lived in the household, she was asked to complete an interview to determine if she was pregnant or trying to get pregnant and eligible to participate in the Study. Two of the questions in the interview are: "Before today, had you heard about the National Children's Study?" (Yes, no, refused, don't know); and "How did you hear about the National Children's Study? (20 specific options, other, refused, and don't know).

Results*: N households were visited in the County, n were enumerated, and n women completed eligibility interviews. The majority of women (%) completing the interview had heard about the Study although there was some variation over time and across geographic segments visited. Of those women, the majority (%) had heard about the Study from multiple sources. Top sources of information about the Study included advanced mailings to households (%), billboards (%), print media (%), radio (%), and television (%).

Implications: Outreach and engagement strategies used in this Study were effective in reaching the majority of potential Study participants. Advanced direct mailing and billboards were the most effective strategies for publicizing information about the Study. It is anticipated that future recruitment and retention of women and families in the Study will be highly dependent on the success of community outreach and engagement activities.

* Exact data counts and statistics not available as currently undergoing N.I.H. disclosure review for non-public use data sets. Will be available for presentation by April 2012.

Funding: NIH/NIDDK/NICHD, HHSN267200700031C.

CROSS CULTURAL WOMEN'S HEALTH

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FEASIBILITY OF A TARGETED BREAST HEALTH INTERVENTION FOR CHINESE AMERICAN IMMIGRANT WOMEN

Frances Lee-Lin, Usha Menon, Michael C. Leo, Nisreen Pedhiwala

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TELEPHONE EDUCATION AND COUNSELING: LATINA BREAST CANCER SURVIVORS AND SUPPORT PARTNERS

Terry Badger, Chris Segrin, Joseph Hepworth,
Alice Pasvogel, Karen Weihs, Ana Maria Lopez

A COMMUNITY-BASED COLLABORATIVE ACTION RESEARCH PROJECT WITH SUDANESE REFUGEE WOMEN

Martha B. Baird

MENOPAUSAL SYMPTOMS TREATED BY TRADITIONAL EAST ASIAN MEDICINE – TWO CASE STUDIES

Lisa Taylor-Swanson

WORKING FOR YOURSELF: MICROENTERPRISE AND WOMEN'S HEALTH

Rebekah J. Salt, Jongwon Lee

Feasibility of a Targeted Breast Health Intervention for Chinese American Immigrant Women

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Background: The Asian American and Pacific Islander (AAPI) population is the fastest-growing racial/ethnic population in the U.S. It is predicted that AAPIs will comprise 9 to 10% of the U.S. population by the year 2050. Breast cancer continues to be the most commonly diagnosed cancer among AAPI women. Despite the known benefits of early detection, mammography screening rates among AAPI women are the lowest among all ethnic groups.

Aims: Assess the feasibility and acceptability of a theory-based, targeted educational intervention to increase mammography screening among Chinese American women, the largest AAPI subgroups in the U.S. The secondary aims were to assess preliminary effect sizes and to assess the influence of demographics and beliefs on mammogram completion. Feasibility was measured by response rate and intervention completion rate. Acceptability was assessed by process questions related to cultural appropriateness of the content, participants' response to the content, and intent to change screening behavior. We also assessed changes in the theoretical variables (knowledge, beliefs, and stage of readiness) that were manipulated in the educational program.

Methods: Single group (N=44) pre- and post-test pilot study. The 2-part targeted intervention comprised group teaching with targeted messages followed by an individual counseling session.

Results: Study response and completion rates were high at 71% and 95%, respectively. The intervention content and setting were well received by the participants. Awareness and knowledge of breast cancer risk and post-treatment survival were low. Colors, graphics and contents were considered very culturally appropriate. The mother, daughter, and grandmother dialogue interactions in the presentation were appreciated. Twelve weeks post intervention, 21 (50%) of the 42 women who completed the study had a mammogram. Seven participants moved two stages from pre-contemplation to action stage. For those in contemplation stage at baseline, twelve moved one stage to action. The top three reasons for not completing a mammogram at the end of the study were "no need/no symptom", "busy", and "reliance on family for assistance". Mean breast cancer susceptibility scores increased significantly at posttest as theorized ($t(40)=-2.88$, $p < .01$). Participants were more likely to obtain a mammogram when they had been in the U.S. between 3 and 15 years, and less likely to obtain a mammogram if they had been here less than 3 or greater than 15 years.

Implications: Efficacy of this promising intervention is currently being tested using a randomized controlled design, and can be adapted to other AAPI subgroups. A targeted program that aims to increase breast health knowledge, improve access, and remove barriers may promote mammography screening among Chinese and other immigrant women.

Funding: This study was supported by the American Cancer Society (MRSGT-09-090-01-CPPB).

CROSS CULTURAL WOMEN'S HEALTH

Telephone Education and Counseling: Latina Breast Cancer Survivors and Support Partners

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Purpose/Specific Aims: This study examined the effectiveness of two psychosocial interventions for Latinas with breast cancer and their supportive partners. Supportive partners are defined in this study as anyone the cancer survivor selects to participate in the intervention with her. The interventions were designed for delivery over the telephone to reduce access barriers and in Spanish to minimize linguistic barriers.

Background: Breast cancer in Latinas is a highly prevalent disease with significant health disparities in cancer diagnosis, treatment outcomes, and 5-year survival rates. Limitations in access to care and treatment contribute to this disparity. Latinas with breast cancer are underrepresented in research on psychosocial interventions despite their high risk for psychological morbidity and the efficacy of psychosocial interventions is not well established in this population.

Methods: 90 dyads (Latinas and their supportive partners) were randomly assigned to a health education intervention that reviewed printed materials on breast cancer, health, and wellness, or an interpersonal counseling intervention that addressed 1) mood and affect management, 2) emotional expression, 3) interpersonal communication and relationships, 4) social support, and 5) cancer information. Breast cancer survivors each received one weekly call over 8 weeks, and their partners received a call every other week over the same 8 weeks. Quality of life assessments were made at baseline (T1), T1 + 8 weeks, and T1 + 16 weeks. Quality of life was assessed with measures of psychological (depression, negative affect, stress, and anxiety), physical (fatigue, symptom distress), social, and spiritual well-being.

Results: The typical Latina participating in this study was 47.34 years of age, Mexican American (77.2%), married (67.5%), had less than a high school education (52.6%), income less than $30,000 (72.6%), and was unemployed (60%). The majority of partners were spouses/significant others or female family members. Both breast cancer survivors and their supportive partners evidenced statistically significant improvements ($p < .01$) in virtually all dimensions of quality of life over the course of the investigation. However, there was no evidence pointing to the superiority of one intervention over the other.

Conclusions and Research Implications: Latinas with breast cancer and their supportive partners experienced substantially increased quality of life pursuant to participating in either a health education or interpersonal counseling intervention. The findings support further testing of these two interventions in disadvantaged populations and further analysis of the interventions' mechanisms responsible for these improvements.

Clinical Implications: These findings underscore the value of designing interventions that overcome access and language barriers, and inclusion of intimate partners and family members in interventions for Latinas with breast cancer.

Funding: Lance Armstrong Foundation.

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CROSS CULTURAL WOMEN'S HEALTH

A Community-Based Collaborative Action Research Project with Sudanese Refugee Women

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Purpose/Aims: To partner with a community of Sudanese refugee women to address their health concerns.

Rationale/Conceptual Basis/Background: Resettled refugees face multiple challenges as they learn to adapt to new socio-cultural and healthcare systems. The theory of Well-being in Cultural Transition (Baird, 2011) provided a framework for an intervention project between researchers from a large academic medical center and a Sudanese refugee community to address their health needs.

Methods: A Community-based Collaborative Action Research (CBCAR) design was used to develop a list of community health-related concerns and deliver monthly educational seminars. The seminars were held at the Sudanese Community Church and interpreted into Dinka and Arabic. Seminar topics included: preventative well-women's health; sexually transmitted diseases; childhood illnesses; parenting skills; and women's psychological stress. Following each seminar audio-taped focus groups were conducted to gain the perspectives of the refugee women. The transcribed and back-translated focus groups were analyzed using qualitative methods. Recurring patterns and themes were confirmed with participants and an action plan was developed for the community.

Findings: Eighteen women participated in the five educational seminars and focus groups. Findings reveal that the refugee women lacked understanding about preventative health practices such as mammograms and the need to take vitamins. Barriers to access healthcare included a lack of time with healthcare providers, no health insurance and an inability to afford co-pays and prescribed medications. Some of the women also experienced discrimination by US health care providers.

Implications: Community-based collaborative action research is a culturally appropriate method to partner with marginalized populations such as refugees to address their health needs in resettlement. The partnership that resulted from this project is ongoing and will contribute to sustainable change to address the complex health care needs of a refugee community.

Funding: This study was supported by a grant from the Office of Grants and Research at the School of Nursing at University of Kansas Medical Center in Kansas City, Kansas.

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Menopausal Symptoms Treated by Traditional East Asian Medicine – Two Case Studies

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Purpose: Although the treatment of symptoms during the menopausal transition (MT) by acupuncture has been studied, to date no study has reflected Traditional East Asian Medicine (TEAM) as it is generally practiced in the USA today. This multiple case study aims to demonstrate two common TEAM approaches to the treatment of symptoms during the menopausal transition.

Background: TEAM has been used to treat symptoms related to the MT for millennia and is comprised of many tools including acupuncture, Chinese Herbal medicine (CHM), cupping and *tui na* massage. This project presents the outcomes of two case studies of women experiencing MT symptoms. Both were successfully treated: one with acupuncture only, the other with CHM and acupuncture.

Methods: Signed, informed consent was obtained from both patients. A retrospective chart review was performed using content analysis. Patients verbally reported during the TEAM appointment and notes were taken regarding intensity, frequency, perceived percentage change and bother of HFs and other related symptoms (sleep, mood, pain, cognition). Both patients received weekly acupuncture for one month, after which they have received bi-weekly acupuncture for six months. Patient B has taken CHM in granular form twice daily for seven months. The formula was modified over time according to her presentation.

Outcomes: Patient A experienced hot flashes (HFs) at night and anxiety. She was diagnosed with Kidney Yin deficiency and Heart Qi instability. Acupuncture points were chosen according to this diagnosis. She stated that her symptoms improved by 50% after one month and were improved by 90% after two months. Her HFs were completely gone by month three and her anxiety was "basically gone" by month three. Patient B experienced HFs and joint pain and received acupuncture and CHM. She was diagnosed with Kidney Yin and Yang imbalance. HF frequency and intensity reduced 90% and joint pain reduced 20% after one month. HFs reduced 100% at month two and for the duration of the study. Joint pain improved by 50% with seven months' treatment.

Conclusions: Patients A and B both experienced significant and lasting benefit from acupuncture and CHM for the treatment of their MT symptoms. This project highlights the importance of individualized care, rendered after a TEAM diagnosis has been determined. While some research has been conducted on the treatment of MT symptoms with acupuncture, little has been done with individualized care according to TEAM principles and no study to date has offered variable treatment modalities (acupuncture, CHM, etc) as they change over time according to each case. Future prospective studies of MT symptoms treated with TEAM need to be evaluated with standardized measures such as the Kupperman's Index, Greene Climacteric Scale and self-report journals. Additionally, a study design with the emergent, changing and individualized nature of TEAM care would reflect TEAM as it is currently practiced in clinics in the USA.

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Working for Yourself: Microenterprise and Women's Health

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Purpose/Aims: The purpose of this study was to explore precarious employment and women's health within the context of microenterprise. The specific aim was to identify the health concerns of low-income women who utilized either funds or development training from Women's Economic Self-sufficiency Team (WESST) a non-profit organization in New Mexico (NM).

Rationale/Conceptual Basis/Background: Social determinants of health research focus on social conditions that affect health and create health disparities. As labor markets respond to a changing global economy, there has been a trend toward nonstandard types of employment sometimes referred to as precarious employment. The term often implies lack of job security and/or benefits. Although reports have been inconsistent, the majority of studies have suggested that precarious employment can be detrimental to health. In contrast, several researchers have purported that the flexibility associated with precarious employment may be beneficial to health. There are almost 700 microenterprise programs in the United States that offer training and small loans to low-income individuals, the majority of who are women, to start small businesses. WESST provides statewide small business development to economically disadvantaged New Mexicans through training and financial resources. The theoretical framework that guided this research was based on social ecology theory which identifies relationships and pathways between people and their environments.

Methods: Data were generated in NM in 2010 using five focus groups with women who were affiliated with one of the regional WESST sites around NM. Five transcripts were coded by the principle investigator and a second independent coder. Data were analyzed using content analysis. The degree of inter-rater agreement was determined by calculating the Cohen's Kappa (K), percentage agreement (P_o), prevalence index (PI), bias index (BI), and prevalence-adjusted and bias-adjusted Kappa (PABAK).

Results: Two broad themes emerged from these data: 1) *Working for Yourself* and 2) *Strategies* along with multiple categories and codes related to microenterprise and health. While the women expressed concern about social isolation, depression, and the economy; flexibility, freedom, and feeling purposeful were motivators to pursue a microenterprise. The Kappa (K) statistics on the five transcripts ranged from 0.02 to 0.2 which indicated poor inter-rater agreement. This might be because the ratings between the two raters were nearly all positive. In such cases, it is difficult to interpret Kappa alone and the adjusted Kappa (i.e., PABAK) needs to be used. Thus, we calculated additional agreement indices of the five transcripts and they revealed that there was a good inter-rater agreement: PABAK, 0.60- 0.74; P_o, 0.78- 0.85; PI, 0.72-0.84; and BI, -0.01-0.1.

Implications: Starting a small business in today's fragile economy can be risky and to date, there is minimal research that explores the relationship between precarious employment and health within the context of microenterprise. Women are one of the strongest links to family health and represent the majority of microenterprise owners; therefore investing in interventions that address their concerns may decrease disparities and improve population health.

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DISCOURSE, DAILY LIFE AND DISPARITIES FOR LATINOS AND AFRICAN AMERICANS

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LATINOS AGING IN SKID ROW LOS ANGELES: THE PATH TO HOMELESSNESS

Maria Elena Ruiz, Carlos Contreras, Julie Popovic

DISCOURSES OF ASTHMA DISPARITIES: STATE PLANS AND AFRICAN AMERICAN ADOLESCENTS

Robin A. Evans-Agnew

HEALTH PROMOTION AND RELATED PSYCHOSOCIAL FACTORS IN MEXICAN-AMERICAN WOMEN

Viola G. Benavente

INTERVIEWS VS. INSTRUMENTS: ASSESSING ADL ABILITY IN MEXICAN AMERICAN CAREGIVERS

Bronwynne C. Evans, Michael J. Belyea, Ebere Ume,
David W. Coon, Felipe González Castro

DISCOURSE, DAILY LIFE AND DISPARITIES FOR LATINOS AND AFRICAN AMERICANS

Latinos Aging in Skid Row Los Angeles: The Path to Homelessness

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Purposes/Aims: The purpose of this community based research study was to explore the perception of older Latinos living in skid row on factors that may have contributed to their becoming homeless. Results provide a framework for intervention, policy and program development to support the largely isolated elderly Latinos, thus reducing further structural isolation and health risks.

Rationale/Conceptual Basis/Background: The graying of America has attracted increased media attention, as a growing number of individuals experience hunger, poverty and homelessness. In 2008, almost 44,000 seniors were homeless. Within the next ten years, this figure may rise to almost 59,000 (33% increase). By midcentury, the numbers may almost double, to 93,000. Yet, little is known about the fastest growing elderly population, or Latino elders, and associated risk factors for homelessness. Even less is know about Latinos aging in skid row Los Angeles. How can we reconcile that members from a traditionally familistic orientation end up living alone and often isolated, homeless, or at best in single room occupancy hotels?

Methods: Utilizing a mixed quantitative and qualitative design, a bicultural and bilingual team of researchers recruited 20 older self-identified Latino men and women living in skid row. Participants completed a survey and participated in semi-structured audio taped oral interviews; gathering demographics and exploring issues on homelessness, health, social support, health access, and agency support.

Results: Beyond the simple typology most identified in the literature (job and housing loss and medical/social issues), the findings are significant, as the stories reveal multiple pathways intercept; including job/housing loss, family and network dissolution, violence, medical/social issues, language and cultural isolation, legal status and today's sociopolitical climate.

Implications and Significance: The findings call into question the issue of homelessness for a diverse and aging population, and our healthcare system's ability to fully assess and to provide culturally comprehensive health care and services to a growing homeless population. For the discipline of nursing, the significance for nursing practice are that we will need to provide advanced training for assessing an individual's risk for homelessness, while we also prepare to take leadership roles in order to advance a multidisciplinary community partnerships that address the totally of an invidividual's health and environmental risks.

Funding: The Institute of American Cultures and the Chicano Studies Research Center, UCLA.

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DISCOURSE, DAILY LIFE AND DISPARITIES FOR LATINOS AND AFRICAN AMERICANS

Discourses of Asthma Disparities: State Plans and African American Adolescents

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Purposes/Aims: Describe the Asthma management disparities (AMD) policy-topics that are introduced, promoted, or minimized by African American adolescents with asthma and Washington State Asthma Planning (WSAP) stakeholders.

Rationale/Conceptual Basis/Background: AMD continue to unfairly burden African American adolescents. Policies for the reduction of health disparity have been criticized for being limited in scope. Little is known about 1) how policymakers use language to describe the impacts of AMD to the public, and 2) how African American adolescents use language to voice their views on AMD to policymakers. A study of the use of language in these contexts could expand the scope of future policies that target the reduction of AMD. Critical discourse analysis examines the ideologies that regulate and reinforce language use – those patterns of text, talk, and action - can provide an opportunity to identify new strategies for nursing research and advocacy.

Methods: A contextual and linguistic approach to Critical discourse analysis was used to investigate: 1) the final draft publication of the 2011 Washington State Asthma Plan that was developed by WSAP stakeholders, 2) the texts adolescents produced to accompany photographs they took during a three-session Photovoice project expressing their opinions about AMD, 3) and observations made during and after the final photo-showing event discussion between adolescent and WSAP stakeholders.

Results: Nineteen adolescents produced 38 photo-texts. Fifteen adolescent and twelve WSAP stakeholders attended the final event discussion. The WSAP draft plan introduced and promoted 11 identity-topics for advantaged groups (n=3) and disadvantaged groups (n=8), and minimized 7 identity-topics for advantaged groups. Policy-topics were described for the WSAP plan draft (n=7), the adolescent stakeholder photo-texts (n=14), and at the discussion by both WSAP and adolescent stakeholders at the final event (n=9). A new policy-topic ("A permanent fix") was introduced by the adolescent stakeholders. The policy-topics of outdoor air pollution, inadequate housing, healthcare communication, and indoor air quality were common to all types of data.

Implication: The findings suggest limitations and opportunities in the policy discourses for reducing AMD in African American adolescents. There is a need to develop more topics in the identities of advantaged groups with asthma if measurement of disparities is to truly occur. The new policy-topic of "A permanent fix" locates oppressive and potentially racial ideologies within the discourses of Asthma management. Photovoice activities can increase the diversity of discourses within a state planning process on health disparities. Policy recommendations for reducing AMD in African American adolescents should include multilevel approaches on outdoor air pollution, inadequate housing, healthcare communication, and indoor air quality.

Funding: Granting organizations: University of Washington School of Nursing Hester McLaws fund and Sigma Theta Tau Psi Chapter New Researcher grant.

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Health Promotion and Related Psychosocial Factors in Mexican-American Women

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Purpose: The purpose of this research study was to identify predictors associated with health-promoting lifestyle behaviors in Mexican-American women. Study aims investigated the relationships of four predictor variables on health promotion and the degree of influence of those variables: CHD knowledge, perceived health status, acculturation level, and menopausal status.

Background: In Mexican-Americans, the burden of coronary heart disease (CHD) is associated with simply being “female,” and is equal, if not greater than that of non-Hispanic whites. Death and disability due to CHD, the most prevalent form of cardiovascular disease, is vastly affected by Hispanic healthcare disparities, as manifested by poorer access to care and disproportionate delivery of medical treatments to underrepresented groups and also between men and women. Yet, a health-promoting lifestyle can largely reduce cardiovascular risk and/or delay disease progression, and lessen disparate healthcare.

Methods: A descriptive quantitative study design was used to enroll a sample of 128 adult Mexican-American women free of a CHD diagnosis residing in the Northeastern United States (US). A cross-sectional survey methodology using four Spanish-language instruments explored the relationships between CHD knowledge, perceived health status, acculturation level, menopausal status and health promotion.

Results: The sample consisted of a relatively young group of Mexican-American women who preferred to speak Spanish, regardless of birth country, length of US residency, or acculturation level. A statistically significant positive correlation was found between perceived health status and health promotion ($r = .495$, $p = .001$) and also with CHD knowledge levels ($r = .305$, $p = .001$). After adjustments, only perceived health status remained statistically significant ($b = .112$, 95% CI = .058 - .165, $p < .001$). These women perceived they could influence present health status, but only when it became necessary, while maintaining a positive outlook of future health. Three key demographic variables, also statistically significant, showed increased age supported healthier lifestyles ($b=.009$, $p = .050$), whereas having less than five years of formal schooling diluted perceptions of health promotion ($b=-.327$, $p = .038$), and literacy level showed reading comprehension ability improved health knowledge levels ($b=-.373$, $p = 0.002$).

Implications: Study findings extended what is known about cardiovascular health promotion in underrepresented ethnic groups. An enhanced understanding can foster future research to develop culturally-tailored and sex-specific interventions to promote heart-healthy lifestyles among *Latinas,* particularly Mexican-Americans, and effectively eliminate health disparities in this growing cohort of women.

Funding: This work was supported by the Ruth L. Kirschstein National Research Service Award for an Individual Pre-Doctoral Fellowship to Promote Diversity in Health-Related Research, Grant F31NR010847 from the National Institute of Nursing Research. The content is solely the responsibility of the author and does not necessarily represent official views of the National Institute of Nursing Research or the National Institutes of Health. Additional support was received from the Xi Chapter of *Sigma Theta Tau International* and the Southeastern Pennsylvania Chapter of the *American Association of Hispanic Nurses.*

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DISCOURSE, DAILY LIFE AND DISPARITIES FOR LATINOS AND AFRICAN AMERICANS

Interviews vs. Instruments: Assessing ADL Ability in Mexican American Caregivers

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Purposes/Aims: Because informal care for parents is imperative for Mexican American (MA) families, caregivers are gravely concerned by their own declines in activities of daily living (ADLs). They know their functional abilities are the key to continuing this commitment. This presentation will (1) describe ADLs, acculturation, and cultural expectations in the informal caregiving trajectory of 31 MA caregivers and (2) evaluate the advantages of interviews vs. standardized instruments in obtaining accurate ADL data in such families.

Rationale/Conceptual Basis/Background: We know little about caregiving in MA families, but they experience greater health deterioration, with higher levels of disability at earlier ages than Anglos. ADL disability, age, and male gender are predictive of mortality in both MAs and Anglos. Our descriptive, multi-site, longitudinal, mixed methods study examines caregiving and ADL ability through *life course perspective* (LCP), a leading theoretical orientation for the longitudinal study of health.

Methods: Case- and variable-oriented methods offer insight into the initial data wave of 31 caregivers (similar in age, acculturation, education, socioeconomic status, income, and caregiving stage to the overall study sample of 110 MA caregiving families). We examined 180 semi-structured interviews (visits every 10 weeks for 15 months) for caregiver ADL problems associated with *burden* and *strain* (LCP constructs). Based on Katz ADL scores for Times 1-6, we dichotomized caregivers into “help needed” and “no help needed”, repeating the procedure for interview data. We then compared the two sets of dichotomized scores for congruency. Because somatization is traditionally viewed as higher in MAs (particularly if less acculturated) than Anglos, we compared scores on CES-D somatization items with General Acculturation Index scores and searched for evidence of somatization in interview data.

Results: Fifteen of 31 caregivers indicated “no help needed” on the ADL instrument, yet all but one reported “help needed” during the interviews. Moderately acculturated caregivers considered institutionalization if they could not provide a critical level of informal care with 3 admitting family members temporarily. Rather than evidence of somatization in caregivers, we encountered *minimization,* defined as ignoring or diminishing the importance of illness or other life disruption due to caregiving. Caregivers brushed aside illness as a low-priority problem that interfered with their commitment to caregiving.

Implications: The cause of the discrepancy between disability reports on ADL instruments and reports in interviews is unknown, but the use of *personalismo* during interviews by cultural brokers may have fostered a discussion in which ADL disabilities were not viewed by caregivers as conceding burden, which could threaten the bonds of *la familia*. Given the questionable accuracy of the widely used ADL instrument, other means of assessing disability in MA caregivers may be necessary, along with additional research into reasons for the discrepancy. Health care providers also must be alert for minimization which, although it may act as a coping strategy for caregiver *burden* and *strain* (LCP), may mask vital health issues and prevent timely intervention.

Funding: This study was funded by NINR, National Institutes of Health (5R01NR0101541).

ENGAGEMENT AND MANAGEMENT IN THE COMMUNITY

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COMMUNITY THEMES AND STRENGTHS ASSESSMENT

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TRIBAL/COUNTY HCP PERCEPTIONS OF PRIORITY PEDIATRIC ENVIRONMENTAL HEALTH ISSUES

Milissa R. Grandchamp, Sandra W. Kuntz, Barb Plouffe

QIGONG AS A NOVEL INTERVENTION FOR SERVICE MEMBERS WITH MILD TRAUMATIC BRAIN INJURY

MAJ Terri L. Yost, Ann Gill Taylor

GLAUCOMA MEDICATION TREATMENT NONADHERENCE: CORRELATES AND CONSEQUENCES

Paul F. Cook, Steven L. Mansberger, Christina Sheppler,
Sarah J. Schmiege, Malik Y. Kahook

“I FEEL SO OUT OF PLACE”: HEALTHCARE EXPERIENCES OF WOMEN COMBAT VETERANS

Cynthia E. Fitzgerald

Community Themes and Strengths Assessment

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Purpose: The project completed the Community Themes and Strengths Assessment, one phase of the Mobilizing for Action through Planning and Partnerships (MAPP), a strategic planning framework for improving community health. This phase is a qualitative assessment of the community's perceptions of issues of importance, health related quality of life, and resources available to improve health.

Background: Clark County, Nevada includes Las Vegas and surrounding areas, with a combined population of approximately 2 million (and 36 million visitors a year). The Las Vegas area fares poorly in most health indicators, such as high school graduation rate, chronic disease morbidity and mortality, suicides, and access to health care. The Southern Nevada Health District (SNHD) partnered with the University of Nevada, Las Vegas (UNLV) to begin a comprehensive community assessment as a foundation for improving population health.

Methods: The qualitative study involved two phases. The first was holding two large group meetings for community leaders from a wide variety of community agencies and sectors (*n*= 62) using the Technology of Participation (ToP) method to ensure that the meetings were conducted efficiently. The ToP method involves small group work, then consensus building sessions. In addition, participants were asked to complete a 12 question, quantitative Quality of Life Survey. The second phase entailed conducting two focus groups (*n*=12) with community sectors not represented in the large group meetings. Data were analyzed for themes using NVivo 9.

Results: The following themes emerged in both group meetings, as well as in focus groups: built environment, community engagement, diversified economy, education (access, commitment, quality), healthcare (access, quality, continuity), and public safety. Participants ranked their current status as "poor," except for public safety, which they ranked "okay."

Other characteristics of a healthy community identified included good government, cultural opportunities, health public policies, social services, provision of public services at an adequate level, recreation, and beauty in the natural environment. Again, most were judged of poor quality. In addition, participants were able to identify long lists of assets. Recurrent themes were good weather, demographic diversity, wealthy individuals, name recognition for Las Vegas, casinos, faith community, certain charities, SNHD, Hoover Dam, the air force base, and celebrities. The results from the Quality of Life Survey indicate that respondents (*n*=57) rated Southern Nevada as a mean 2.5 on a scale of 1 – 5 (worst to best) for achieving the benchmarks of a healthy community.

Conclusions: In many ways, this was a visioning process, with participants describing the type of community they would find ideal. This was also an educational process for attendees who had little previous experience with community assessment. Participants were able to identify themes important to the community and ranked them as below average, giving the SNHD direction for future assessments and interventions. The large number and variety of assets offer possible resources for community health improvement. Based on the findings, the SNHD and UNLV created a white paper: "Vision for an Engaged, Educated, and Healthy Community."

Funding: This study was funded by a grant from the Lincy Institute at the University of Nevada, Las Vegas.

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Tribal/County HCP Perceptions of Priority Pediatric Environmental Health Issues

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Purpose/Aims: This study emanated from a community-academic partnership that sponsored an environmental health continuing education event for health care providers who work with the tribal/non-tribal local population. A community-based participatory research (CBPR) approach was used to tap local health care provider (HCP) expertise to identify potential environmental exposures on one Montana Indian reservation and the principal county within the reservation. The research questions included: (a) What are the perceptions of HCPs regarding environmental hazards that could affect fetal, infant and child morbidity/mortality? (b) What are the potential environmental health issues that could impact the fetus infant and child on the reservation-of-interest? (c) What are the HCP educational needs related to improving competencies in environmental health?

Rationale/Background: Fetal, infant and child mortality and morbidity is significantly higher in American Indian children (8.8/1000) compared to the dominant culture (6.9/1000). Exposure to toxins is one preventable cause of illness and death. Although healthcare providers are uniquely positioned to serve as partners to reduce environmental exposures, many lack formal or continuing education in environmental health. The Translational Environmental Research in Rural Areas (TERRA) framework addresses environmental health and justice issues by emphasizing areas of risk and risk perception" (Butterfield & Postma, 2009, p. 107).

Methods: A descriptive, naturalistic, qualitative research design was applied using focus groups as the primary data collection method. Forty HCPs, five groups of eight, including physicians, nurses, community health representatives, public health workers, social workers, and sanitarians participated in post-conference focus groups. Five trained moderators used an established protocol to guide a two-hour discussion based on 12 pre-tested questions. Demographic data were collected from participants; content analysis on the five focus groups audio-recorded transcripts established primary themes.

Results: Demographics: 75% of HCPs indicated they had no previous pediatric environmental health formal or continuing education; 47% indicated <10 years of practice; 33% of providers noted tribal affiliation; and, approximately half of the participants held a high school diploma or associate degree only. For each question, the top three themes were generated accompanied by descriptive quotes for each theme. For instance, "When I hear the phrase environmental health I think of . . ." (Response summary times five groups = community (14); safety (11); toxins (8). Interrater reliability was 90-100% (3 questions).

Implications: Results of this study, although non-generalizable, indicated HCPs are concerned about both behavioral mediated environmental toxins (substance abuse; ETS) and invisible toxins (methylmercury and water quality). Generally HCPs felt they needed more EH education on chemicals, pesticides, and exposure effects but are burdened with acute practice issues (diabetes, heart disease, accidental injury), which often take priority.

Reference:

Butterfield, P. & Postma, J. (2009). The TERRA Framework: Conceptualizing rural environmental health inequities through an environmental justice lens. *Advances in Nursing Science, 32*(2), 107-117.

Funding: NIH NIMHD, Center for Native Health Partnerships 1P20MD002317-01.

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Qigong as a Novel Intervention for Service Members with Mild Traumatic Brain Injury

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Purpose/Aims: The purpose of this study was to explore the interest in and utility of an 8-week internal qigong intervention in service members diagnosed with mild traumatic brain injury (mTBI). Gaining insight into the interest, effects of, and adherence to a qigong intervention from the service member's perspective is a first step toward the long-term goal of establishing a program of research using non-pharmacologic interventions such as qigong for management of symptoms related to mTBI.

Background: Over the past decade, traumatic brain injury (TBI) has evolved into the signature injury for service members returning from the wars in Iraq and Afghanistan. The attention being given to mTBI is greater than it has ever been when compared to previous conflicts. Because of the nature of the blast injuries occurring on the battlefields in Iraq and Afghanistan, diagnosis, treatment, and rehabilitation of service members with mTBI have proven to be challenging and often incomplete, leading the military medical community to seek new and innovative approaches to the long-term management of mTBI. One novel therapy that has shown potential in reducing stress and improving quality of life issues similar to those seen in service members with mTBI is qigong, an ancient Chinese healing art that involves focusing the individual's internal energy towards balance and wellness through the use of slow, deliberate movements, diaphragmatic breathing, and meditation.

Methods: This study used a qualitative descriptive phenomenological analysis. A total of six service members with mTBI who were receiving outpatient neuro-rehabilitation at the Defense and Veterans Brain Injury Centers–Charlottesville Rehabilitation Program (DVBIC–Charlottesville) were interviewed halfway through the qigong intervention, then again at the end of the 8 weeks of formal instruction. The interviews focused on the service members' interest in and the utility of this ancient art. Interview data were analyzed using methods originally described by Husserl and later refined by Giorgi.

Results: Findings from the interviews revealed a dramatic change in the attitudes of the participants following the practice of qigong over the 8 weeks. Four themes emerged and included, "the physical experience of qigong," "regaining control," "no pain, a lot of gain," and "barriers to practice of qigong." Participants offered profound examples of how qigong enabled them to take control of their symptoms and their general outlook on the future. Their perceptions were that qigong was conducive to the highly disciplined mindset of military service members. They also believed that the simplicity of qigong, when compared to similar modalities such as tai chi and yoga, was well suited to individuals with symptoms related to mTBI who may be limited by decreased balance, cognition and memory.

Implications: This pilot study strongly supports additional research into the effects of the practice of qigong in service members with mTBI. Specifically, research could be directed not just at overall well-being associated with practice, but to the phenomenon of using qigong to address symptom management through promotion of empowerment and control in a population for whom elements of control have been lost following a brain injury.

Funding: Research funded through the Tri Services Nursing Research Program #N10-P08.

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ENGAGEMENT AND MANAGEMENT IN THE COMMUNITY

Glaucoma Medication Treatment Nonadherence: Correlates and Consequences

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Purpose/Aims: As part of an ongoing multi-site randomized controlled trial (RCT) of motivational interviewing for glaucoma medication adherence, we explored psychosocial variables and outcomes related to nonadherence among older adults with glaucoma.

Background: People fail to take glaucoma medication for various reasons, including cost, side effects, and believing that treatment is not helpful. Patient counseling to address such issues may be beneficial (Cook et al., 2010), but the specific factors that affect glaucoma adherence are not well understood. Better data on the relationships between psychosocial experiences, vision problems, overall health, and adherence can help to guide interventions.

Methods: Persons with glaucoma ($N = 25$) were recruited from two eye clinics in Denver CO and Portland OR. Eligibility criteria were: (a) community-dwelling adults with open-angle glaucoma, (b) monotherapy glaucoma treatment, (c) visual field data available, (d) no plan for surgery within 6 months, and (e) no comorbidity that the patient's physician believed would interfere with participation. Participants were older adults ($M = 65$ years, range: 44-84), 44% men, 44% non-White, 57% married, and 60% retired or disabled, with multiple comorbid conditions. Upon enrollment, participants completed validated paper-and-pencil measures of treatment motivation, knowledge, adherence, treatment satisfaction, self-efficacy, eye symptoms, functional impairment, vision, general health, social support, stress, coping, and anxiety. Adherence behavior was assessed with items on participants' medication use over the past 3 days; barriers to adherence were assessed with the Morisky medication adherence scale plus items on specific barriers to adherence like side effects and drug use. All measures had adequate reliability (as $\geq .70$). No intervention was given before data collection, so RCT groups were combined for analysis. Pearson correlations were used to analyze relationships, and reported if significant at the $p < .05$ level.

Results: Self-reported adherence was high ($M = 2.4/3$, $SD = 1.0$), with 50% of participants reporting perfect adherence over the past 3 days and another 25% reporting adherence on 2 of the past 3 days. Nonadherence correlated with negative mood ($r = .59$). More functional impairment, lower self-efficacy, lower treatment motivation, more side effects, and any nonprescribed drug use all correlated with barriers to adherence based on the Morisky scale (rs $\geq .47$). However, none of these were related to actual adherence behavior, with only motivation ($r = .39$, $p = .06$) and Morisky score ($r = -.35$, $p = .10$) approaching significance. All other direct effects of psychosocial factors on adherence behavior were small (rs $\leq .27$). Adherence was related to better health ($r = .42$) and marginally related to satisfaction with glaucoma medication ($r = .37$ $p = .10$). General health was associated with vision quality, fewer eye symptoms, and less functional impairment (all rs $\geq .50$), but adherence was not.

Implications: People with glaucoma have high but variable self-reported adherence, and adherence is related to better health and treatment satisfaction. Providers should monitor patients' adherence and potential barriers. Adherence barriers and adherence behavior are distinct constructs, with barriers showing stronger relationships to psychosocial variables.

Reference: Cook PF, Bremer RW, Ayala AJ, Kahook MY. Feasibility of motivational interviewing by a glaucoma educator to improve medication adherence. *Clin Ophthalmol* 2010;4:1091-1101.

Funding: This study was supported by research contract #2517807 with Merck & Co., Inc.

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"I Feel So out of Place": Healthcare Experiences of Women Combat Veterans

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Purposes/Aims: The purpose of this exploratory study was to develop an understanding of the healthcare experiences of women veterans returning from service in the current wars in Iraq and Afghanistan.

Rationale/Conceptual Basis/Background: Although the Veteran's Administration projects that the number of women veterans accessing healthcare will more than double in the next five years, fewer than 50% of those returning home will seek healthcare at a Veteran's Administration facility. The majority of these women veterans will be of childbearing age and many will have served multiple tours of duty in combat settings in Iraq and/or Afghanistan. They will return home with unique mental and physical healthcare needs related to their military service, but fewer than 50% will seek care in a VA clinic or other facility. Unless community healthcare providers become more aware of healthcare needs that arise from combat and combat support services, these women combat veterans may receive care that does not fully address their needs. Enhanced understanding of the healthcare experiences of women veterans can lead to the development of care that is better suited to meet their needs; ultimately, this will result in improved health outcomes for women who have served in combat settings.

Methods: Nineteen women participated in interviews for this community-based qualitative study. Based on their initial interviews, two women were selected for inclusion in a separate case study and their interviews were not analyzed as part of this study. The seventeen remaining participants completed semi-structured interviews lasting approximately two hours within one year of returning from duty in Iraq or Afghanistan. All participants completed one interview; eight also completed a second interview to discuss issues related to childbirth and mothering. Audio and transcribed data were analyzed using a multi-staged narrative approach.

Results: Results describe healthcare experiences both during and following deployment. Negative experiences during and following deployment included the absence of consistent assessment that allowed discussion of service-related health concerns, general lack of gender-sensitive care for issues related to reproductive health, perceived inadequate treatment for overuse-type orthopedic injuries, perceived lack of privacy, and/or confidentiality, and difficulties in obtaining supportive care for mental health issues such as depression, anxiety, marital/relationship discord, and/or symptoms of post-traumatic stress disorder. Upon return to the United States, participants who wished to remain actively involved in their military units were reluctant to seek care for mental and/or physical health concerns for fear of mandatory separation from their units. Healthcare-related fear and anxiety were heightened when healthcare providers were male and/or of middle-eastern ethnicity.

Implications: Further study is needed to evaluate stressors and identify opportunities for improved care and further support for women combat veterans and especially for dual-military families, childbearing women veterans, and services designed to address the needs of families with school-age and adolescent children. A study being planned by the author will include quantitative measures of wellbeing, health status, and quality of life in addition to a continued focus on the stories of healthcare experiences and needs told by women combat veterans who find themselves back at home.

Funding: This study was funded in part by a 2009-2010 Faculty Seed Grant from Washington State University-Spokane.

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FACULTY AND STUDENT ROLES

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NURSES CARING FOR OLDER ADULTS SCHOLAR PROGRAM: ENTICEMENT FOR ENTRY INTO A FACULTY ROLE

Janet Mentes, Linda Phillips, Mary Cadogan, Lynn Woods

THE FACULTY ADVISOR EVALUATION QUESTIONNAIRE: DEVELOPMENT AND TESTING

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BARRIERS AND FACILITATORS TO HAVING HEALTHY FAMILIES FOR LATINA STUDENTS

Jill Mount

NEW NURSES' HOPES AND EXPECTATIONS TRANSITIONING INTO NURSING PRACTICE

Linda Gwinn, Angie Marks, Renee Hoeksel

GRADUATE PERSPECTIVES ON PREPARING TO CARE FOR OLDER ADULTS

Jacqueline Jones, Ernestine Kotthoff-Burrell, Jane Kass-Wolff

Nurses Caring for Older Adults Scholar Program: Enticement for Entry into a Faculty Role

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Purpose: We describe the development and outcomes of the Nurses Caring for Older Adults Young Scholars Program, a mentorship program that identifies students early in their pre-licensure program, both bachelor's and master's entry programs, who are interested in care of older adults and offers them a 1-3 year mentorship program.

Rationale: Nursing care, specifically for the world's burgeoning older adult population, is an important component of access to and quality of health care. However, the current nursing education workforce is also aging, with an average age of 58 years and with the anticipated retirements of experienced educators; the profession of nursing is endangered. It is important to develop programs that will prepare the faculty necessary for educating future generations of nurses in the care of aging persons.

Approach: The Young Scholars Program (YSP) focuses on helping the students to develop the requisite research, educational and professional skills with a focus on culturally competent "Gero smart" nursing skills to accelerate into a PhD program after completing their basic nursing coursework. Pre-licensure students are matched with faculty mentors during their participation in the program and are involved in a variety of mentored projects such as co-authorship of research or clinically focused publications, both podium and poster research presentations and participation as paid research assistants on faculty research grants.

Outcomes/Challenges: In the three years since its inception, we have mentored 9 students through the YSP; of these students 5 have been accepted into PhD programs and 2 have entered gerontological nursing practice. We currently have 3 YS in the first year of the program. Facilitators for a young scholar's solidifying an intention to pursue doctoral education include: participating in faculty mentor's research activities, attending the Gerontological Society of America scientific meeting with faulty mentors, attending monthly gerontological nursing interest group meetings, participating in quarterly film festivals focused on issues of older adults and receiving recognition at graduation for participation in the program. Barriers include: students concerns about lack of clinical experience in transitioning into the doctoral program on graduation, financial concerns, and difficulty committing to a specialty area so early in his/her academic career.

Conclusions: The Young Scholars program has been successful in encouraging pre-licensure students who have an identified interest in research to pursue doctoral studies after completing their basic nursing program. Of the students who act on their intention to enroll in doctoral studies, pre-licensure mentorship with active participation in their mentor's research activities appears to be the strongest factor in following through with application and enrolling in a doctoral program.

Funding: Supported by HRSA 1D09HP10419-01-00 (Phillips, PI).

The Faculty Advisor Evaluation Questionnaire: Development and Testing

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Purposes/Aims: The purpose of this series of studies was to develop and test the psychometric properties of The Faculty Advisor Evaluation Questionnaire (FAEQ).

Rationale/Conceptual Basis/Background: Research indicates that effective academic advising outcomes are tied to student's academic success, attitude toward life long learning, satisfaction, recruitment, and retention. Further, effective academic support services including effective advising, have been identified as a key element in the AACN Standard's for Accreditation. Despite its importance, nursing's contribution to advising research and scholarly commentary has been minimal. The development and structure of the advisee-advisor relationship in schools of nursing is unique due to relatively inflexible prerequisite scheduling, higher grade point averages required for admission and retention in the program, and more frequent appointments with the advisor. It is important, therefore to ask what constitutes good academic advising, and to consider how the effectiveness of academic advising is measured.

Methods: Two qualitative studies by this PI investigated student and faculty perceptions of effective academic advising. The combined results of the content analyses were used to develop the initial 63-item FAEQ. Items were developed to meet Dillman's criteria for structurally sound and appropriately worded questionnaires. The items were formatted in a six-point Likert-type scale, and instructions and demographic questions were added. Face and content validity were confirmed by two student nurses, and seven nurse experts respectively. Content validity index (CVI) ranged from 0.43-1.00. Revision based on CVI, conceptual/theoretical significance of the item(s), and suggestions from the nurse experts resulted in a 50-item questionnaire. The reliability pilot was conducted at a medium size public university in the southern U. S. The FAEQ was formatted for Survey Monkey and students were invited to participate and given the link to the questionnaire via the university-wide e-news. Six hundred thirty three students responded. The results were evaluated for internal consistency reliability (Cronbach's μ) and principle components factor analysis. IRB approval was obtained from the participating universities prior to conducting the studies.

Results: The Kaiser-Meyer-Olkin for the FAEQ was 0.963, indicating sampling adequacy. The Bartlett's test of sphericity (χ^2=8583.51, df=404, ρ .000) indicated significant correlations among items. The scree plot suggested a four-factor solution accounting for 81% of the variability. The FAEQ was reduced from 50 to 30 items based on the individual factor loadings and theoretical significance of items. Cronbach's values were 0.974, 0.965, 0.885, and 0.927 for factors 1 through 4 respectively. Preliminary results from the reliability study underway in eight universities will also be presented.

Implications: Pilot study data provide promising evidence that the 30-item FAEQ will adequately measure the quality of academic advising. The importance of effective advising warrants discipline specific instruments giving students the ability to evaluate the quality of advising, thus informing faculty development, and potentially improving advising outcomes.

Funding: The qualitative studies were supported in part by a travel grant from Winona State University Faculty Development Committee (no grant number). The reliability study and pilot were partly funded by an Allocation Grant (DE01308) from The University of Southern Mississippi.

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Barriers and Facilitators to Having Healthy Families for Latina Students

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Purpose: The purpose of this study was to explore how Latina undergraduate students define having a healthy family and how they believe their college attendance affects their family's health.

Background: Latinos are currently the largest ethnic minority in the U.S. and by 2050 they are estimated to become one quarter of the population, yet only one in ten has a college degree. More Latino women (Latinas) are currently attending college than Latino men. To date there has been little research concerning how the health of Latino families is impacted when daughters attend college. The purpose of this study was to learn how attending college affected the health of the families of Latina undergraduate students.

Methods: Using a focused ethnographic design, four focus groups were conducted with 34 Latina undergraduate students at a large university in the northwestern U.S. Students were asked to define the meaning of family health and how they believed attending college affected their family's health. The focus group interviews were digitally recorded and transcribed verbatim. The transcripts were imported into ATLAS-ti6 software for management and analysis.

Results: The Latinas defined family health as having four components: support, being together, communication, and being able to afford healthcare. When asked to describe how their family's health was affected by attending college they described positive and negative themes related to these components of health. Examples of themes included: very stressful for my mom, proudest parents ever, call me, and having sufficient money. The participants believed attending college both facilitated and provided barriers to their family's health.

Implications: The findings of this study provide unique insights into how Latina undergraduate students define family health and believe their family's health is impacted when the students attend college. Using this information will enable nursing professionals to better assess the health of Latina college students' families and to develop and implement culturally sensitive health promoting interventions for them.

Funding: NINR T32NR07039-Women's Health Nursing Research Training Grant.

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New Nurses' Hopes and Expectations Transitioning into Nursing Practice

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Purposes/Aims: This qualitative study examines the lived experiences of graduating associate degree nurses transitioning into practice. The purpose of this presentation is to examine the results of study Phase One where the specific aim was to describe the hopes and expectations of these graduating students as they anticipate transitioning into nursing practice.

Rationale Conceptual Basis/Background: The increasing complexity and dynamic nature of nursing practice has been well described in the professional literature and recognized by schools of nursing as well as the healthcare industry. Increasing attention is being paid to the gap that newly graduated nurses experience as they transition from school into nursing roles across practice settings. Nurse educators are revising curriculum to best prepare graduates for entry into an ever-evolving and often chaotic work environment. Nurse administrators and managers are implementing extended orientation and residency/internship programs all in an effort to successfully bridge this gap. Barriers for new graduate nurses transitioning into practice are well documented. However, research examining hopes and expectations at graduation, especially in the United States, is sparse. Efforts to systematically study new nurses longitudinally are even rarer.

Methods: A 2-phase longitudinal research study was designed using an interpretive, hermeneutic, qualitative design. The first phase, reported here, utilized four focus groups of last quarter students in two regional associate degree nursing programs. Each focus group consisted of 4-10 students (total n=22) and was facilitated by two researchers, one to lead the group and one to take field notes and manage equipment. All group tape recordings were transcribed verbatim and entered into Ethnograph 6.The research team consisted of faculty from university and associate degree programs.

Results: Several categories were identified from the transcripts of all four groups which then led to the emerging themes of surprise, dichotomy, and resolve. Students were surprised that within the context of a poor economy, seeking a job could be more challenging and competitive than admission to nursing school. An example of dichotomy was that on one hand students felt ready to "jump in and hit the floor running" yet felt unprepared for the many responsibilities of the registered nurse role. In terms of resolve participants identified barriers they described as "scary, yet repeatedly voiced "…dedication to overcome any obstacles to get your goal accomplished…"

Implications: Internships or residency programs are desirable as seen through the eyes of study participants. Partnerships between schools of nursing and employers of nurses need to continue efforts to build bridges to ease this transition period of vulnerability for both the graduate and the patients assigned to their care. Faculty need to attend to the worries of the students and perhaps put more emphasis through seminars or curriculum on preparation for successful job searches, interview tips, resume writing, especially in the last 2 terms before graduation. Increased research especially longitudinal efforts in different regions of the country are necessary if Best Practices are to be developed aimed at improved nurse satisfaction, nurse retention, and most importantly, quality patient outcomes.

Funding: *2010 Sigma Theta Tau International/Western Institute of Nursing Research Grant.*

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Graduate Perspectives on Preparing to Care for Older Adults

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Specific Aims: The aim of this presentation is to describe the success and limitations of graduate preparation of Advanced Practice Registered Nurses (APRNs) across a large university system and to provide guidance for future curricular revisions.

Rationale: In 2010, the American College of Nurses (AACN) together with the John A. Hartford Foundation (JAHF), and the National Organization of Nurse Practitioner Faculty (NONPF) revised and updated the competencies for preparing students to adequately care for older adults. AACN recommended the closure of "stand alone" geriatric nurse practitioner programs (GNP) because certified GNPs only comprise 2.6% of all advanced practice registered nurses (APRNs) in the U.S. Older adults are expected to grow from 12% today to 20% by 2030.

In 2010, the University of Colorado, Denver (UCD) was awarded funding to review and revise curricula to prepare APRN students to successfully complete the newly proposed AGNP certification exam. This award is the first formal collaborative and cooperative agreement between the two largest publicly funded APRN programs in Colorado- (UCD) and the University of Colorado at Colorado Springs(UCCS). Faculty recognized the value of input from former graduates as to the adequacy of their educational preparation to care for older adults.

Methods: We used a mixed methods approach (focus groups and electronic surveys) to explore practicing APRNs experiences with preparation for practice with older adults. In addition to UCD and UCCS, this process was replicated by a noted university in the Northeast to garner their former graduates recommendations for curricular revision. Focus Group interviews lasting 90-120 minutes were conducted with APRNs who graduated within the last 5 years (n=6). The focus of these analyses is unstructured responses to 'how well were you prepared to care for older adults?' Qualitative theme analysis was applied to the textual data about the rhetoric of course preparation and the expressed realities of complex APRN practice. The national competency domains were then used as an interpretive lens to analyze existing themes and meanings. Data analysis also applied the principles of Miles and Huberman (1994) to remain open to new and unexpected occurrences beyond the coding framework providing a structure to organize content and frame conclusions within the context. This analysis then informed domains for an electronic survey to further validate key themes that was sent to all APRN graduates (n=300).

Results: Experiences of APRNs give voice to the reality that end of life issues, hospice and advanced care planning are missing from educational preparation for their role in caring for the older adult. Complex family dynamics, geriatric syndromes and poly-pharmacy influence APRN decision making and self-care support across care settings.

Implications: The findings from this study demonstrate an incongruence between the rapidly aging population and the adequacy of appropriate context preparation for practice. APRN education should emphasize the significance and specific nuances of context, including rural settings and family care clinics in which older adults also seek care.

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HEALTH AND ENGAGEMENT IN INDIGENOUS COMMUNITIES

Moderator:
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ENGAGING THE LIMINAL

Karen J. Lottis

MEASURING TRIBAL PERCEPTIONS OF PARTNERSHIP SUCCESS

Sandra W. Kuntz, Barb Plouffe

SEXUAL BEHAVIORS IN ASIAN AMERICAN AND PACIFIC ISLANDER YOUNG ADULTS

Angela Chia-Chen Chen, Usha Menon, Laura A. Szalacha

BMI AND DEMOGRAPHIC VARIABLES IN PACIFIC ISLANDER ADULTS

Katrina Duncan, Jane H. Lassetter, Lora Beth Brown, Gwen Van Servellen, Samantha Curtis, Brooke Alleger, Arielle Muffler, Jaclyn Coleman, Shem Miyamoto, Va Mounga, Lauren Clark, Roger Goodwill, Jonathan Cummings, Barbara Hanohano

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FOOD LABEL LITERACY AND DEMOGRAPHIC VARIABLES IN PACIFIC ISLANDER ADULTS

Sharla Morgan, Jane H. Lassetter, Lora Beth Brown, Gwen Van Servellen, Samantha Curtis, Brooke Alleger, Arielle Muffler, Jaclyn Coleman, Shem Miyamoto, Va Mounga, Lauren Clark, Roger Goodwill, Jonathan Cummings, Barbara Hanohano

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Engaging the Liminal

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Background: Extensive documentation exists regarding the inequity of healthcare (HC) received by indigenous populations. These include decreased longevity, increased chronic diseases and rates of cancer for which screening is available. These findings are complicated by decreased access to care, particularly for remotely situated tribes/bands, decreased trust of HC providers, and unwillingness to access the medical system unless acutely ill.

Purpose: The purpose of this study was to explore experiences with the HC system among remotely situated, coastal First Nations (FN) people of Western Canada, to shed light on elements considered crucial to healthcare delivery. Two priorities were considered essential. The first, to chronicle the experiences of individuals directly concerned, and second, for communities to engage in a creative vision for improvement, manifested from within.

Methods: This critical ethnography was conducted with the assistance of two FN research partners over a period of five weeks in two communities: the first, a geographically isolated coastal village, and the second, the rural town that provided a small hospital, increased employment and shopping opportunities for a number of local tribes. Data was obtained first by simply developing relationships in the communities, and as trust developed, taped interviews based on narrative inquiry were obtained. In keeping with an ethnographic tradition additional data was collected through artwork, observation, multiple informal private and group conversations during several celebratory events, as well as day-to-day work and play. This study was conducted as the first step toward building a community-based participatory research project.

Findings: While 15 taped interviews were obtained (n=15, average age 59, 100% self-identified as FN), the richest data came through informal gatherings, where entire families shared in the telling of specific experiences. Findings demonstrated multiple perceptions: a) Widespread prejudice and disrespect; b) Higher quality of care in ER versus clinics, with all diagnostics completed at once; c) 90% of band members do not understand the HC provider; d) Multiple episodes of culturally-specific miscommunication increased morbidity/mortality and decreased trust; e) Inadequate training of providers for the cultural and geographically isolated care required; f) Procedures completed without informed consent or permission; g) Family advocate or self-advocacy improved HC outcomes; and, h) Quiet assertion of voice in areas of culturally inappropriate research techniques, providing rich data only in formats of their choosing.

Implications: 1) Underlying all findings were the painfully current repercussions of a colonial past, as well as the socioeconomic disadvantage of extreme geographic isolation and cultural marginalization; 2) Paternalism in HC ongoing; 3) Inadequate HC access and utilization by FN; 4) Advocacy programs important; 5) Cultural respect and knowledge of indigenous history critical to relationship; 6) Full spectrum FN centers may improve utilization; 7) Experiences contextually situated in historical reality, with a generational effect; 8) Essential for analysis of data to reflect the communal experience rather than individualistic; and, 9)The criticalist paradigm demands rigorous appraisal of Western scientific methodologies as some are a poor fit for indigenous studies.

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Measuring Tribal Perceptions of Partnership Success

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Purpose/Aims: Successful community-based participatory research is dependent on a vibrant shared partnership that balances insights from the community and skills of the academic partner. The aims of this study were to: (a) measure partnership synergy and (b) discover new ideas for improving the partnership.

Rationale/Background: The Environmental Health Advisory Committee (EHAC) was established to increase the understanding of and participation in research by members of a tribal community regarding environmental health risks including methylmercury exposure to infants and children on the Flathead reservation. A community-based participatory research (CBPR) approach was proposed to involve community members as advisors on all aspects of environmental health research from proposal to publication. CBPR acknowledges local expertise as essential to improve understanding of health disparities and culturally attuned interventions. Common CBPR themes include trust, participation, co-learning, shared power, and consistent, ongoing communication throughout all phases of the research.

Methods: The Lasker, Weiss, and Miller (2002) Partnership Self-Assessment Tool was offered to eight members of the Confederated Salish and Kootenai Tribes Environmental Health Advisory Committee (EHAC) and two of their community partners from Salish Kootenai College and Montana State University College of Nursing in December 2009. The paper/pencil survey version of the survey was applied and results were analyzed using the offline tool coordinator guide. The tool not only assesses the partnership's progress toward achieving synergy (5=extremely well, 1=not well at all) but also provides insight on the components of synergy that can be strengthened among divergent partners.

Results: The required 65% response rate was achieved (70% of partners responded, *n*=7) with results indicating progress for the one-year-old partnership. Constructive guidance for 10 key components of successful collaborative processes included: partnership synergy (4.25/5); leadership (4.41/5); efficiency (4.59/5); administration and management (4.00/5); sufficiency of resources (4.17/5); decision-making (71% satisfied); benefits and drawbacks (48%); and overall satisfaction with the partnership (71% satisfied). In the spirit of CBPR, the EHAC members and academic partners examined and analyzed the survey results together in order to determine steps for future improvements.

Implications: Trust and respect are easily squandered when researchers work in tribal communities. Equality and communication among partners with different goals and interests is central to successfully addressing environmental health disparities. Conducting environmental health research to protect the fetus, infant, and child from toxins is an important pursuit that is a collaborative process best achieved through engaged community and academic partners.

Reference:

Lasker, R., Weiss, E., & Miller, R. (2001). Partnership synergy: A practical framework for studying and strengthening the collaborative advantage. *The Milbank Quarterly, 79*(2), 179-205.

Funding: NIH NIMHD, Center for Native Health Partnerships 1P20MD002317-01.

HEALTH AND ENGAGEMENT IN INDIGENOUS COMMUNITIES

Sexual Behaviors in Asian American and Pacific Islander Young Adults

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Purpose: This study examined Asian American and Pacific Islander (AAPI) young adults' sexual behaviors and factors associated with these behaviors.
Background: Sexual behaviors in young adults have become a global health concern because of the negative consequences of risky sexual behaviors including HIV/STI, unplanned pregnancies, and their associated social costs. About a quarter of AAPI college students reported a lifetime prevalence of unprotected sex and about 95% of those who engaged in anal sex did so without using condoms. Despite these alarming statistics, studies to address sexual health among AAPI youth and young adults are rarely conducted.
Methods: We conducted a cross-sectional internet survey targeting AAPI young adults aged 18-35 years between February and June, 2011. Participants were recruited via randomly selected students' emails from the University Office of Evaluation and Educational Effectiveness, and advertisements through student organizations and on Facebook. Students who met the criteria and completed informed consent filled out an online anonymous survey at their own pace, with reentry privileges. Participants received an automatic recognition message after completing the survey, and receive a $10 e- certificate. Existing valid and reliable measures were adapted to measure AAPI young adults' sexual and condom use behaviors and factors associated with these behaviors.
Results: The sample included 50 undergraduates (mean age = 21.6 (SD=1.8), 60% male, 62% sexually active) and 60 graduate students (mean age = 27.9 (SD=3.5), 55% male, 82% sexually active). Among those who were sexually active, 19% reported having 5 or more steady sexual partners during life time; 60% had one steady sexual partner during the past 30 days, and 17% had sexual intercourse while high on drugs or alcohol. More than half (52%) of the sexually active students have had casual sexual partners during their lifetime and 11% reported having casual sexual partners in the past 30 days. Regarding condom use with steady partners, 33% of the students did not use condoms; 8% did not use condoms while having sex under the influence of alcohol or drugs. Of the 9 students who have had sex with casual sexual partners in the past 30 days, 33% reported no condom use during sex.

In regression analyses, controlling for age, gender and parental education, students who had more favorable attitudes toward sex (B = .75) and were more acculturated (B = .98) reported more steady sexual partners during their lifetime. Controlling for age and gender, sexually active students who self-identified as sexual minority (Bisexual: n = 8, Homosexual: n = 8) reported, on average 4 more lifetime sexual partners (t = 3.26, p = .002) than did heterosexual students.
Implications: The findings suggest that it is not uncommon for AAPI young adults to engage in risky sexual behaviors (e.g., having sex with casual partners, having sex without condoms or under influence of substances). It is imperative for healthcare providers to constantly assess sexual behaviors and substance use in this population and provide appropriate health education.

Funding: Arizona State University College of Nursing and Health Innovation.

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BMI and Demographic Variables in Pacific Islander Adults

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Purpose/Aims: This study identified the proportion of our Native Hawaiian and other Pacific Islander (NHOPI) sample that is overweight or obese and explored relationships between body mass index (BMI) and demographic characteristics.

Rationale/Conceptual Basis/Background: Obesity is associated with a variety of health risks; thus, as obesity increases, so does the morbidity and mortality of related diseases. Most NHOPIs die from such illness, including diabetes and coronary or vascular diseases (Seniloli, 2005). To address NHOPI obesity, it is necessary to better understand the relationship between demographic variables and BMI within the NHOPI ethnic group. This information will help nurses identify subgroups most at risk for overweight/obesity.

Methods: 365 NHOPI adults who were caregivers to at least one child participated. In Utah, we collected data at NHOPI events (n=156). In Hawaii, we collected data at a preschool and grocery stores (n=209). Our questionnaire included: (1) demographics, (2) Pfizer's Newest Vital Sign Score Sheet, a food label literacy questionnaire, and (3) questions about food-serving practices and activity promotion for children. Following completion of the questionnaire, each participant was weighed and measured. Measurements were used to calculate BMIs.

Results: According to the CDC's BMI categories, 84.4% of our sample was overweight (BMI=25.0-29.9) or obese (BMI<30), including 17% who were morbidly obese (BMI<40). Participants' BMIs ranged from 15.0 to 57.1. Participants in Utah had significantly higher BMIs than participants in Hawaii. This is consistent with previous findings that Native Hawaiians living on the mainland purchase and eat more food because it is less expensive than in Hawaii (Lassetter, 2011). In addition, participants who were less than 35 years of age had significantly higher BMIs than participants who were older than 35 years of age. This suggests NHOPIs' obesity challenges are starting early and may indicate a trend toward increasing obesity as they age. We found no significant differences between BMI and gender, education, or income.

Implications: NHOPIs' risk for overweight and obesity may increase in locations where food is less expensive than in Hawaii or the Pacific Island nations. Nurses should be alert to this and educate NHOPIs accordingly. Additionally, obesity-related illnesses may be starting earlier among NHOPIs because participants who were less than 35 years of age had significantly higher BMIs. This indicates a heightened need for social marketing, education, and other interventions to help reduce obesity-related health risks. Future research should focus on effective, culturally appropriate interventions to decrease obesity.

Funding: This study was funded by Brigham Young University grants, including a Graduate Mentoring Grant, the Elaine Dyer Award, and a Mentoring Environment Grant.

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Food Label Literacy and Demographic Variables in Pacific Islander Adults

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Purpose/Aims: This study described the relationship between food label health literacy and demographic variables in a sample of Native Hawaiian and other Pacific Islander (NHOPI) caregiving adults.

Rationale/Conceptual Basis/Background: Obesity often co-exists with under-nutrition, creating a complex situation for nearly all ages and socioeconomic groups. NHOPIs experience this double-burden; one reason may be that many are in a transition from an era of under-nutrition to an era of dietary excess. This dietary excess often leads to obesity and related complications, including cardiovascular disease, diabetes, and hypertension. A possible contributor to this problem is inadequate food label literacy, defined as the ability to read, interpret, and apply information on food labels to decisions about nutrition. Misinterpreting food labels can lead to an inadequate intake of calories and nutrients or to an overindulgent calorie intake. Understanding food labels is important for people with chronic health conditions, such as diabetes or food allergies. They are better prepared to follow dietary recommendations if able to interpret and apply information on food labels. However, no study could be found on NHOPIs and food label literacy.

Methods: 365 NHOPI adults in Hawaii and Utah participated. Each was a caregiver of at least one child. Data were collected at grocery stores and a preschool in two Hawaiian Islands (n=209) and at NHOPI events in Utah (n=156). Our questionnaire included: (1) demographics, (2) Pfizer's Newest Vital Sign Score Sheet, a food label literacy questionnaire, and (3) questions about caregivers' food-serving practices and activity promotion for children. Participants' weight and height were measured.

Results: Nearly half (45%) the sample had evidence of limited food label literacy. Although there was no significant difference between participants' food label literacy scores in Hawaii and Utah, other demographic variables were related to food label literacy. Food label literacy scores were significantly different based on gender, age, level of education, and income.

Implications: Future research on effective food label instruction is needed. Meanwhile, nurses should not assume NHOPI patients and families understand food labels. When teaching about dietary needs and restrictions, nurses need to review critical information on food labels and role-play how to use this information when making food choices. Nurses should advocate for instruction about food labels in elementary and high schools. Instruction on food labels would be a helpful addition to social marketing and community classes and workshops. Finally, nurses can lobby for simpler, more uniform food labels.

Funding: This study was funded by Brigham Young University grants, including a Graduate Mentoring Grant, the Elaine Dyer Award, and a Mentoring Environment Grant.

INNOVATIONS IN INTERVENTIONS: INTERDISCIPLINARY AND MIXED METHODS RESEARCH

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ASSESSING THE FIDELITY OF THE HEALTH EMPOWERMENT INTERVENTION

Nelma B. C. Shearer, Julie Fleury, Michael Belyea

VALIDATION OF A NURSING PRESENCE SCALE USING DATA TRIANGULATION

Wendy B. Hansbrough, Jane M. Georges

BUILDING INTERDISCIPLINARY MIXED METHODS RESEARCH CAPACITY IN HEALTH DISPARITIES

Jennifer B. Averill

RECRUITMENT FOR A STATE-WIDE STUDY; CHALLENGES IN THE LAST FRONTIER

Julie McNulty

KEEPING THE QUALITATIVE IN MIXED METHODS PROPOSALS

Jennifer B. Averill

INNOVATIONS IN INTERVENTIONS: INTERDISCIPLINARY AND MIXED METHODS RESEARCH

Assessing the Fidelity of the Health Empowerment Intervention

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Intervention fidelity in a randomized controlled trial (RCT) reflects the degree to which an interventionist adheres to the protocal specific to the treatment. However, assessment of treatment fidelity is often overlooked when conducting a RCT, limiting the ability to rule out alternative explainations for intervention effects.

Aims: The purpose of this paper is to describe how fidelity of the theory-based Health Empowerment Intervention (HEI) was assessed and maintained in a sample of older homebound adults, using criteria outlined by Bellg and colleagues (2004).

Evaluation of Intervention Fidelity: Fifty-nine older adults participanted in the RCT (32 intervention; 27 attention comparison). Human subjects approval was obtained prior to the study. A master's prepared nurse interventionist (NI) delivered the manualized HEI, which included weekly individualized sessions over 6 weeks. Fidelity in study design included a strong and identifiable integration of theory within the HEI, targeting mediating processes and outcomes. HEI delivery was based on a standardized manual and protocol for implementation. Training of the NI was over two-weeks, focusing on the Health Empowerment Theory, delivery of the standardized HEI, including role play with case examples, monitoring fidelity of HEI delivery, and managing issues around home delivery of the HEI, including malnutrition, illness, or adult abuse. NI training and monitoring of HEI manualized protocol were conducted by the principal investigator throughout the study. The HEI critical inputs were designed with clear specification in content and activities, allowing contrast with the attention comparison condition. Process evaluation was conducted following each HEI session to quantify the dose delivered to participants and identify strengths and limitations in delivery. HEI sessions were randomly audio taped to compare content delivered with that specified in the HEI manual using an Index of Procedural Consistency, with regular performance feedback to NI, as well as a log of each session, including the duration and content of contacts with participants.

Evaluation of HEI receipt included review of individual goal setting, documentation of actions taken to attain goals, and identification of personal and social resources. Enactment of the HEI was evaluated self-report of goal achievement, and actions fostering purposeful participation in change.

Conclusions: Content fidelity of the HEI was assessed beginning with the initial sessions and continued throughout the entire study. Overall, the NI successfully delivered the theory-based intervention as outlined in the Health Empowerment manual. Assessing fidelity of an intervention was key to attributing change in the participants receiving HEI. The HEI enhanced health empowerment in homebound older adults, thereby, promoting the attainment of individualized health goals.

Funding: National Institutes of Health-National Institute of Nursing Research: 1R15 NR009225-01A2.

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INNOVATIONS IN INTERVENTIONS: INTERDISCIPLINARY AND MIXED METHODS RESEARCH

Validation of a Nursing Presence Scale Using Data Triangulation

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Background: Nursing presence is defined as the intentional use of self by the expert nurse who encounters patients from an existential view with a desire to understand and respond to the individual patient's healthcare needs. While nursing presence is posited to be an essential element of nursing practice and a strong factor in promoting enhanced patient satisfaction, little documentation exists regarding the quantification of perceived nursing presence.

Purpose: The purpose of this mixed methods study was to utilize data triangulation to validate the Presence of Nursing Scale (PONS) developed by Kostovich (2001) administered to a group of 75 adult patients in an acute care setting.

Methods: Seventy-five adult patients (38 females, 37 males) in a medical-surgical unit in a large university medical center were recruited, with a mean age of 49.1 years. A majority of participants had a primary diagnosis of non life-threatening, orthopedic injuries (63.9%). A mixed methods design was used in which both quantitative and qualitative data were collected. Respondents were asked to rate their perception of nursing presence using PONS, a 25-item Likert-type survey designed to measure perception of nursing presence. In previous work, the construct validity of PONS was established using a biserial correlation comparing the construct of nursing presence (as measured using the PONS) to patient satisfaction with nursing care (dichotomous variable), resulting in correlation of 0.801. A Cronbach's alpha reliability coefficient of 0.95 supported internal consistency of the tool. In the current study, all respondents completed PONS and then participated in an individual qualitative interview consisting of open-ended questions exploring the patient's perceptions of the nurse-patient relationship and the work manner of the nurse. Content analysis of themes from qualitative interviews was performed, followed by data triangulation using multiple triangulation methodology described by Mitchell (1986.)

Results: Data triangulation of quantitative and qualitative results revealed that PONS appears to be a valid measure of nursing presence. Respondents who scored on the lower quartile of PONS scores reported qualitatively that they felt like "objects" of the nurses' work, attended to only when they called for help. In participants scoring toward the middle of the PONS scale, qualitative themes included perceiving a "professional" relationship with their nurse and having confidence in the nurse's skill and knowledge. In those participants who scored at the higher end of the PONS scale, recurrent themes included feeling "watched over," experiencing reduced stress, and perceiving enhanced encouragement.

Implications: The PONS appears to be a valid measure of nursing presence in the context of the daily work of the bedside nurse. In qualitative interviews, participants reported that specific nursing behaviors were associated with certain levels of nurse presence, suggesting it is possible to teach behaviors that promote an enhanced sense of nurse presence. Considering the posited relationship between the PONS scores and patient satisfaction with nursing care, future intervention studies in which nursing presence behaviors are taught in a structured manner are suggested as a means of ultimately enhancing patient satisfaction scores.

INNOVATIONS IN INTERVENTIONS: INTERDISCIPLINARY AND MIXED METHODS RESEARCH

Building Interdisciplinary Mixed Methods Research Capacity in Health Disparities

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Purposes/Aims: The purpose of this project is to suggest plausible strategies for building research capacity in a diverse group of investigators working to reduce health disparities (HD) and inequities. Consistent with the goals of its parent P20 center grant, the team is responsible for mitigating disparities, developing research expertise among junior minority faculty members, and generating research evidence or products of its own, all in a 5-year interval.

Rationale/Background: A recently funded health disparities grant brought together a multidisciplinary panel of experienced investigators at a southwestern university with a health science center. Based on a participatory/partnership model, the Research Core (RC) of that P20 must innovatively generate a structure, process, means of evaluating effectiveness, and plan for sustainability of studies aimed at reducing/eliminating health disparities among Hispanic and American Indian communities in that state. A challenge exists to identify, negotiate, and operationalize ways to build and maintain this kind of *capacity* among investigators already involved in their own programs of inquiry.

Approach and Methods: Efforts include work to: articulate/document the knowledge/skills of all RC members, as well as other key personnel; write annual RC goals to help achieve the P20 milestones; brainstorm and write innovative mixed methods research proposals and position papers that represent authentic *interdisciplinary* thinking-writing-investigating; develop effective/sustainable mentorship strategies for junior faculty and students interested in HD research; leverage existing strengths, partnerships, resources (human/material), initiatives, organizations and groups to augment overall P20 goals; offer our expertise to these same resources/groups in return; include key advisers/representatives from the targeted communities in all phases of work.

Outcomes Achieved: Now in Year 2 of 5, the RC has become more of a synthesized, integrated unit in the P20, although room for progress remains in producing interdisciplinary papers and proposals. Early mentorship efforts have been fruitful, but will need expansion and follow-up to achieve long-term success. True integration/synthesis across all Cores and units of the P20 continues to evolve. Meaningful dialogue, analysis and action are ongoing. External advisors and community representatives have contributed substantive ideas for our growth and progress and remain fully engaged.

Conclusions and Implications: Efforts to change the culture of research in health science centers are profound. A proliferation of CTSA's and center grants mandate a consolidation of research effort into focused interdisciplinary teams who can navigate the turbulence of seeing across disciplinary divides and silos, incorporate/assimilate a variety of methodological perspectives, successfully obtain funding to improve health status indicators for all, and base their interventions on full partnership with communities and groups directly impacted by their work. The capacity to respond favorably to such changes will require unprecedented cooperation, collaboration, and dedication to outcomes that exceed the individual investigator's scope or agenda.

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INNOVATIONS IN INTERVENTIONS: INTERDISCIPLINARY AND MIXED METHODS RESEARCH

Recruitment for a State-Wide Study; Challenges in the Last Frontier

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Purposes/Aims: A recruitment plan for a state-wide study focusing on cancer survivorship was taken in a different direction, when it was discovered that tumor boards in Alaska are not allowed to participate in research. In order to achieve the required sample for an urban and rural comparison, creative strategies were necessary to recruit participants, especially without a budget for the study, geographical and access challenges, and a diverse population that may not be receptive to research.

Rationale/Conceptual Basis/Background: Solid recruitment plans are essential for a successful research study. Novice researchers may be challenged in this area. Targeting appropriate venues and relying on community and professional networks is key. Once contact is established with a potential participant, positive communication and interpersonal skills are necessary to put the participant at ease and gain their commitment to participate.

Methods: A multipronged approach to study recruitment will be described. Challenges include screened participants not completing surveys and poor response to community postings and newspaper ads. Successes include networking through personal and professional contacts, recruiting through nurse practitioners, networking with other researchers, networking with oncology case managers, postings on listervs, websites, employee bulletins and social networking sites, networking at community events, and networking through support groups. Specific challenges in recruiting rural and ethnically diverse participants will be discussed as well as the impact of snowball sampling. Aspects unique to cancer survivors will also be discussed, and the implications for successful recruitment.

Results: Successes and challenges in recruiting will be described, and results from each method of recruitment will be shared. The characteristics of the final sample will be shared, and how the sample was impacted by the recruitment strategies.

Implications: Recruitment is one of the most challenging aspects of successful research studies. Sharing successes, barriers and challenges is important, especially for novice researchers in order to develop their knowledge and skill in this area, and avoid pitfalls in the recruitment process.

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Keeping the Qualitative in Mixed Methods Proposals

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Purpose: The purpose of this project is to propose effective strategies for successful integration of *qualitative* thinking and methods into mixed methods research proposals.
Rationale/Background: In the current climate of economic and political turmoil, shrinking budgets for research, timeline pressures to complete work, and funding agencies' preferences for more complete studies (involving multiple investigators and methods), a need exists to insure that qualitative designs, conceptual foundations, and methods maintain a position of strength, value, and quality in relation to more established quantitative, statistical and epidemiological approaches. Not only is this a more holistic way to address important questions, but it also promotes equity, voice, social justice, and opportunities to generate testable hypotheses grounded in lived human experience, especially in research activities for multicultural and marginalized communities. The researcher recently developed a practical plan for creating a mixed methods proposal.
Approach and Methods: Strategies were to identify and engage a quantitative collaborator who understands and values *all* research methods; decide which approach would drive the study and which would support the other; establish a timeline and writing protocol whereby each investigator wrote a section, offered it for critique/questions to the partner, then reframed in response; provide each other with key literature (classic and current) that explain philosophy, intent and methods (qual/quant); build in periodic dialectic on design and process, negotiating an acceptable path forward; invite peer review from quant/qual/mixed methods colleagues; agree to write an article together on methods, as well as for results/findings.
Outcomes Achieved: In summer of 2011 a clearly written mixed methods proposal was submitted to NIH, and results of the submission are pending. While quantitative methods drove the study, supported by a qualitative component, the contact PI was the qualitative researcher, who also had special knowledge of the community/population of interest. Both investigators agreed to resubmit the proposal should that be a possibility, and to write at least one article based on the collaborative exercise of fusing perspectives into one readable voice for the proposal.
Conclusions and Implications: Writing effective proposals informed *equally* by the philosophy and methods of both quantitative and qualitative inquiry is challenging. Qualitative researchers are tasked with articulating their rationale, process, approach to study integrity/rigor, and specific role in a mixed methods design. Differences exist between a synthesized/integrated design and a parallel but separate approach. The ability to create a strong qualitative component insures that the perspectives of participants will be included in answering and generating research questions in need of study. Results based on multiple strategies of inquiry may better address health disparities evident in our practice, educational endeavors, and knowledge base for health care-related research.

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ISSUES IN AGING

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ENHANCING ELDER FOOD CHOICE USING THE RATE THE FOOD PICTORIAL TOOL

Neva L. Crogan, Alice E. Dupler, Robert Short, Grace Heaton

MARKETING BALANCE AND STRENGTH CLASSES TO PREVENT FALLS IN OLDER ADULTS

Lauren Clark, Sallie Thoreson, Cynthia W. Goss, Mark Marosits,
Lorena Marquez Zimmer, Carolyn DiGuiseppi

IDENTIFYING RISK FACTORS FOR FALLS IN A NATIONAL SAMPLE OF HOSPITALIZED OLDER ADULTS

Johnelle C. Chock, Arnetra Herbert

DEMENTIA DIAGNOSES, NEUROPSYCHIATRIC SYMPTOMS AND PHYSICAL COMORBIDITIES

Tatiana Sadak, Soo Borson, Barbara B. Cochrane, Walter Kukull,
Rebecca Logsdon, Jerald R. Herting

INNOVATIVE METHODS TO CHARACTERIZE BEHAVIORAL SYMPTOMS OF PERSONS WITH DEMENTIA

Diana Lynn Woods, Mary Lynn Brecht, Maria Yefimova

Enhancing Elder Food Choice Using the Rate the Food Pictorial Tool

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The purpose of this paper is to describe a new process of care that enhances elder food choice in nursing homes.

Quality of life or "culture change" in nursing homes is fast becoming a national focus as nursing homes embrace evolution from institution-like models of care to nurturing environments that are person-directed or person-centered.[1] Many nursing homes are struggling to evolve their menus away from the traditional approach to a more person-centered approach to meal service. Implementation is difficult and often impossible secondary to cost and budget constraints.

As a part of a larger research study, 30 nursing home elders were assisted in marking the "face" (1=horrible to 5=happy) that most closely matched their own opinion of each food item served (main entrée, vegetable, starch, and dessert). Menu items with a median score of 3.5 or higher remained on the menu. Over a period of 9 weeks (3-week menu cycle), all food items were rated and either retained or deleted from the menu. Deleted items were replaced with favorite items gathered from Resident Council members and study participants.

Pre- post measures included food intake (measured in grams using a validated plate-waste procedure) and food/dining service satisfaction (measured using the validated FoodEx-LTC questionnaire). Post food intake significantly improved ($p<.05$) following the Rate the Food process. Most importantly, resident food and dining service satisfaction significantly improved post intervention ($p<.05$) in comparison to pre- study measures.

The Rate the Food Pictorial tool is simple, easy to implement and was developed specifically as a quality improvement tool to give nursing home elders a voice in menu evolution and food choice.

Funding: The Alzheimer's Association Foundation IIRG-10-169412.

Reference:

[1] Koren, M.J. (2010). Person-centered care for nursing home residents: The culture-change movement. *Health Aff, 29*, 1-6.

Marketing Balance and Strength Classes to Prevent Falls in Older Adults

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Purpose: We describe the diffusion and acceptability of a social marketing program to increase older adults' participation in a balance and strength exercise program marketed through churches and designed to reduce falls. The initial qualitative phase of the study identified community themes about aging and falls to develop and refine marketing messages. This post-intervention follow-up describes church members' and leaders' recall and perceptions of, and responses to, the marketing messages and identifies facilitators and barriers to participation in balance and strength classes experienced by older adults.

Background: Community-based group balance and strength classes reduce falls among older adults. Social marketing through churches is a promising approach to promote participation through existing networks of older adults.

Methods: A qualitative study analyzed data from focus groups (n=4) and interviews (n=32) with older adult church members, church leaders who hosted the marketing program, leaders of recreation departments that delivered the classes, and the health department liaison who coordinated the effort. Data were inductively coded and formed into categories. Themes were developed to describe overarching aspects of the experience. Analysis included comparisons across levels of participation in the balance classes (high, low, or no participation) as well as among stakeholder groups.

Results: Older adult church members responded to messages emphasizing "independence," "relationships," and "comfort zone," all themes identified in initial qualitative research. They heard about the classes through church-sponsored routes. Most influential were word-of-mouth reports that the classes were relevant to them. Barriers and facilitators identified previously were confirmed. Participation was facilitated when participants believed the classes improved balance and strength and were convenient and affordable. Lack of information about the nature of the classes and conflicting schedules inhibited participation. Church leaders chose to implement the marketing program to meet their congregations' needs and to deepen support within each church community. Recreation leaders pointed out the health department's assistance in marketing and underwriting the cost of classes as key to sustainability.

Implications: Post-intervention data confirmed the importance of messages about the social nature of participation in a "comfort zone" of familiarity, with increased independence as a key benefit. Program acceptability was achieved through initial qualitative research that informed the marketing messages. Diffusion of marketing messages was enhanced by the effective collaboration of program partners.

Funding: In part by Grant # R49/CCR811509 from the Centers for Disease Control and Prevention.

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ISSUES IN AGING

Identifying Risk Factors for Falls in a National Sample of Hospitalized Older Adults

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Purpose: The purpose of this study is to describe the characteristics of a national sample of hospitalized older adults age 65 years and older (N=2,894), who have fallen and been diagnosed with traumatic brain injury (TBI) as a result of the fall.

Background: One out of three older adults, age 65 years and older, will fall each year in the United States. There is empirical evidence that certain biological, behavioral, and environmental risk factors increase the susceptibility for a fall.

Methods: The biological, behavioral, and environmental factors of hospitalized older adults age 65 years and older (N=2,894), diagnosed with TBI and have fallen were examined through a secondary analysis of data from the Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Core State Violence and Injury Prevention Program. Scores on the Glasgow Coma Scale score, discharge disposition, previous history of falls, type and frequency of bone fractures, co-morbidities and vision problems were used as indicants of a falls risk profile. In addition, two CDC evidence-based fall prevention interventions were evaluated from the researchers' perspective in terms of the fit of the content with respect to the characteristics of the sample.

Results: Co-morbidities and vision problems were found in 90.74% of the cases with hypertension, diabetes, and dementia representing the three diseases with the highest incidence. Behavioral risk factors, assessed through medication use, were found in approximately 77.85% of the cases. Anti-hypertensive medication was taken by 44.96% of the cases and anti-coagulant medications were taken in 57.57% of the cases at the time of the fall. Environmental risk factors indicate that inside the home, the bathroom was found to be the most common location for older adults to fall. Use of assistive devices accounted for 10.33% of falls. Assessment of the two falls prevention interventions (Tai Chi: Moving for Better Balance and Stepping On) showed that both have different conceptualizations for addressing the risk factors for falls.

Conclusion: These findings extend existing knowledge about the distribution of risk factors for falls in a sample of older adults and provide insight into why certain evidence-based fall interventions may be effective in reducing the rates of falls. If the risk factors for falls can be identified in this population, then health care professionals have an opportunity to take primary and secondary prevention strategies to decrease the risk of falls and their consequences. Nursing actions should concentrate on the implementation of effective community based falls prevention interventions taking into account the need for group-specific interventions, comprehensive assessment of group characteristics and development of multimethod approaches for falls prevention in the elderly.

Funding: Morehouse College Project: IMHOTEP Staff and the Asian and Pacific Islander American Health Forum.

Dementia Diagnoses, Neuropsychiatric Symptoms and Physical Comorbidities

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Background: Assessment and management of the health care needs of persons with dementia are frequently complicated by heterogeneity in diagnosis, disease stage and trajectory, neuropsychiatric symptoms (NPS) and physical comorbidities.

Purpose/Aims: (1) To describe the distributions of NPS and physical comorbidities that coexist with different dementia diagnoses and stages of severity; (2) To explore the impact of dementia severity on the associations between dementia diagnosis and NPS; (3) To determine whether physical comorbidities influence these associations.

Methods: This exploratory cross-sectional analysis of data from the National Alzheimer's Coordinating Center (NACC) database [U01 AG016976], included 3,976 community-dwelling volunteers, aged 65 or older, with dementia of single etiology (Alzheimer's [AD], Lewy body [DLB], behavioral-variant frontotemporal [bvFTD], vascular [VaD]) or mixed etiologies (AD/DLB, AD/VaD). Four key NPS known to be burdensome to caregivers (agitation/aggression, depression/dysphoria, anxiety, irritability/lability) were scored using the Neuropsychiatric Inventory, and three major comorbid conditions (cardiovascular disease [CVD], cerebrovascular disease [CVAD], diabetes) were identified using a structured checklist. Descriptive statistics and logistic regression were used to identify prevalence and describe the odds of NPS by dementia type, severity and the presence of target comorbidities. The interaction effects of dementia severity and physical illnesses on NPS were tested using Likelihood Ratio Tests. AD was used as the reference group for all comparative analyses.

Results: The average overall prevalence of NPS was approximately 40%, and was stage-dependent for all diagnoses. However, there were no significant interactions between dementia type and severity on any tested NPS. DLB was associated with increased odds of depression/dysphoria (63%) and anxiety (92%). In mixed AD/DLB, similar increases were found (65% for depression/dysphoria, 76% for anxiety). bvFTD was associated with increased odds of agitation/aggression (48%) and anxiety (40%). Presence and absence of physical comorbidities were differently associated with odds of NPS in specific dementia diagnostic groups.

Implications: This is one of the first studies to explore NPS in patients with single and mixed dementia diagnoses and account for dementia severity, comorbid physical illnesses and relevant covariates. Study found that NPS are differently associated with dementia diagnoses and co-morbid physical illnesses. Hence, dementia multimorbidity (impaired cognition, NPS, physical illnesses) should be accounted for when making treatment and prognostic decisions, educating patients and their family caregivers and organizing health care systems for optimal management.

Funding: John A. Hartford Foundation's Building Academic Geriatric Nursing Capacity Award Program.

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Innovative Methods to Characterize Behavioral Symptoms of Persons with Dementia

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Purpose: This study purpose was to characterize complex patterns of BSD, and examine the association among different BSD patterns and cortisol profiles. This paper illustrates the application of two analytic approaches for examining patterns of behaviors over time: a) a non-parametric approach using THEME ™ a software that characterizes patterns, and b) a mixture model approach (group-based trajectory modeling) that identifies clusters of individuals following similar trajectories and characterizes these in terms of polynomial parameters. We illustrate the application of these approaches using BSD and cortisol profiles.

Background: Commonly used methods for repeated measures typically estimate a pattern based on an average (magnitude or frequency) across participants for each observation point. This approach may not fully characterize many dimensions of behavioral symptoms of dementia (BSD) including within person variability and irregularity or clustering of behaviors. The limited ability to accurately detect and quantify complex BSD patterns has hampered the development and refinement of tailored interventions.

Methods: Data from two studies reported elsewhere were pooled into a single data set for analysis ($N = 99$). A secondary analysis was completed using data from two groups of nursing home (NH) residents with complete cortisol profiles ($N = 28$, $N = 27$) using THEME ™. BSD and cortisol data were collected for four consecutive days. Participants were categorized into two groups within each site: normal cortisol profiles (G1) and abnormal cortisol profiles (G2). Random effects model was used to characterize BSD trajectories over time. THEME™ was used to identify within person behavior patterns and complexity.

Results: There was a significant difference in total BSD between those with a normal cortisol profile (G1) compared to those with an abnormal cortisol profile (G 2) at Time 3 (12:00PM–1:59PM) within each site ($p = 0.0456$; $p = 0.023$) respectively. There was a significant difference in age, co-morbidities and anti-anxiety medication when G1 was compared with G2. THEME™ analysis showed a significant difference in BSD patterns ($t = 1.94$, $p = 0.05$) and complexity ($t = 2.53$, $p = .014$) when G1 was compared to G2. G1 exhibited more complex patterns of high intensity vocalization and restlessness than G2. Of those who exhibited 50-75% high intensity patterns, 80% in Site 1 had an abnormal cortisol rhythm, compared to 30% of those in Site 2. Group based trajectory methods showed no significantly different trajectories between groups.

Conclusions: Higher complexity and patterns differed significantly between G1 and G2. While preliminary, results suggest that persons with higher variability of BSD exhibit complex patterns, in addition to deregulated circadian rhythms indexed by abnormal cortisol rhythms. These findings highlight the importance of using pattern analyses to identify complex behavioral manifestations and correspondence with biological markers. THEME ™ analysis was able to identify and characterize individual BSD patterns that drove the overall trajectory of behavior. Pattern analysis merits further examination to investigate the temporal clusters of BSD.

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MENTAL HEALTH

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PERSONAL CHARACTERISTICS PREDICTIVE OF DEPRESSION IN HISPANICS WITH HEART FAILURE

Mo-Kyung Sin, Barbara J. Riegel

MEDICATION ADHERENCE IN HEART FAILURE PATIENTS: DEPRESSION AS A DETERMINANT

Hsin-Yi (Jean) Tang, Steven Sayers, Guy Weissinger, Barbara J. Riegel

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VICTIMIZATION OF HOMELESS WOMEN LIVING WITH SERIOUS MENTAL ILLNESS

Rebecca Bonugli

NURSE ADDICTION: AN EXAMINATION OF STRESS, COPING AND ADAPTATION

Marie K. Bowen, Ulanda Marcus-Aiyeku, Cheryl A. Krause-Parello

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ISOLATION: A CONCEPT ANALYSIS

Heather Gilmartin, Patti Grota, Karen Sousa

Personal Characteristics Predictive of Depression in Hispanics with Heart Failure

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Purpose: The purposes of this study were to assess the prevalence of depressive symptoms in Hispanics with HF and to examine the personal characteristics predicting depressive symptoms at baseline and at 6-months follow-up.

Background: Heart failure (HF) is a significant public health problem that is increasing in the Hispanic minority population. Depression, a highly prevalent symptom among people with HF, aggravates clinical symptoms of HF and increases mortality. Although personal characteristics can help identify patients in the general population at risk for developing depression, studies identifying the characteristics of Hispanics who are most at risk for depression are lacking.

Methods: In this secondary data analysis of data from a randomized controlled trial, 87 subjects, who completed a study of telephone case management were studied. Patient characteristics hypothesized to influence depressive symptoms included age, gender, education, living situation, comorbid conditions (Charlson Comorbidity Index), social support, New York Heart Association (NYHA) functional classification and acculturation (Short Acculturation Scale for Hispanics). Depressive symptoms were measured with the Patient Health Questionnaire-9. Regression analysis was used to identify predictors of depressive symptoms 6-months after hospital discharge.

Results: The typical participant was female (54%), living with someone (87.4%), with class III/IV heart failure (87.4%), and less than a high school education (79.3%). The mean age was 73 years (SD: 9.2, range: 53-94). Depression based on a cut-point ≥ 10 was present in 39.1% (n=35) of the participants at baseline and 1.1% (n=1) at 6-months. The mean depressive symptom scores were 8.57 (SD: 5.42, range: 0-22) at baseline and 1.86 (SD: 2.41, range: 0-14) at 6-month. Factors associated with depressive symptoms at baseline were gender and NYHA class. At 6-months follow-up, level of acculturation and co-morbidity were significantly related to the presence of depressive symptoms.

Implications: Depressive symptoms were highly prevalent in Hispanics with HF. Easily identifiable personal characteristics can be useful to health care providers caring for these patients and may provide direction for interventions to reduce depression associated with HF.

Funding: The original study was funded by an outcomes research grant from the American Heart Association.

Medication Adherence in Heart Failure Patients: Depression as a Determinant

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Purpose: The purpose of the study was to explore the association between depression and medication adherence in HF patients. The specific question asked was whether depression predicts self-reported and objectively-measured medication adherence in the same manner.

Background: Self-reported medication adherence is assumed to over-estimate adherence because of social desirability. A recent study suggested that depressed heart failure (HF) patients under-estimate rather than over-estimate their medication adherence. As many as 20% to 60% of HF patients experience depression. If depressed HF patients are under-estimating their medication adherence, this has important implications for research and clinical practice.

Method: Adults with Stage C HF (N=237; mean age 62 ± 12; 64% male, 61% White) were enrolled from 3 sites in the northeastern U.S. into a prospective descriptive study. Self-reported medication adherence was obtained using the Basel Assessment of Adherence Scale (BAAS); objective data on medication adherence were collected using the electronic Medication Event Monitoring System (MEMS). Depression was measured with the Patient Health Questionnaire (PHQ-9). Using data collected at 6 months, chi-square analysis and General Linear Modeling (GLM) were used to explore the influence of depression on self-reported and objectively measured medication adherence, controlling for age, gender, race, and data collection site as covariates.

Results: At 6 months, 34.3% of the sample had at least mild depression (PHQ-9 $\geq$5). Self-reported nonadherence was higher in the depressed sample compared to the non-depressed subjects (74.7% vs. 25.3%, p=.008). Total PHQ-9 score was a significant predictor of self-reported medication nonadherence (p=.012). Objective medication nonadherence was not significantly different in the depressed and non-depressed subjects (60.2% vs. 39.8%, p=.53). Depression was not a significant predictor of objectively measured medication nonadherence (p=.56).

Conclusion: Depressed HF patients over-reported medication nonadherence even though objectively measured nonadherence was no different based on depression scores. Depression is associated with negative thoughts and low self-esteem, which may explain over-reporting of nonadherence in this sample.

Funding: This work was funded by a grant from the National Heart, Lung & Blood Institute (RO1 HL084394-01A1) and by the Philadelphia Veterans Affairs Medical Center, VISN 4 Mental Illness Research, Education, and Clinical Center (MIREC).

MENTAL HEALTH

Victimization of Homeless Women Living with Serious Mental Illness

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Purpose/Aims: Although a great deal of study has contributed to the body of knowledge regarding adult victimization, little is known about victimization among homeless women living with serious mental illness (SMI) (Council of State Governments Justice Center, 2007). The purpose of this pilot study was to provide a description of victimization as perceived by those who have lived the experience. The specific aims are to describe the perceptions of homeless women with SMI of the risks of victimization, the resources homeless women with SMI use to avoid victimization, the relationship of resources, risks and health status to victimization as perceived by homeless women with SMI and to identify prevention strategies that these women believe may help women like themselves avoid victimization.

Rationale/Conceptual Basis/Background: In 2008, The National Association for State Mental Health Program Directors reported that people with SMI die, on average, 25 years earlier than the general population. Excess morbidity caused by SMI, victimization, substance abuse, and untreated medical conditions place homeless women with SMI at greater risk of mortality as compared to their housed counterparts (Caton et al., 2007). Clinical correlates of victimization in women with SMI include substance abuse, risky sexual behaviors and increased chances of revictimization (Caton et al., 2007). The disabling symptoms of SMI often make maintaining employment difficult resulting in financial difficulties that compromise living conditions (Caton, Dominguez, et al., 2005). To the extent that most interventions are designed for women without SMI, it is imperative to develop trauma informed interventions based on the lived experience of the culture of unsafe streets.

Methods: Based on a Vulnerable Populations framework (Flaskerud & Winslow, 1998), 15 participants living in a homeless shelter for women with SMI engaged in this qualitative descriptive study. All participants engaged in an in-depth semi-structured interview designed to describe their perceptions of victimization. Qualitative content analysis was used to analyze the transcribed audio-taped interviews.

Results: Participants identified victimization within the context of multiple losses including both physical and psychological resources. For this population, the diagnosis of SMI emerged following the onset of homelessness. Additionally, participants discussed the paradox of homeless shelters as safe havens and the need for hypervigilence in order to avoid victimization. The very strategies used to avoid victimization increased the participant's feelings of isolation and exacerbated their psychiatric symptoms. Poor health status was perceived to be a direct result of homelessness. Personal strengths emerged as a resource as the participants identified concern for others, reconnection, and interdependence in light of victimization and SMI.

Implications: Nurses need to be alert to the possibility of victimization among homeless women with SMI. Nursing research that further explores personal strengths as a resource for victimized homeless women with SMI is needed. Findings will provide evidence for specific nursing interventions that may reduce the risk of victimization.

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MENTAL HEALTH

Nurse Addiction: An Examination of Stress, Coping and Adaptation

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Addiction rates in nurses are higher than the general population. The relationship between stress, coping and adaptation in nurses enrolled in a recovery and monitoring program in the state of New Jersey was examined. Support, a variable tested as a mediator of this relationship, was also performed. Recovering nurses completed the Perceived Stress Scale, Multidimensional Scale of Perceived Social Support, and Psychological General Well-Being Index. A positive relationship was found between social support and well-being. Negative relationships were found between stress and social support and stress and well-being (all p values < .05). The direct relationship between stress and well-being was decreased in the presence of social support. The mediator social support did not have a significant effect on general well-being (p = .22). The findings suggest that an increased awareness of stress and its damaging effects on overall well-being must be identified so proactive and supportive measures can be implemented. The development of effective coping strategies may enhance feelings of well-being and augment the perception of stress. Methods to strengthen social support and social networks may enhance the probability of safe re-entry into nursing practice, relapse prevention and sustained recovery. Additionally, broader forms of social support must be explored to determine their effectiveness for the nurse in recovery.

Keywords: Stress, social support, well-being, addiction, recovery.

Isolation: A Concept Analysis

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This paper uses Walker & Avant's methodological approach in distinguishing the concept of isolation between the normal, ordinary language usage and the scientific usage of the concept.

Three attributes were identified: sensory deprivation, social isolation and confinement. Antecedents included: individual perception and situational dimensions. Consequences included: anxiety, depression, mood disturbances, anger, loneliness, and adverse health events. Through this concept analysis, isolation has been theoretically defined as a state in which an individual experiences a reduction in the level of normal sensory and social input with possible involuntary limitations on physical space or movement.

A model case of isolation would be a person with multi-drug resistant tuberculosis that requires strict airborne isolation. This young man lives alone in a single eight-square meter space with no windows to view the outdoors. The room has a thick metal door with a one x one foot window that faces the hallway. The young man is required to be in this room at all times, except for periodic examinations. His activity is limited to actions within his room. He is permitted a television for stimulus and has control over the lights in the room, but is deprived of natural sounds such as activities in the building or outdoors. Visitation is permitted but strictly limited. His mandated time in isolation will be six months.

This concept analysis presents an opportunity to develop nursing theory through the creation of a theoretical model that supports this definition of isolation. It will require further study to determine if a model could encompass all the attributes of isolation and provide guidance for the assessment of individual antecedents. The goal would be the creation of screening instruments to assess individual characteristics that make patients vulnerable to the detrimental effects of isolation.

Being alone does not make a person isolated. The state of isolation which can lead to negative experiences and outcomes requires a combination of psychological and physical factors to experience the deleterious effects. The analysis presented here has identified and examined important characteristics of isolation. Systematic studies of isolation using this concept could ultimately enhance nurses' knowledge base and contribute to the quality of life for isolated persons.

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NURSE CHARACTERISTICS FOR PRACTICE

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THE EFFECT OF PROGRAM COMPONENTS AND LIFE DEMANDS ON DISSERTATION COMPLETION IN DNP ABDS

Ellen Beth Daroszewski

DIFFERENCES IN METHODS USED TO ENHANCE NURSES' KNOWLEDGE, ATTITUDES, AND PRACTICE OF EBP

Belinda Toole, Jaynelle F. Stichler, Lisa Kath, Laurie Ecoff

FACTOR ANALYSIS OF RURAL NURSE LIFE STYLE AND EDUCATION PREFERENCES

Deana L. Molinari

THE CONCEPT OF INTELLECTUAL CURIOSITY: AN INTEGRATIVE REVIEW

Bedelia H. Russell

COMPARISON OF EXPERT AND NOVICE RURAL NURSE JOB SATISFACTION AND CONTROL OVER PRACTICE

Deana L. Molinari

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The Effect of Program Components and Life Demands on Dissertation Completion in DNP ABDS

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Background: The fifth recommendation of The Future of Nursing (IOM, 2010) is to double the number of doctorally prepared nurses by 2020. Given a) the 2008 National Sample Survey of Registered Nurses (HRSA, 2010) estimate of 28,369 nurses with doctorates, 0.4% (13,140) in nursing and 0.5% (15,229) in other disciplines, b) the addition of over a 1000 nurses a year earning doctorates since 2008 (AACN, 2011), c) 277 current doctoral programs in nursing (124 PhD, 153 DNP, with more planned) with 11,645 students enrolled in 2010 (AACN, 2011), and d) presumably thousands more nurses enrolled in non-nursing doctoral programs, the recommendation of merely doubling the number of doctorally prepared nurses by 2020 underestimates the potential. Simple math would predict more than quadrupling the number of doctorally prepared nurses by 2020.
Rationale: Dissertation completion remains a major obstacle to doctoral degree completion. Cohen (2011) estimated that only between 20-50% of nursing doctoral students finish their degree with women and minorities having the longest trajectory to completion and any student working over two years on their dissertation likely to never finish. The average percentage of nursing doctoral students who complete their degree in six years for 52 nursing PhD programs ranked on PhDs.org is 51.8% (range 100-19%) ("Nursing Rankings" n.d. http://graduate-school.phds.org/rankings/nursing). There is little data on DNP progression and completion rates.
Purpose: The purpose of this research was to assess completion factors for students enrolled in an MSN-DNP program. Cohen (2011) reported that factors related to dissertation completion for DNP students included program components and life demands.
Methods: A two part 25 item self-report survey consisting of 15 internal program components (PC) and 10 external life factors (LF) was distributed electronically using Qualtrecs software to 53 all-but-dissertation (ABD) DNP students. Comments were also solicited. Thirty seven students (70%) completed the survey. Participants ranked PC items as Very Helpful, Somewhat Helpful, Not Helpful, or Did Not Use. LF items were ranked as Very Helpful, Somewhat Helpful, Negatively Affected My Dissertation Progress, or Did Not Affect My Dissertation Process. Points were assigned per ranking and summed per item over all participants to comprise a final score.
Results: The PC mean ranking score was 42.8 (SD=9.2, range=29, 24-53). Dissertation targeted assignments, guidelines, seminars, and online resources, along with Chair feedback received the highest scores. College and University resources and dissertation committee member feedback had the lowest. The LF mean ranking score was 28 (SD=21.6, range=60, -5-55). Technology resources and personal motivation received the highest scores. Finances, family obligations, health, and employment had the lowest. Many comments were submitted.
Implications: The survey results supported the findings of Cohen that program supports are the most helpful, and that life demands are the least helpful and have the most negative affect on dissertation completion. All nursing doctoral programs need to create and evaluate program and student specific interventions to help ABDs to finish if the number of doctorally prepared nurses is to double by 2020.

NURSE CHARACTERISTICS FOR PRACTICE

Differences in Methods Used to Enhance Nurses' Knowledge, Attitudes, and Practice of EBP

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Introduction: Evidence-based practice (EBP) has been cited by both the American Nurses Credentialing Center (ANCC) and the Joint Commission on the Accreditation of Healthcare Organizations (TJC) as a critical step in improving healthcare quality. EBP is considered to be a critical element in ensuring optimal outcomes for patients and creating professional practice environments (PPE) which have been associated with greater job satisfaction among nurses and enhanced collaboration among professional providers. While nursing literature is replete with articles assailing the benefits of EBP, many nurses do not have adequate knowledge, time or skills to research specific clinical or managerial issues nor the knowledge as to accessing or applying new findings to practice. An evidence-based curriculum based on adult learning theory has been correlated with improved skills and behaviors in EBP among nursing and medical students.

Purpose: The purpose of this study was to test the effectiveness of a computer-based self-administered education module (CBL) as compared to the in-class presentation of the same education module (Class) on nurses' knowledge, attitudes, and practice of EBP.

Significance: This study was significant because to understand and provide EBP, all nurses must have not only the foundational knowledge of basic EBP skills, but also demonstrate an attitude which embraces its' implementation and application.

Conceptual Framework: Knowles' Adult Learning Theory, Everett Rogers' Diffusion of Innovation theory, and the Promoting Action in Research Integration in Health Services (PARIHS) framework (Kitson & Rycroft-Malone, 1998) were used to guide the study.

Methods: The study design used a randomized controlled methodology to test differences in the effect of two educational delivery methods planned to improve nurses' knowledge, attitudes and practice of EBP. After IRB approval from Sharp HealthCare and SDSU, nurses working on all patient care units at three hospitals located one metropolitan campus were assigned to a group based on the randomization of their entire unit to one of the following groups: control (n = 130), computer based learning (CBL; n = 192) or class (n = 274). The nurses in all three groups took a pre-test consisting of a short demographic survey, the EBPQ and subscales with known psychometric properties; and a self-developed 12 item multiple choice content knowledge exam. After the educational intervention, the subjects in the CBL and Class groups took the post-test for the EBPQ and content knowledge test.

Results: There were no significant differences noted among the groups on the pre-test, and there was no significant difference in knowledge gained as noted on the pre-test to post-test between CBL and class learning.

Implications: Since CBL is less costly and more accessible than formal class presentations, these findings indicate that CBL is an appropriate methodology for teaching EBP to nurses. There was a significant improvement on EBPQ practice sub-scale from pre-test to post-test for both the CBL and Class groups indicating that the learning modules made a difference in the EBP practice.

Funding: This research was supported by Sharp Memorial Hospital and made possible through an academic partnership with SDSU.

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NURSE CHARACTERISTICS FOR PRACTICE

Factor Analysis of Rural Nurse Life Style and Education Preferences

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Purpose/Aims: The purpose was to compare novice and expert perceptions of work and rural workplace in order to better understand how perceptions of educational preparation and lifestyle values impact recruitment and retention.

Background: The turnover of rural nurses during the first year of practice was reported in the literature as between 35-65% during the first year of practice. The literature states novices perform the same tasks as expert nurses and most novices do not receive a residency for support. Understanding rural nurses and differences in practice between novice and experts is foundational to program development.

Methodology: Data from 109 online surveys of rural participants in 22 states were studied using Kruskal-Wallis and Mann Whitney tests. Open-ended questions were analyzed for content and themes and used to support quantitative findings. The personal information and Stress survey were administered to participants in the Northwest Rural Nurse Residency. Factor analysis was performed of educational preparation and lifestyle variables.

Results: Nurses chose first employer based on a community choice rather than the provider or career management choice. Nurses universally felt somewhat unprepared for rural practice. Least prepared concepts were crisis assessment and obstetrics. Family circumstances, convenience and personal reasons were given for choosing rural generalist practice. Twelve lifestyle elements were significantly associated with the Intent to Move within one year. Eleven percent of the total sample intended to move; all were employed less than one year and had an urban birthplace. Intent to move was significantly associated with organizational elements such as insufficient staffing, heavy workload, violence against nurses, personal injury due to labor conditions, cardiac care, and willingness to ask for advice. Nurses without a preference for rural lifestyle were more likely to intend to move. The stress survey indicates nurses experience a variety of negative emotions while labeling their strongest emotion as "pleasant".

Conclusion/Impact: The small sample of novice and expert rural nurses prevents generalization but when results are combined with the literature suggestions can be made. Recruitment may be improved by asking interviewees about reasons for position interest, lifestyle preferences, and lifestyle background. Retention may be increased by including community leaders in the interviewing process, providing professional development support opportunities to increase rural generalist skills with specialty knowledge of crisis assessment and management in all nursing sub disciplines.

Funding: HRSA: 2 D11HP11127-04.

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NURSE CHARACTERISTICS FOR PRACTICE

The Concept of Intellectual Curiosity: An Integrative Review

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Background: Teaching skills of inquiry in baccalaureate nursing programs has received increased attention over the past five years. The American Association of Colleges of Nursing (AACN) and the recent recommendations by the Institute of Medicine (IOM) address the need for skills of inquiry and analysis as essential aspects to be gained in baccalaureate nursing programs. A strategy to promote skills of inquiry includes engagement of curiosity. An informal survey of colleagues in one baccalaureate nursing program revealed intellectual curiosity to be an important component of student clinical evaluation. However, faculty members could not consistently describe the meaning of intellectual curiosity but instead provided examples of students who each felt did or did not exhibit intellectual curiosity.

Purposes: The primary purpose of the integrative review was to identify the components of intellectual curiosity across multiple disciplines. A secondary purpose was to provide underpinning for a concept analysis of intellectual curiosity and its implications for nursing education.

Methods: To provide a comprehensive understanding of intellectual curiosity, an integrative review method informed by Whittemore and Knafl was used to identify published theoretical and empirical research across the social science, education, psychology, and nursing education disciplines. The Cumulative Index to Nursing and Allied Health (CINAHL), Educational Resource Information Center (ERIC), and American Psychological Association (PsychInfo) Databases were searched for English only articles published through 2011 that included the key word intellectual curiosity (IC) and IC in combination with definition, concept, predictors, outcomes, attributes, measurement, and measures. A priori quality scores were assigned and a critical appraisal summary table was developed. Application of an a priori inclusion criteria and posteriori exclusion criteria with additional iterative critical appraisal of the results yielded a final selection of 33 articles for the integrative review.

Findings: Five themes were identified based on how the authors used the concept of IC in relation to the study context along with the implications for and relationship with teaching and learning. Across disciplines, IC is addressed as a process that is important to foster and one which has significant educational impact. As a concept, IC is relational, descriptive, or resultant in nature. IC is related to motivation and other cognitive process such as critical thinking. It is considered to hold a positive descriptive connotation when used to characterize various individuals or describe components of effectiveness. IC is a product of interaction with identified methods of pedagogy believed to help with stimulation and encouragement of intellectual curiosity.

Implications: Further research and theoretical development of the concept of intellectual curiosity is needed. Expansion on past research of curiosity, but with a focus on the domain of IC, and how it relates to motivation and learning in nursing education would be beneficial. If nurse educators better understood the components of IC, teaching and learning pedagogies which best stimulated and sustained IC could be identified. The concept of IC is believed to be a key concept central to nursing education.

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NURSE CHARACTERISTICS FOR PRACTICE

Comparison of Expert and Novice Rural Nurse Job Satisfaction and Control over Practice

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Purpose/Aims: The purpose was to compare rural novice and expert perceptions of the workplace, organizational culture, job satisfaction, and control over practice.

Rationale: Understanding rural nurse organizational culture and control over practice elements are foundational to program development for increased nurse retention. The literature states turnover during the first year ranges up to 65%. Some states are unable to hire new graduates due to the prevalence of rural facilities; for instance, Montana loses 60% of new graduates to other states. Understanding rural nurse perceptions of work is needed to support practice and recruitment.

Methods: Participants in a national residency program completed the McCloskey and Mueller and Gerber Control over Practice surveys online. A total of 118 novice and 60 expert rural nurses from 23 states completed all elements of the surveys. Kruskal-Wallis and Mann Whitney tests compared novice and expert answers.

Results: There were significant differences in novice and expert job satisfaction from the McCloskey and Mueller Survey. Salary, vacation, hours worked, flexibility scheduling days, opportunity to work only days, the physicians worked with, opportunities for career advancement, the amount of responsibility received, opportunity to work part time, flexibility in scheduling weekends, and maternity leave differences were identified.

Experts reported higher perceptions of control over practice than novices did in the following areas: The ability to implement nursing care in an efficient manner, provide holistic patient-centered care, plan strategies to meet my own professional development needs, practice skills to the best of my abilities, analyze problems critically, plan care with other members of the health care team, act on my own decisions related to care giving, identify problems in care giving, coordinate care activities among various health services, adjust plans to meet challenging patient needs, exert authority needed to fulfill patient needs, be creative in care delivery, and introduce new practices and procedures.

Implications: Although all rural nurses expressed some satisfaction and control over practice, expert nurses universally reported more control than novices. The reasons experts report stronger satisfaction and control scores are not well understood and require further study. Relationships among novice practice and satisfaction perceptions need to be found. The findings suggest nurses' work environments are perceived differently based on experience. Efficient methods of transferring expert knowledge and confidence perceptions to novice nurses need to be implemented as confidence and satisfaction are linked with patient care outcomes.

Funding: HRSA 2 D11HP11127-04.

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NURSING PRACTICE ISSUES

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THE DIRECTOR OF NURSING: NURSING HOME ADMINISTRATION AND MANAGEMENT

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DETERMINANTS OF HOSPITAL NURSE INTENTION TO REMAIN EMPLOYED

Ann E. Tourangeau, Greta Cummings, Lisa Cranley, Heather Thomson

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EXPLORING FACTORS FOR NURSE TURNOVER IN A LARGE WELFARE HOSPITAL: ECUADOR

Sheri P. Palmer

COGNITIVE WORK ANALYSIS TO IDENTIFY CONSTRAINTS IN ACTIVATION OF RAPID RESPONSE TEAMS

Jane Braaten

METHODOLOGICAL QUALITY OF CLINICAL NURSING AND NURSING EDUCATION RESEARCH

Jennifer Orozco, Barbara St. Pierre Schneider

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The Director of Nursing: Nursing Home Administration and Management

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Purpose: The purpose of this pilot study is to identify and examine the roles and responsibilities of directors of nursing (DON) in nursing homes, focusing specifically on the administrative and managerial aspects of nursing services.

Rationale/Background: DONs are in key leadership positions to enhance the quality and cost-efficiencies of nursing home care. Nurses often gain access to DON positions as a result of clinical expertise and geographic availability, rather than formal educational preparation. Recurrent reports of poor quality and high rates of turnover among all nursing staff, including DONs, raise concerns regarding the extent to which DONs are adequately prepared for and supported to carry out the administrative and managerial aspects of this important nursing leadership position.

Methods: A descriptive, cross-sectional, exploratory design was used to collect qualitative data from interviews with a convenience sample of DONs and other nurse leaders with knowledge or expertise about the DON position (n=19). Semi-structured interviews lasting up to one hour were conducted by telephone and audio-taped. The interviews focused on perceptions, understandings, interpretations, and expectations associated with the administrative and managerial aspects of the DON position. Data analysis included microanalysis coding and thematic analysis of transcribed interviews to identify major themes and patterns.

Results: This study revealed a broad and complex DON job description, with human resource management (HR) and financial/budget management as two core elements. Substantial variations in scope of responsibilities were identified, based on facility size. Few DONs reported having received any formal training for this position. Barriers to role performance include limited resources, a lack of adequately-trained staff, and multiple competing demands. The DON's positive relationship with the nursing home administrator and the support available in larger facilities (i.e., experts, consultants, mentors) were identified as facilitating factors.

Implications: With aging boomers, demand for high quality, cost effective nursing home care is expected to escalate. An urgent need exists to maximize the capacity of the DON workforce to enhance the quality of care, through effective leadership and cost-efficient management of the organizational and clinical challenges inherent in these settings. The findings from this study will provide preliminary data for an industry-wide job analysis of the nursing home DON position. The job analysis will provide a basis for: (1) exploring existing job designs and potential restructuring of management teams to optimize the capacity of the DON position; (2) future research to support policy review of DON entry-level qualifications; and (3) education, training, and experience interventions.

Funding: This study was supported by a 2009 American Nurses Foundation Grant, #2009-083.

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NURSING PRACTICE ISSUES

Determinants of Hospital Nurse Intention to Remain Employed

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Aim: To report on findings of a large Canadian study that examined factors influencing hospital nurse intention to remain employed, as well as identify generational cohort strategies to promote nurse intention to remain employed.

Background: Despite current economic conditions, a shortage of registered nurses persists and continues to increase as a result of retirement, voluntary early separation of nurses, and nurse migration to other countries. According to the Canadian Nurses Association (2009), by 2022, there will be an undersupply of 60,000 registered nurses in Canada. If not addressed, this problem will give further incentive to replace registered nurses with other less qualified personnel, regardless of the consequences to patient and organizational outcomes.

Methods: Based on focus group findings, a survey was developed to test a hypothesized model of determinants of hospital nurse intention to remain employed. The survey was mailed to 9,904 Canadian registered nurses. Completed surveys were received from 4,024 nurses. Descriptive statistics were used to summarize model variables. The hypothesized model was tested and refined using structural equation modelling analyses.

Results: The longer the period of time into the future and the younger the generational cohort, the less likely were nurses intending to remain employed in hospitals. The final structural model had very acceptable fit indices. Four nurse-reported influencing factors had direct only impact on intention to remain employed: outside opportunities, scheduling satisfaction, emotional exhaustion burnout, and amount of non-nursing workload. Five nurse-reported influencing factors had both direct and indirect impact on intention to remain employed: having dependents to care for, staffing and resource adequacy, overall health, work-supported empowerment, and work life quality. Twelve nurse-reported influencing factors had indirect only effects on nurse intention to remain employed: perceived organizational support, salary and benefits satisfaction, physical environment, professional practice environment, psychological empowerment, workplace fairness, quality of manager-nurse relationship, leader support, work group communication, work group cohesion, nurse-physician collaboration, and workplace bullying and incivility.

Implications: Findings suggest that some of the most important factors influencing nurse intention to remain employed may not be easily modifiable (e.g., outside opportunities). Yet, many influencing factors are modifiable (e.g., emotional exhaustion, empowerment, workload). All three generational cohorts identified the same five top priorities for encouraging them to remain employed including having a reasonable workload, manageable nurse-patient ratios, and a supportive manager.

Funding: Canadian Institute of Health Research.

Exploring Factors for Nurse Turnover in a Large Welfare Hospital: Ecuador

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Purpose: Nursing turnover has been identified as one of the most challenging concerns at the largest welfare hospital in Ecuador. This descriptive study was to identify factors related to nursing turnover. These factors can in turn lead the way to curb nursing turnover at the hospital and improve nursing care and patient outcomes.

Background: Research has shown that patient care is compromised due to high turnover among nurses. These studies show increased nurse turnover may increase the nurse to patient ratio. This adds to the nurse workload which negatively affects patient health outcomes. The welfare hospital in Ecuador was seeking ways to decrease nursing turnover to enhance their patient outcomes. Retention of nurses is a challenge globally. The severity of the problem is influenced by many factors including the unstable economy, changing national health policies in the United States and abroad, as well as the supply and demand of nurses. The overall shortage of nurses globally is a considerable problem and the International Council of Nurses views the retention of nurses as a major factor in this shortage (ICN, 2010). There is a paucity of research in Latin America concerning nursing administration issues.

Methods: A descriptive survey was conducted focusing on the factors associated with nursing turnover among the licensed staff nurses at the welfare hospital. A survey was developed adapted from the "Nursing Work Index" scale (Aiken & Patrician, 2000). After proper IRB approvals were obtained, the survey was distributed to all licensed nurses at the hospital. Of 179 nurses, 88 surveys were collected. The areas represented are: emergency room areas, critical care units, medical-surgical units, burn unit, the operating room, post-op care, and emergency department.

Results: There were nine factors affecting nurse satisfaction and turnover that were numerically measured. These include (from highest to lowest): not satisfied with pay, not sufficient nurses to provide excellent care, the public does not appreciate the value of nursing, there are not sufficient opportunities to advance in work, lack of supervisors collaborating and helping with the nurses, lack of autonomy to make clinical decisions, feeling valued as part of the health care team, inflexibility in schedule, and lack of teamwork between physicians and nurses.

Implications: The results were shared with the nursing and hospital administration. Some of the recommendations for the administration were to increase nurses pay according to merit and longevity and implement clinical ladders for nursing advancement. A public media campaign to showcase the value of nursing, as well as implementing clinical protocols and guidelines to enhance autonomy and decision making of the nurses would be beneficial. This information will help direct the administration in policy changes, benefits, and pay that will increase the likelihood for increased nurse retention among the nursing staff. Improved quality and safety in patient care will be the ultimate benefit from increased nurse retention at this welfare hospital.

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Cognitive Work Analysis to Identify Constraints in Activation of Rapid Response Teams

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Purpose: This paper advances a plan to study the behavior shaping constraints within the work domain of activation of the Rapid Response Teams (RRT0 using the framework of Cognitive Work Analysis (CWA) in order to understand the contextual influences and to further the RRT intervention to achieve the purpose for which it was designed.

Background: The implementation of the RRT system has not solved the patient safety problem of failure to rescue (patient death from serious treatable complications) as it was intended. Widespread implementation and research directed toward increasing the number of RRT calls implies that hospital leaders and researchers believe that the RRT is the answer and that outcomes will be achieved with tighter implementation of the RRT. Current published RRT research is plentiful; however, this abundance of research reflects a traditional focus that seeks to increase the number of RRT activations without deeply understanding how context may affect the activation of the RRT. Increasing the number of RRT calls may well be the answer to creating success with the RRT, however, focusing efforts on increasing numbers without understanding constraints within the context that drive the RRT call ignores a vital dynamic occurring within the complex sociotechnical environment of the hospital.

Approach: CWA is a framework that is especially suited for the study of context in complex sociotechnical environments. The five phases of the framework allow an examination of how contextual factors impose constraints on actors who are striving toward a purpose. The essence of CWA is to progressively uncover and make visible the possibilities for achievement of the goal within the known constraints in the environment. Rather than give a step by step approach; CWA creates a map that is focused on the destination (purpose) with attention to the many different roads, obstacles and social and technical abilities needed by the user to navigate the terrain. CWA is a formative framework that describes the options and possibilities apparent in the work describing how work can be done, rather than a normative or descriptive approach that focuses on how work should be done or how work is done The end goal is to shape conditions for adaptation instead of traditional compliance, within the problem or work environment .

Outcomes: This paper will explain the shortcomings of current traditions of research and evaluation of the RRT patient safety initiative, will discuss the CWA framework as an alternative to traditional patient safety initiative implementation and evaluation methods, and suggest proposed successful outcomes to be achieved when the framework is applied to the RRT activation.

Conclusions: Patient safety initiatives are plentiful but research and direction focused toward how to successfully implement these initiatives specific to hospital context is limited. This paper will advance an alternative using the initiative of the RRT activation as an example, of how the framework of CWA is a viable method for which to study the match between the context and the intervention and provide direction for improvement.

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NURSING PRACTICE ISSUES

Methodological Quality of Clinical Nursing and Nursing Education Research

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Aim: The primary aim of this project was to compare the methodological quality of clinical nursing and nursing education research articles.
Background: The scientific rigor of nursing research, especially nursing education research, is still developing. Through the assessment of published nursing research across different areas of inquiry, we can promote the development of more rigorous nursing education research in the future.
Methods: One hundred research articles from the top five clinical nursing journals, *International Journal of Nursing Studies, Oncology Nursing Forum, Cancer Nursing, Birth: Issues in Perinatal Care,* and *World Views on Evidence-based Nursing* published in 2007 were chosen for analysis. Additionally, 133 nursing education research articles published in 2006-2007 were selected from a variety of journals for analysis. The analysis consisted of comparing six domains of methodological quality and factors related to methodological quality or scientific merit.
Results: Clinical articles had significantly higher quality scores than education articles in four domains: number of institutions involved, type of data, complexity of analysis, and outcome studied. In addition, there were also the following findings: (a) no significant difference in quality scores was found for study design and response rate between the two article types; (b) the geographic setting of the clinical and education studies was similar; (c) the majority of clinical and education studies were undertaken outside the U.S.; (d) funding was reported more often in clinical articles than in education articles; (e) in comparison with education articles, clinical articles had significantly greater mean citation counts and had more citations in the introduction and conclusion sections; and (f) new and consistent findings were more likely to be identified in clinical articles than nursing education articles.
Implications: These findings indicate that more rigorous nursing education research can be developed through increasing the number of institutions involved, collecting more objective data, performing inferential statistical analyses, and studying more behavioral and health-related outcomes. By improving the methodological quality of nursing education research, more nursing education research may be funded and have higher impact.

Funding: This study was supported by the National League for Nursing Ruth Corcoran Grant for Nursing Education Research.

PAIN, IATROGENIC ILLNESS AND INJURY IN ACUTE AND EMERGENCY CARE

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A PERFECT STORM: CONTEXTUAL FACTORS IN THE ED WHEN CARING FOR OLDER ADULTS

Carolyn Ziminski, Mary P. Cadogan, Linda R. Phillips

EMERGENCY NURSES' KNOWLEDGE AND ATTITUDES ABOUT PAIN

Joane T. Moceri, Denise J. Drevdahl

EVALUATION OF PROVIDER COMPLIANCE WITH ED CARE GUIDELINES FOR CHRONIC PAIN PATIENTS

Alison L. Houchin, Donelle Howell, John Roll, Darin Neven, Linda Marsh

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CLINICAL ATTRIBUTES OF NON VENTILATOR-ASSOCIATED HOSPITAL-ACQUIRED PNEUMONIA

Dian Baker, Barbara Quinn, Carol Parise

CHINKS IN THE ARMOR: PERCUTANEOUS INJURIES FROM SAFETY ENGINEERED SHARPS DEVICES

Lisa M. Black

PAIN, IATROGENIC ILLNESS AND INJURY IN ACUTE AND EMERGENCY CARE

A Perfect Storm: Contextual Factors in the ED When Caring for Older Adults

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Background: Emergency departments (ED) are a frequent source of care for older adults who often present with complex, specialized and time consuming care needs. Older adults seen in the ED are at greater risk for repeat visits, functional decline, increased complications and death. Randomized clinical trials providing a transitional model of care for older adults in the ED have proved ineffective at reducing subsequent service use. This suggests while there is an understanding of the challenges and poor outcomes for the care of older adults in the ED there is not a sufficient understanding of the origins of these problems.

Purpose: The purpose of this qualitative descriptive study is to expand on previous analysis on the care of older adults in the ED, and describe from the perspective of ED health professionals factors that influence the way in which they provide care to older adults.

Sample: Nurses who spoke English and had worked in the ED of a large urban hospital in Los Angeles for at least 6 months were eligible to participate. The final sample included nurses with a range of ED experience from 1-33 years as well as physicians and ancillary staff, and included representatives from all three shifts.

Methods: A qualitative, descriptive methodology was used. After receiving IRB approval, nine focus groups were conducted with nurses physicians and ancillary staff employed at a large urban ED. A semi-structured interview guide consisting of open ended questions was used to elicit experiences of providing care to older adults in the ED. Focus group data were analyzed using constant comparative analysis.

Results: Staff described contextual factors which affect their care delivery to older adults. Tensions in care for older adults emerged from five areas: system constraints, perceived expectations, knowledge, image of role as an ED professional and the ED model of care. These areas contributed to a clash with the geriatric model of care creating tensions in the ED care environment of older adults. For example, staff described how older adults often had needs which they felt fell outside the specific role functions for the ED professional such as toileting and preventative turning. These five contextual factors created barriers to providing comprehensive geriatric care in the ED.

Implications: The intersection of increased demand of ED services by older adults versus the tensions in the ED care environment of older adults creates a perfect storm for which poor outcomes can occur raising issues of quality, safety and use of resources. Interventions aimed at improving care of older adults in the ED need to be a system-wide approach targeting direct care staff, ED leadership and hospital administrators.

Funding: UCLA School of Nursing Intramural Grant.

PAIN, IATROGENIC ILLNESS AND INJURY IN ACUTE AND EMERGENCY CARE

Emergency Nurses' Knowledge and Attitudes about Pain

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Purpose: The purpose of this study was to explore emergency nurses' understanding of pain and the medications used to treat pain.

Rationale/Background: Pain is one of the most common reasons that patients present in the emergency department (ED). The Institute of Medicine's (IOM) 2011 *Pain in America* report was emphatic in its declaration that pain, especially chronic pain, is an undertreated condition in the U.S. across health care settings and providers. Although there is abundant literature with respect to patients' experiences of pain and their preferences for and dissatisfaction with pain management, less is known about how providers, particularly Registered Nurses (RNs), make pain management decisions. Since a nurse's knowledge and attitude toward pain informs how she/he manages a patient's pain, an aim of the study was to measure emergency nurses' knowledge and attitudes about pain.

Methods: In a descriptive study design, data about emergency nurses' knowledge and attitudes toward pain were gathered using Ferrell and McCaffery's Knowledge and Attitudes Survey Regarding Pain (KASRP). The KASRP consists of 22 true and false questions, 13 multiple choice questions, and two case vignettes with two questions each. Emergency nurses completed the survey either electronically or in paper format and were given the ability to remain anonymous. Demographic data were collected about each participant's race/ethnicity, age, gender, years as a nurse, highest level of education, and years of ED experience.

Results: Ninety-one emergency nurses completed the survey. The mean total KASRP score was 76%. Participants taking the survey scored comparably or better than participants in other reported studies using the KASRP. No significant differences were found in mean total scores by age, education level, years of nursing experience, or years of ED experience. Years of nursing experience, whether or not in the emergency department was not correlated with correct responses. Eight questions were answered incorrectly by more than 50% of participants. Five of these questions were related to opioid pharmacology and dosage, two concerned understanding addiction and dependence, and one was linked to nurse assessment and patient report of pain level. Analysis of these eight questions revealed higher education levels to be positively associated with correct answers.

Implications: This study's findings underscore the IOM's report that pain is a significant national problem, with most providers undertreating pain. There is a need for targeted education to emergency department nurses, especially with respect to opioid pharmacology and dosing, regardless of the nurse's years of experience or education level. Nursing programs also need to increase curricular content on pain and pain management so new nurses are better prepared to enter the specialty of emergency nursing. Further research is needed to determine more about the processes nurses employ to make decisions about pain management.

Funding: Chancellors Fund for Research and Scholarship Support, University of Washington Tacoma.

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PAIN, IATROGENIC ILLNESS AND INJURY IN ACUTE AND EMERGENCY CARE

Evaluation of Provider Compliance with ED Care Guidelines for Chronic Pain Patients

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Aims: The purpose of this study was to assess provider compliance to individualized care plans aimed at reducing the administration of controlled substances to patients frequently presenting to an Emergency Department for complaints of chronic and/or subjective pain. The aim is to curb frequent and inappropriate ED use, improve patient care, and reduce overall amount of controlled prescriptions ED providers prescribe to patients with care guidelines.

Background: Prescription drug-related Emergency Department (ED) visits are on the rise, as are morbidity and mortality injuries associated with prescription drugs. The ED is reportedly the largest source of prescription opioid analgesics. The Consistent Care Program (CCP) utilizes a patient tracking computer application program combined with a case coordinated model to manage patients who frequently use EDs for visits related to chronic and/or subjective pain. Individualized care plans for frequent utilizers of the ED are delivered via an Emergency Department Information Exchange (EDIE).

Methods: A retrospective chart review of 1613 ED provider notes was performed for 215 patients enrolled in a city-wide ED care coordination program (Spokane Consistent Care) for 6 months after program enrollment. Records were coded into groups according to provider acknowledgment of the guidelines and provider compliance as follows: 1) guidelines were acknowledged by provider 2) guidelines were followed by the provider (follow guidelines, did not follow guidelines, an objective reason was found to deviate from guidelines). Records were coded for provider type (NP, MD, PA) to assess differences in prescribing practices between provider types.

Results: Guidelines were documented as being followed by the ED provider in 1175/1613 (73%) of the reviewed ED visits. Guidelines were acknowledged in the ED noted by the provider in 773/1613 (49%) of the reviewed ED visits. In 65/1613 (4%) of cases the guidelines were acknowledged but then not followed. There was no statistical difference between provider acknowledgement compliance to guidelines between NPs, MDs, and PAs.

Significance/Implications: In the majority of ED visits (73%) providers followed an individualized ED care plan indicating this management approach may be effective for reducing unnecessary ED prescribing of controlled substances. Care guidelines delivered electronically to providers can enhance efforts to curtail the trend of chronic controlled substance abuse, misuse, and diversion by providing a case management approach. Future research will be aimed at showing how this program can be replicated, implemented and monitored for provider education and compliance in hospital networks nationwide.

Funding: This project was supported by an educational/research award from the Nurse Practitioner Healthcare Foundation through a grant from Purdue Pharma L.P. and ARNPs United.

PAIN, IATROGENIC ILLNESS AND INJURY IN ACUTE AND EMERGENCY CARE

Clinical Attributes of Non Ventilator-Associated Hospital-Acquired Pneumonia

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Aims: To describe the incidence, demographics, and clinicopathologic characteristics of patients with non ventilator-associated hospital-acquired pneumonia (non-VAP HAP).

Background: Numerous studies have reported on the incidence and prevention of ventilator-associated pneumonia (VAP); conversely non-VAP HAP is an underreported and unstudied area, with potential for measureable nurse-sensitive outcomes. With the National Healthcare Safety Network focus on VAP, hospitals are required to monitor VAP; however there are currently no requirements to monitor non-VAP HAP. The limited studies available indicate that non-VAP HAP is an emerging factor in prolonged hospital stays and patient morbidity. Understanding the incidence and determining patients most at risk of this hospital-acquired infection is essential to provide optimal patient care.

Methods: Non ventilator-associated hospital-acquired pneumonia data were obtained from a large, urban hospital's electronic integrated medical management system. Inclusion criteria were all adult discharges between January 1, 2010 and December 31, 2010, coded pneumonia, not present on admission and meeting the Centers for Disease Control and Prevention's algorithm for hospital-acquired pneumonia. Descriptive statistics were used to determine the age, gender, ethnicity, season, length of stay, primary diagnosis for admission, and disposition upon discharge.

Results: During the study period 191 patients were coded with hospital-acquired pneumonia. The mean age was 66 ±15.75 and there were more males than females (56.5% vs. 43.5%). The mean length of stay was 23 ±35.61 days. Sepsis was the most frequent primary diagnosis (14.1%), followed by acute myocardial infarction (9%), acute myeloid leukemia without remission (3.5%), and cardiac valve disease (3%). The most frequent disposition upon discharge was home (46.2%), expired (22.9%), or long term care (20.6%). Five patients were discharged with the remaining 10.3% of discharges.

Implications: This study confirms that non-VAP HAP did occur in a large, urban hospital should be monitored. Hospital-acquired pneumonia occurred most frequently in elderly, male, seriously ill patients. After an extended length of stay, almost half of patients recovered and were discharged directly to home. In addition, 43.5% either expired or were discharged to a long-term care facility. More research across institutions is required to understand and design nursing interventions to prevent non-VAP HAP iatrogenic disease.

Funding: This study was partially funded by SAGE Products Inc.

Chinks in the Armor: Percutaneous Injuries from Safety Engineered Sharps Devices

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Purposes/Aims: To evaluate epidemiologic factors contributing to percutaneous injuries (PIs) from hollow-bore safety-engineered sharp devices (SESDs) since the November 6, 2000 passage of the Needlestick Safety and Prevention Act (NSPA).

Rationale/Conceptual Basis/Background: The most recent published data estimate that US hospital-based healthcare workers (HCWs) sustain approximately 384,325 PIs annually. These exposures have resulted in transmission of diseases such as HIV, HBV, and HCV to HCWs. Following implementation of the NSPA, U.S. healthcare employers were mandated to implement needle devices. The success and cost-effectiveness of safety engineered sharps devices (SESDs) in preventing PIs in HCWs has subsequently been documented in numerous empirical studies comparing conventional needles to their safety counterparts. SESD designs generally fall into two categories: active devices that require action on the part of the healthcare worker and passive devices that are automatically activated after use. Previous authors have shown that passive devices requiring no action on the part of the user are the most effective in preventing injury, are the most similar to conventional devices with regard to user technique, and are the most readily accepted by healthcare staff. Though broad implementation of SESDs in healthcare settings has dramatically decreased PI rates in hospitals, safety devices that have a needle attached do still cause a residual fraction of sharps injuries. Injuries from SESDs may occur during use of the item, during activation of the safety mechanism, or from failure to activate an available safety feature.

Methods: Retrospective review was conducted of secondary injury data from 3,297 hollow-bore percutaneous injuries (HBPIs) from SESDs in 62 hospitals occurring between 2001 and 2009. Injury reports were obtained from Exposure Prevention Information Network (EPINet) needlestick surveillance database, maintained by the International HealthCare Worker Safety Center. Descriptive data measuring SESD-related injury epidemiology and analytic comparison statistics were calculated.

Results: 64% of reported SESD injuries were sustained by nurses; a greater number than for all other HCW categories combined. The majority (57.5%; N = 1,869) of SESD injuries were superficial in nature and most (84.7%; N = 2,775) were sustained by the original user of the device. SESD failure was rare, and accounted for a negligible proportion of reported injuries. An available safety feature was either fully or partially activated in only 13.2% of physician injuries, 29.2% of nursing injuries, and 33.7% of phlebotomy injuries from SESDs. Excluding injuries occurring during device use (when SESD activation is not possible), 23% of physician injuries, 29.5% of nursing injuries, and 21% of phlebotomy injuries were potentially preventable had an available safety feature been engaged.

Implications: Across the HCW categories, 21% - 29.5% of SESD injuries reported in this study could have been prevented through SESD activation. Despite their proven efficacy, passive devices that do not require action on the part of the end user currently represent a small portion of the SESD market. Wider dissemination of a broader array of passive SESDs coupled with continual education of end users is essential to an effective sharps injury prevention program.

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PRACTICE ISSUES: NURSES' WORK ENVIRONMENT

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NURSE MANAGERS' PERCEPTIONS OF THEIR WORK AND THEIR EFFECTS ON OUTCOMES

Randy Delacruz, Michael G. Gates

NURSING HANDOFF AT THE BEDSIDE: DOES IT IMPROVE OUTCOMES?

Katreena Collette Merrill, Kelleen Brown

HORIZONTAL VIOLENCE AMONG HOSPITAL STAFF RNS AND THE QUALITY AND SAFETY OF PATIENT CARE

Christina Purpora, Mary A. Blegen, Nancy A. Stotts

THE INFLUENCE OF HORIZONTAL HOSTILITY AND PATIENT SAFETY IN ACUTE CARE

Barbara L. Wilson, Andrea Diedrich, Connie Phelps

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PRACTICE ISSUES: NURSES' WORK ENVIRONMENT

Nurse Managers' Perceptions of Their Work and Their Effects on Outcomes

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Background: When nurses are asked the question "Why did you enter the nursing profession" the answer often includes the term "calling." But what does "calling" really mean? Wrzesniewski et al. (1997) argue that there are three distinct relations people can have to their work: as jobs, as careers, and as callings. People who view their work as jobs perceive working as a way to receive material benefits while people who view their work as a career are deemed to have a more personal investment in their work and mark their achievement not only through direct material benefits but also through advancement within their organization. Finally, people who perceive their work to be a calling find deep personal fulfillment by doing their work. Unfortunately, there has been little research that explores the relationship among the job-career-calling distinctions and demographic, professional, or organizational attributes and outcomes in the nursing administration context, whether these distinctions are stable over time, and what role these distinctions play in the recruitment and retention of nurse managers.

Purpose: This study explores the following questions: 1) What demographic, professional, organizational attributes of nurse managers and their work environment are related to the job-career-calling distinctions? 2) Are the job-career-calling distinctions of nurse managers stable over time and are they linked to nurse or organizational outcomes?

Methods: A total of 280 managers responded to an anonymous online survey as part of an IRB approved study in the Fall of 2010. The survey included items that captured the job, career, and calling distinctions utilizing the definitions offered by Schwartz (1994). Nurses were asked 83 additional questions that covered various demographic and professional attributes, organizational features, and outcomes such as work satisfaction, intent to leave, stress, and burnout. ANOVA and regression techniques were utilized to explore the relationships among the nurse manager attributes and outcomes found for each of the job, career, and calling distinctions.

Results: Nurse managers with a calling distinction were found to be less likely to intend to leave their current employment and were less likely to be burnt out personally, by their work, or by their patients. In addition, the calling nurses tended to be employed in work environments that offered more autonomy, more social supports, more participation in decision making, and less organizational constraints. Similar results were found for nurse managers who shifted from a calling distinction to a more career or job oriented distinction.

Conclusions: Our findings suggest that recruitment and retention strategies for nurse managers should consider the factors that influence how nurse managers view their work. In particular, administrators should consider the "fit" between nurse managers and the organizations where they work paying particular attention to the work environment attributes such as autonomy, social supports, and organizational constraints.

Funding: Robert Wood Johnson Foundation Nurse Faculty Scholar Program Grant#66526.

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PRACTICE ISSUES: NURSES’ WORK ENVIRONMENT

Nursing Handoff at the Bedside: Does It Improve Outcomes?

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Purpose: The purpose of this study was to describe nurses and patients experience with implementation of a standardized bedside handoff and to measure its effects on patient satisfaction, falls and adverse events.

Background: The specific processes of nursing handoff communication are based upon tradition rather than research. Lack of consistent and thorough communication results in errors and compromises patient safety. Several regulatory agencies recommend a standardized shift report and involvement of patients in their care. However, the effect of nursing handoff communication on outcomes has not been well studied.

Methods: A mixed methods study was conducted in six adult inpatient departments across three hospitals. Perceptions of handoff communication were solicited from 376 staff nurses using a structured interview approach at baseline and interview plus focus groups at follow up (nine months after implementation). Structured interviews were conducted at follow up from a convenience sample of 30 patients. Patient satisfaction with nursing communication was measured using the Hospital Consumer Assessment of Healthcare Providers and Systems instrument commissioned by the hospital. Patient falls and adverse events related to communication were obtained from the hospital event reporting system.

Results: The staff survey was completed by 119 staff (31.6% response rate) at baseline, 100 staff at the follow up (26%). Focus groups were attended by 11 staff nurses, educators and managers. Baseline staff respondents indicated that their current shift report (at the nurses’ station) was effective and changing to bedside report was unnecessary. Three themes were identified at follow up; nurses were ‘warming up’ to bedside report, bedside report was not perceived as efficient and there was a continued concern with waking up patients for report. Interviews were conducted with 30 patients. Most patients gave the nurses a grade ‘A’ on the effectiveness of their report (86%). Patient themes indicated that nurses communicate pain, medications, history and what is happening with care during report; patient involvement consisted of nurses asking patients “is that right?” and “do you have any questions?”. Patients reported that if they ‘butted in’ they were allowed to contribute to the handoff report. Only one patient complained about being woken up for report. Patient falls, adverse events and satisfaction were analyzed for the previous 12 months. No significant difference was identified with these rates. However, patient satisfaction with nurse communication increased in each department which was considered to be a clinically significant finding.

Implications: Nursing handoff communication and involvement of patients in their care are important safety initiatives. However, nurses in this study considered bedside report as extra work and their perceptions of patient preferences (such as being woken up for report) did not accurately reflect the opinion of their patients. Nurses need to fully comprehend that involving patients in their care is a key quality measure that contributes to the work of nursing rather than hindering it. This study identified that implementation of bedside report may contribute to patient satisfaction; however, more research is needed to determine the effect of specific aspects of nursing handoff communication on patient outcomes.

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PRACTICE ISSUES: NURSES' WORK ENVIRONMENT

Horizontal Violence among Hospital Staff RNs and the Quality and Safety of Patient Care

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Purposes/Aims: This study described hospital staff registered nurses' (HSRNs) perception of their interactions and relationships with other HSRNs and quality of care. Three hypotheses based on a horizontal violence and quality and safety of patient care model were tested: (1) horizontal violence and peer relations are inversely related, (2) horizontal violence and the quality and safety of patient care are inversely related, and (3) horizontal violence and adverse events are positively related. Additionally, the relationship of nurse and work characteristics to horizontal violence, peer relations, and quality and safety were determined.

Rationale/Conceptual Basis/Background: Horizontal violence is behavior directed between colleagues that disrespects and harms the receiver. Peer relations are the degree that peer relationships are supportive at work. Quality of care is the extent to which the care delivered to patients meets their needs. Patient safety is preventing and avoiding harm while delivering care. Adverse events are any action or lack of action that may result in patient injury. Researchers, clinicians, and nursing organizations agree that horizontal violence among nurses is a concern for them and potentially a patient safety threat. Some nurses suffer personal consequences from their experiences with horizontal violence including strained peer relationships. Others imply that horizontal violence jeopardizes patient safety. Yet no known empirical evidence exists that describes the relationship among horizontal violence, peer relations, and the quality and safety of patient care.

Methods: A random sample of HSRNs (n=175) from the California Board of Registered Nursing's mailing list was surveyed. The Negative Acts Questionnaire-Revised measured horizontal violence, the peer relations subscale measured peer relations, and previous work was used to develop scales to measure quality and safety and adverse events. Bivariate and multivariate analyses tested study hypotheses.

Results: Hypotheses were supported. Bivariate correlations showed an inverse relationship between horizontal violence and peer relationships (r= -.640; p = .000), an inverse relationship between horizontal violence and quality and safety (r= -.469; p= .000), and a positive relationship between horizontal violence and adverse events (r= .442; p=.000). In multivariate analyses controlling for nurse and work characteristics, horizontal violence contributed significantly in predicting peer relationships (unstandardized coefficients) (B = -1.084, p=.000), the quality and safety of patient care (B= -.672, p=.000), and adverse events (B= .428, p= .000). When peer relations was added in the final step of the hierarchical regression model, findings suggested that peer relationships had a significant role in the impact horizontal violence had on quality and safety but not on adverse events. Nurse characteristics and hospital characteristics were not related to other variables. Clinical area contributed significantly in predicting the quality and safety of care and adverse events but not peer relationships.

Implications: Horizontal violence among hospital staff nurses is critical to address because study findings indicate that just as nurses suffer consequences from their experiences with horizontal violence, patients may be impacted too. More research is needed to describe the relationship among horizontal violence, peer relations and quality and safety in different populations of staff nurses working in hospitals.

Funding: Center for Patient Safety, University of California, San Francisco (UCSF) School of Nursing (SON); Century Club Funds UCSF SON; Gordon and Betty Moore Foundation for the Betty Irene Moore Doctoral Fellowship; Graduate Student Research Award, UCSF; Sigma Theta Tau International, Alpha Eta Chapter Research Award.

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PRACTICE ISSUES: NURSES' WORK ENVIRONMENT

The Influence of Horizontal Hostility and Patient Safety in Acute Care

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Background/Rationale: The concept of horizontal hostility (HH) (also referred to as bullying, lateral violence, and peer incivility among others) has been well described for over 20 years. Behaviors consistent with HH vary and range from overt behavioral manifestations (such as infighting among nurses, scapegoating, or passive-aggressive behaviors) to more covert actions such as failing to respect confidences. HH is apparent when the workplace culture or norm enables dominant individuals to pressure those who are more vulnerable, such as newly-hired nurses or nurses with less experience. Although there are varying opinions about the origins of such behavior (power vs. powerlessness; oppression by nurses toward other nurses as a characteristic of oppressed group behavior), it is imperative to understand the consequences of horizontal hostility in the workplace and how they might affect patient safety.

Purpose: The purpose of this study was to determine perceived HH in the workplace at a community hospital in the Southwest; and then to examine potentially adverse behaviors that the nurses have exhibited as a result of that hostility.

Methods: After obtaining IRB approval, a 28-item survey was used, modeled after previously-validated peer incivility tools including the AACN (2005) and Stanley et al. (2007). Surveys were distributed and collected in locked survey boxes located throughout the hospital over a two month period (December 1, 2010 through January 31, 2011). The completion rate was 26% (n=130). Data were analyzed using Predictive Analytic SoftWare (PASW) version 18; and descriptive statistics included frequencies of gender, age, years of clinical experience, and educational attainment.

Results: Among other questions, nurses were asked: "If you have personally experienced HH by a co-worker or physician, circle all of the statements that reflect your behavior as a result of that experience." Of those that had personally experienced HH, nurses reported such adverse behaviors as; (a) trying to interpret an unreadable order rather than calling for clarification (28.3%); (b) lifting or ambulating heavy or extremely debilitated patients alone rather than ask for assistance (25.6%); (c) carrying out an order that they did not believe was in the best interest of their patient without challenging it (11.6%); and, (d) using a piece of medical equipment that they were not unfamiliar with rather than seek help (11.6%).

Implications: Joint commission has implemented a standard beginning January 2009 that requires hospitals to define all forms of disruptive behavior and have a process in place for dealing with it. Results from our study in a single community hospital in the Southwest suggest that the influence of HH or peer incivility in the acute care environment can have a significant impact on nurses' behaviors with potentially catastrophic outcomes for patients under their care.

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PREDICTING SYMPTOMS AND COMPLICATIONS IN ADULTS

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BASELINE SYMPTOM CLUSTERS AMONG MEN UNDERGOING PROSTATE CANCER TREATMENT

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COMPLICATIONS AFTER RENAL TRANSPLANT BIOPSY: EFFICACY OF FOUR-HOUR MONITORING PERIOD

Amanda Kolterman, Elizabeth Sadowski, Meghan Hanson, Kristie Guite, Jessica Robbins

FREQUENCY AND PREDICTORS OF COMPLEX SLEEP APNEA

George W. Rodway, Seth Latimer, Paul Teman

REDUCING ACUTE CARE USE BY RESOLVING MEDICATION DISCREPANCIES

Cynthia F. Corbett, Kenn B. Daratha, Stephen M. Setter, Joshua J. Neumiller

GENDER DIFFERENCES IN ILLNESS PERCEPTIONS FOR PATIENTS WITH STABLE CORONARY DISEASE

Michelle M. Fennessy, Holli DeVon, Julie Zerwic

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PREDICTING SYMPTOMS AND COMPLICATIONS IN ADULTS

Baseline Symptom Clusters among Men Undergoing Prostate Cancer Treatment

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Rationale/Purpose: Most individuals diagnosed with cancer do not report a single symptom; instead they have multiple symptoms associated with the disease and treatment. The interactive and cumulative effect of multiple symptoms adversely affects quality of life. Three or more symptoms which occur concurrently are called a symptom cluster. The most common cancer diagnosed in men is prostate cancer and yet there is a paucity of information on the prostate cancer symptom experience. Even more limiting are findings on symptom clusters in men with prostate cancer who often experience general symptoms of fatigue, pain, insomnia, depression, and anxiety and specific treatment related symptoms (i.e., urinary, bowel and sexual). The purpose of this paper is to describe baseline symptoms and symptom clusters in men undergoing radiation treatment for prostate cancer.

Methods: A sample of 84 men completed questionnaires which measured quality of life and the nine symptoms of interest prior to the start of radiation treatment. Participants had a mean age of 69 (SD=8.2), were predominately white (84%), and scheduled to begin radiation treatment. Some men were also receiving hormone therapy (38%). Gleason scores for the sample ranged from 5 to 10 (M=7.14, SD=1.0), with a mean PSA level at diagnosis of 8.6 ng/mL (SD=7.3 ng/mL). All scales demonstrated good reliability and validity in prior studies with cancer patients. Latent profile analysis was used to identify subgroups of men similar to each other based on distinct symptom profiles. One-way ANOVAs with Tukey's pairwise comparisons were conducted to determine if differences existed among the resulting clusters on quality of life and participant characteristics.

Results: Four clusters of men were identified with significant differences in symptoms. Group 1 (n=3) which was labeled "overwhelmed' included younger men who were consistently high on all symptoms. Group 2 (n=48) who reported little to no symptoms and were doing uniformly well were labeled as "resilient". Group 3 (n=14) was moderately high on mood and fatigue with few physiological symptoms, this group was labeled " latent". Group 4 (n=19) was characterized by older men with moderately high urinary, bowel, and sexual symptoms with low mood scores. This group was labeled "adjusted" as they are further distinguished by their moderately high quality of life scores. Significant differences were noted among the four clusters on participant characteristics.

Implications: Results suggest men can be classified into clusters based on a profile of symptoms prior to prostate cancer radiation treatment and that these clusters can be further distinguished by additional variables including quality of life. Findings from this study have important implications for the development of a tailored intervention for men with prostate cancer that would target the management of multiple symptoms while improving QOL. Lessening the symptom burden through intervention strategies that unravel the cluster is imperative in making the cancer experience more manageable.

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Complications after Renal Transplant Biopsy: Efficacy of Four-Hour Monitoring Period

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Aim: Our aim was to evaluate the incidence, presentation and timing of complications occurring after renal transplant biopsy to determine if transferring patients from recovery to other areas can be performed without intensive nursing monitoring and without compromising patient safety.

Background: In conducting a study on use of MRI imaging to differentiate acute rejection from acute tubular injury in renal transplant patients, questions arose regarding the safety of taking patients away from the Transplant Clinic for MRI imaging during their 4 hours of post-biopsy monitoring.

Methods: This study was IRB approved and HIPAA compliant. Medical records from patients with renal biopsies from 1/1/2000 to 12/31/2009 were reviewed for the evidence of a complication, presenting symptoms, and timing. All biopsies were performed using real-time US guidance and an 18-gauge core biopsy device. Standard post-biopsy monitoring included vital signs every 15 minutes for 1 hour, then every 30 minutes for 3 hours, hematocrit evaluation at 4 hours post-biopsy and bed rest for 4 hours in a recovery room in the Transplant Clinic.

Results: Of the 3738 biopsies performed, there were 25 (0.67%) mild and 41 (1.1%) moderate to severe complications as defined by the Common Terminology Criteria for Adverse Events (v4.0). All of the moderate and severe complications were related to hemorrhage, with the moderate complications requiring medical management (including serial hematocrits and blood transfusions) and the severe complications necessitating surgical evacuation of hematoma. For both groups, the patients most commonly presented with abdominal pain (16/41, 39%) and/or decreased hematocrit (15/41, 37%). The majority of complications (25/41, 61%) presented within 4 hours post-biopsy. Nine patients presented in less than 1 hour, 3 in the second hour, 6 in the third hour, and 7 in the fourth hour.

Implications: Our study demonstrated a low risk of moderate to severe complications from a renal transplant biopsy and all complications were related to bleeding. Patients most commonly presented with abdominal pain and decreasing hematocrit. A 4 hour post-biopsy observation period identified the majority of patients with moderate to severe complications (61%). Monitoring strategies should include regular inquiry about pain level and performance of serial hematocrits. If the patient requires transfer outside of the immediate recovery area during the 4 hour post-biopsy monitoring period, appropriate care must be taken to ensure there are frequent checks of the patient's pain level and care to have the patient's hematocrit drawn at the ordered time. Additional monitoring strategies may also be needed later, as 39% of moderate to severe complications occur more than 4 hours after biopsy.

Funding: This study was funded by NIH grant R33 DK070243.

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Frequency and Predictors of Complex Sleep Apnea

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Purpose/Aims: 1) To determine whether any identifiable baseline clinical and/or physiological characteristics predict the emergence of complex sleep apnea syndrome (CSAS) in patients referred to the University of Utah Sleep-Wake Center, and 2) To determine the frequency of CSAS in these patients using full night diagnostic and titration polysomnograms as well as split night polysomnograms.

Background: There is increasing evidence that classifying sleep-disordered breathing as simply either obstructive or central in nature may be an oversimplification of both pathophysiology and clinical reality. There has been increasing recognition of a phenomenon now commonly referred to as CSAS. This is found in patients with obstructive sleep apnea (OSA) in whom continuous positive airway pressure (CPAP) eliminates the obstructive events but elicits periodic breathing with a central sleep apnea (CSA) index ≥ 5 events/hr. Thus, the clinically troublesome nature of refractory complex disease often becomes evident when attempting to effectively manage patients who do not respond well to traditional CPAP therapy.

Methods: The target population is adult patients referred to the University of Utah Sleep-Wake Center with a diagnosis of OSA. In this retrospective study, the medical record information relevant to sleep disordered breathing was examined on a total of 545 consecutive adult patients ≥ 21 years of age, regardless of gender, with a diagnosis of OSA. Patients were diagnosed with OSA if the sum of obstructive apneas and hypopneas per hour was 5 or greater. Patients who have OSA during the diagnostic polysomnogram recording will be considered to have CSAS if the CPAP titration eliminates obstructive events, but the central apnea index is 5 or more per hour of sleep during titration. The data to be examined will include demographics, body mass index, and diagnostic and titration polysomnogram data obtained from both full-night and split-night studies.

Results: Of our sample of 545 total subjects, 11.6% (n=63) were classified as having CSAS during their titration study. The only polysomnogram features that were statistically predictive for CSAS were hypopnea index measured during the diagnostic study (p=0.03) and the total sleep time measured during CPAP titration (p=0.0003). Significantly more males than females met the diagnostic criteria for complex sleep apnea (p=0.009), and compared to those individuals having full-night polysomnogram studies, significantly more subjects having split-night polysomnograms had complex sleep apnea (p=0.009) – the difference being significant even when controlling for age (p=0.005).

Implications: The prevalence of CSAS at the University of Utah Sleep-Wake Center is in line with that seen at other sleep centers reported in published literature. The fact that we found CSAS to be more common in those subjects getting split-night studies may have implications for management of patients diagnosed with OSA.

Reducing Acute Care Use by Resolving Medication Discrepancies

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Purpose: To evaluate the impact of a transitional care medication discrepancy intervention on urgent and acute care service use within 30 days following an index hospital discharge.
Rationale/Conceptual Basis: Nationwide nearly 20% of patients with Medicare are readmitted to the hospital within 30 days after an initial hospitalization, costing over $17 billion annually. Approximately 75% of these readmissions are believed to be preventable. Medication discrepancies have a known impact on adverse drug events that lead to preventable emergency department (ED) visits and hospital readmissions. The *Economic, Clinical, and Humanistic Outcomes Model* guided this study to evaluate the impact of a transitional care medication discrepancy intervention on subsequent urgent and acute care use and charges.
Methods: An IRB-approved randomized clinical trial (N = 232) was completed. In this single-blind study, two home health nurses received specific training related to identifying and resolving medication discrepancies. Participants randomized to the intervention group (n = 117) were admitted and case managed by one of the two nurse interventionists. Total time required for the intervention ranged from 15-30 minutes per participant. Control group participants (n = 115) received usual care from other home health nurses blinded to patients' participation in the study. The investigator that conducted the utilization analyses was blinded to group assignment.
Results: Intervention group participants had a total of 12 ED visits and hospitalizations within the 30 days following their index hospital discharge whereas control group participants had 33 ED visits and hospitalizations within 30 days following their index hospital discharge ($p = 0.002$). Total acute care charges were $430,261.66 for controls within the first 30 days of discharge and $221,611.50 for intervention group; a 48.5% reduction in hospital charges. Analyses to determine the number needed to treat (NNT) revealed that only 5.4 patients would need to receive the discrepancy identification and resolution intervention to prevent an acute care encounter within 30 days following hospital discharge.
Implications: An intervention to consistently identify and resolve medication discrepancies following hospital discharge appears to be an effective way of reducing acute care use and charges among patients receiving home health care. Disseminating this intervention to home care providers and testing it in other populations is recommended.

Funding: Robert Wood Johnson Foundation, Interdisciplinary Nursing Quality Research Initiative (INQRI). "Empowering Home Care Nurses to Efficiently Resolve Medication Discrepancies."

Gender Differences in Illness Perceptions for Patients with Stable Coronary Disease

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Rationale/Background: More than 500,000 women die of cardiovascular disease each year, which exceeds the number of deaths in men and the next seven causes of death in women combined. By understanding gender differences in illness perception (IP) after treatment for CAD, providers may be able to define educational strategies to help improve outcomes for this large population of patients.

Purpose/Aim: The purpose of this study was to compare temporal changes in IP from baseline (post-procedure) to 30-days between men and women after treatment for stable CAD.

Conceptual Basis: Leventhal's self-regulation model was used as the conceptual model for this study. Leventhal's model outlines a response to illness which involves the development of a cognitive representation, action plan, and appraisal process.

Methods: In this prospective design, a convenience sample of CAD patients (n=180; men n= 129, women n=51) were recruited after cardiac catheterization. Data collection occurred at baseline (post-procedure) and 30-days after discharge. Seven dimensions of IP as described by Leventhal's model (1-Timeline Acute/Chronic, 2-Timeline Cyclical, 3-Consequences, 4-Personal Control, 5-Treatment Control,6- Illness Coherence, and 7-Emotional Representation) were measured with the Illness Perception Questionnaire-Revised (IPQ-R). The IPQ-R was completed during interview at baseline and via mail at 30-days. At 30-days, 52.8% of surveys were returned (men n=74, women n=21).

Results: Men and women experience shifts in IP within the first 30-days after treatment. Both groups had a significant increase in Illness Coherence from baseline to 30-days (Men: baseline m=13.5, SD=7.6, 30-days m=17.2, SD=5.7, t=-5.28, p<001; Women baseline m=17.6, SD=6.9, 30-days m=21.9, SD=.83, t=-2.50, p=.021), which demonstrates improvements in perceived understanding of their illness. Men had an increase in Timeline (Cyclical) (baseline m=6.9, SD=2.7, 30-days m=9.1, SD=4.3, t=-4.34, p<.001) and reduced Treatment Control scores from baseline to 30-days (baseline m=15.6, SD=2.4, 30-days m=14.8, SD=2.6, t=2.54, p=.013). Therefore, men continued to experience symptoms and were more likely to perceive their treatment plan as less effective in managing their illness. Women demonstrated higher Personal Control (baseline m=16.0, SD=4.7, 30-days m=18.1, SD=3.6, t=-4.13, p=.001) and lower Emotional Representation (baseline m=13.3, SD=3.7, 30-days m=10.6, SD=1.8, t=3.71, p=.001) from baseline to 30-days, suggesting an improved perception of personal control over their prescribed treatment plan as well as a negative emotional response within 30-days after treatment.

Implications: Knowledge of gender differences in IP will enable providers to develop tailored interventions to improve long-term, secondary prevention outcomes in the stable CAD population.

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QUALITY OF LIFE

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IS QUALITY OF LIFE RESTORED WITH MEDICATION IN PATIENTS WITH PITUITARY DEFICITS?

Christine Yedinak

EFFECT OF EXERCISE ON BIOBEHAVIORAL OUTCOMES OF FATIGUE

Sadeeka Al-Majid, Lori Wilson, Jared W. Coburn, Cyril Rakovski

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QUALITY OF LIFE MEASURES IN DEPRESSED ACUTE CORONARY SYNDROME PATIENTS

Anthony McGuire, Jo-Ann Eastwood, Lynn V. Doering

DEPRESSION, ANXIETY, AND QUALITY OF LIFE IN YOUTH WITH SICKLE CELL DISEASE

J. Kelly Graves, Eufemia Jacobs

DISCRIMINATION, JOB CONCERNS, AND WORK INJURIES ON CHINESE IMMIGRANT MENTAL HEALTH

Jenny Hsin-Chun Tsai, Elaine Adams Thompson

QUALITY OF LIFE

Is Quality of Life Restored with Medication in Patients with Pituitary Deficits?

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Background: The pituitary is considered the ‘master gland’ for its role in directing multiple broad functions including: gonadal and reproduction functions, metabolic functions , somatic growth, stress response and more specific functions in water and electrolyte balance, blood pressure control, glucose control, weight management, sleep and mood control and more. Disturbances in one or more of these functions affect the individual’s life quality (QoL) to degrees that vary according to such factors as age, gender, culture and the meaning of the impact of the deficiency to the individual.
Pituitary deficiencies usually occur from congenital pituitary damage, from injury (direct or indirect), inflammation or from the impact of a pituitary tumor. Representing 15% of all brain tumors, pituitary tumors affect up to 27% of the population. Estimates vary, but pituitary dysfunction has been reported in: 1: 8,000 people worldwide; 1: 5 patients after brain injury; 45:100 patients after subarachnoid hemorrhage: 2:3 patients with a symptomatic pituitary adenoma.

Purpose: To determine if QoL is altered after hormonal replacement has been achieved in patients with pituitary deficiencies.

Methods: A total of 40 patients with one or more pituitary dysfunctions and no other co-morbidities were evaluated pre and 6 months post normalization of pituitary deficiencies. QoL was evaluated using a disease specific tool: Domains of Life Function Scale for Patients with Pituitary Adenomas (DOLFS). Possible scores were calculated in each area of functioning and compared between pre and post treatment groups. The presence and size of pituitary tumor, gender and axes of dysfunction were also evaluated for each group.

Results: All patients reported experiencing one or more bothersome and persistent QoL deficits after adequate hormonal replacement. Post treatment scores for cognitive dysfunction were lower or improved (33/40 pre treatment versus 28/40 post treatment). The same was evident for sexual function and intimacy (22/28 versus 19/28) and physical symptoms (88/116 versus 79/116). The remainder of dysfunctions, including anxiety, emotional lability, and motivation were largely unchanged pre and post treatment.

Conclusion: QoL is reduced for the majority of patients with pituitary dysfunction despite adequate hormonal replacement. In order to improve QoL for such patients, more research is needed in each of the 6 domains identified in the DOLFS. Following this, appropriate targeted treatments need to be developed to address persistent dysfunctions.

Effect of Exercise on Biobehavioral Outcomes of Fatigue

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Purpose/Aim: To examine the effect of a supervised endurance exercise program on biobehavioral outcomes of fatigue in women undergoing chemotherapy for early stage breast cancer. Specific aim was to investigate the effect of exercise on cancer-related fatigue (CRF) as measured by the Piper Fatigue Scale (PFS), quality of life as measured by the Functional Assessment of Cancer Therapy-Breast (FACT-B), aerobic fitness as measured by maximal oxygen consumption (VO_{2max}), and immune function (pro- and anti-inflammatory cytokines and cortisol levels).

Background: CRF is a multifactorial, biobehavioral phenomenon caused by a multitude of biological and psychobehavioral mechanisms. Despite its prevalence and significance, CRF remains undermanaged. Although evidence suggests that exercise attenuates CRF, very little is known regarding the biological mechanisms through which exercise produces this favorable effect. Understanding these mechanisms will provide empirical support for the role of exercise and will help in designing specific exercise protocols.

Design and Methods: Fourteen women were randomly assigned to control (n=7) or exercise (n=7) groups. Exercise consisted of treadmill mobilization with individualized progressive workload performed for 30-40 minutes, 2-3 times a week for the duration of chemotherapy. Data was collected at 4 time points: baseline, half way through, upon completion, and 3-4 weeks following the completion of chemotherapy and the exercise program. Immune function was measured in plasma in a subset of participants (3 exercise and 3 control). All other outcome variables were measured in all participants.

Results: Outcome variables (VO_{2max}, CRF, and quality of life) were analyzed using RMANOVA to test the global hypothesis of no difference between groups over all time points. In the cases where such overall significant differences were found, pair-wise differences at all time points between the two groups were analyzed using appropriate contrasts combined with Bonferroni adjusted significance levels.

There were no baseline group differences in any of the outcome variables. CRF increased in all participants as they progressed through chemotherapy. Although statistically not significant, the magnitude of the increase was lower in the exercisers compared to the controls. Exercisers had significantly (0.037) higher scores on the physical well-being subscale of FACT-B and significantly higher VO_{2max} ($p = 0.04$) compared to the controls.

The small sample size precluded statistical analyses of the immune marker findings. However, percent change from pre chemotherapy to end of chemotherapy favored the exercise group in all of the measured immune markers.

Implications: Findings suggest that engaging in a modest program of regular exercise benefits patients undergoing chemotherapy by maintaining their aerobic fitness and improving their physical and functional well-being. These significant results, in the face of the small sample size, provide evidence to support the effectiveness of the exercise program in improving the outcomes measured in this study. Findings support the need for a larger scale follow-up study.

Funding: The Oncology Nursing Society.

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QUALITY OF LIFE

Quality of Life Measures in Depressed Acute Coronary Syndrome Patients

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Purpose/Aims: To compare Health Related Quality of Life (HRQL) in hospitalized ACS patients with and without depression using a novel scoring method correlating the physical component score (PCS) and mental component score (MCS) of the Short Form 12 (SF-12).

Background: HRQL is known to be poorer in both depressed patients and in acute coronary syndrome (ACS) patients. However, to date no investigators have studied the effect of clinical depression on HRQL in hospitalized ACS patients.

Methods: One hundred ACS patients were enrolled (63.5 ± 12.2 years, 31% female) at an urban cardiac unit. Diagnostic interviews using the Diagnostic Interview and Structured Hamilton (DISH) were conducted by advanced practice nurses to establish the diagnosis of depression. All study participants completed the SF-12 prior to the interview. We used correlated scoring of the SF-12 following the methods of Farivar et al who derived coefficients from an obliquely rotated factor solution in a sample of 7093 community dwelling individuals seeking medical care. This method accounts for inconsistencies between item scores and PCS/MCS summary scores and addresses crossover symptoms between items used to measure mental health symptoms and those used to measure physical health symptoms. MCS and PCS scores were standardized to a mean of 50 ± 10; lower scores indicate lower HRQL. Depressed vs. non depressed patients were compared by Student t-tests. Sample characteristics were compared using t-test for continuous variables and Chi-Square for categorical variables. Significance was set at $p = .01$ to account for multiple testing.

Results: Depressed ACS patients ($n = 23$), were more often single (74% vs 36%, p. = .001), female (52% vs 25%, p. = .012), younger (56.6 ± 13.4 vs 65.5 ± 11.2 years, p. = .002), and had a greater BMI (32.1 ± 7.3 vs 29.4 ± 4.5, p. = .002) compared to non-depressed ACS patients. Both correlated PCS scores (32.8 ±7.5 vs. 49.6 ± 7.6, $p = .000$) and correlated MCS scores (31.0 ± 10.9 vs. 43.5, ± 10.0, $p = .000$) were significantly lower in depressed ACS patients compared to non-depressed peers. Depressed and non-depressed ACS patients compared unfavorably to reference groups of depressed only and cardiac disease individuals (Table).

Implications: Compared to non-depressed ACS patients, depressed ACS patients exhibit lower HRQL in both mental and physical domains. In the presence of an ACS, both negative mental health symptoms and physical symptoms are increased in individuals with depression. The findings indicate that physical symptoms cannot be attributed to the ACS alone, but are also influenced by depression. Further study is needed to explicate the relationship between mental and physical domains in depressed ACS patients.

	MCS (± SD)	PCS (± SD)
Depressed ACS (n = 23)	32.8 ± 7.5	31.0 ± 10.9
Non-depressed ACS (n = 77)	49.6 ± 7.6	43.5 ± 10.0
Cardiac disease alone norm	47.0 ± 10.52	39.16 ± 10.59
Depression alone norm	37.4 ± 10.76	45.55 ± 11.71

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Depression, Anxiety, and Quality of Life in Youth with Sickle Cell Disease

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Purposes/Aims: The specific aims of the study were 1) to examine depression, anxiety, and quality of life youth sickle cell disease (SCD), and 2) to describe the relationship among depression, anxiety, and quality of life in youth with SCD.

Rationale/Conceptual Basis/Background: The chronic nature of SCD) puts youth at risk for anxiety and depression as they face the challenge of painful exacerbations or crises which can be life threatening. There is evidence that depression in youth will occur again in adulthood, with more negative outcomes for those diagnosed in youth. By internalizing anxiety and depression, problems may occur in social development and adaptation. Further, depression and/or anxiety in a chronic medical illness like SCD, may lead to an increased morbidity and mortality. Studies suggest that children and adolescents with SCD may be at greater risk for adjustment problems, impaired psychosocial functioning and reduced quality of life. However, relatively little is known about how the co-morbid conditions of depression and anxiety impact the quality of life in youth with SCD.

Methods: As part of the *"Wireless Pain Intervention Program",* participants completed a set of questionnaires that included the Revised Anxiety and Depression Scale (RCADS) and a quality of life scale (PedsQL). Participants met the following criteria for inclusion in the study: 1) diagnosis of SCD, 2) age 10 and 17 years, and 3) ability to read, write, and understand English or Spanish. Data collection occurred in community sites in Southern California as arranged by the Sickle Cell Disease Foundation of California.

Results: Children (n=44; 58.7%; mean age 11.6 ± 1.1 years) and adolescents (n=31; 41.3%; mean age 14.9 ± 0.9 years) who participated were both males (n=37; 49.3%) and females (n=38; 50.7%) and had HgbSS (n=35; 46.7%), HgbSC, (n=23; 30.7%), and others/unknown (n=17; 22.6%). They had acute pain episodes requiring hospitalization from 0 to 3 times per year (n=35; 46.7%) to more than 3 times per year (n=40; 53.3%). Some participants were at risk for generalized anxiety (n=5; 6.7%), major depression (n=8; 10.7%), obsessive compulsion (n=7; (9.3%), panic disorder (n=9; 12.0%), social phobia (n=2; 2.7%), and separation anxiety (n=8; 10.7%). Their scores were greater than 65% on the corresponding RCADS subscales. No age and gender differences were found in these scores.

Implications: Adolescents with SCD are at risk for anxiety, depression, and other associated psychosocial distress that may affect quality of life. While clinicians primarily focus on treatment of symptoms (pain, respiratory, abdominal symptoms, etc.) or disease (hydroxyurea, blood transfusions), little attention is made with assessment and management of psychosocial needs. Psychosocial assessment to screen, detect, and treat mental health distress is warranted. Future research is needed to examine interventions that will address not only the physical, but also the psychosocial needs (e.g. anxiety, depression) of children and adolescents with sickle cell disease.

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QUALITY OF LIFE

Discrimination, Job Concerns, and Work Injuries on Chinese Immigrant Mental Health

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Purpose: This research presentation focuses on the combined influence of social discrimination, job concerns, and work injuries on the mental health of Chinese immigrant workers.

Background: The expanding literature on health disparities demonstrates the critical role of social conditions in which individuals work and live for health outcomes. Research consistently reveals that discrimination increases mental health problems among ethnic minority populations. Psychosocial aspects of work such as job security and opportunities, workplace relationships, and physical and psychological demands adversely affect workers' well-being. Notably, immigrants, compared to their U.S.-born counterparts, are more likely to be employed in riskier occupations, and to experience disparities related to workplace hazard exposures and work-related health problems. Foreign- and U.S.-born Chinese–the largest Asian subgroup in the U.S.–are underrepresented in the literature. Moreover, the combined and independent effects of discrimination, job concerns, and work-related injuries on immigrant worker mental health have not been systematically examined. Such knowledge deficit limits the capacity of health professionals to address health disparities among Chinese immigrant food services workers who regularly encounter these conditions.

Methods: Participants were Chinese immigrants (N=187) employed in food service occupations, each of whom completed the comprehensive, in-person interview conducted in Chinese. *Mental health problems* (α=.93) were measured by frequency of experienced psychosocial distress and somatic symptoms. *Social discrimination* α=.78) was assessed by the frequency of experiencing subtle or overt discrimination and unfair treatment because of one's social characteristics (e.g., skin color, accent). *Job concerns* (α=.88) referred to the worries about workplace context and that associated with immigration and immigrant status. *Work injuries* (α=.73) were captured by frequent experiences of common injuries in food services occupations. All questionnaire items were rated using Likert-type response options, with higher values indicating higher levels of the variable of interest. Following descriptive analysis, hierarchical multiple regression models were tested.

Results: Analysis revealed that, on average, participants had lived in the U.S. 10.6 years (SD=9.1); 53.5% were female; and 56.7% understood some spoken English. Average weekly work hours ranged from 2 to 112 hours (M=36.2, SD=19.7). The majority (76.5%) reported good to excellent physical health. Mental health problems, social discrimination, job concerns, and work injuries were positively correlated with one another (range r=.32 to .53, all p<.01). Controlling for demographics and relevant covariates (e.g., gender, English proficiency, physical health), discrimination, job concerns and work injuries had significant and independent effects on mental health problems (β=.22; β=.23; β=.30, p<.01; R^2_{adj}=.45).

Implications: This study integrates diverse lines of research to provide new insight into the impact of social and job contexts on mental health and the need to attend to an understudied area about work injuries and worker mental health. These findings substantiate the need for further research in order to elucidate mechanisms by which such complexities in fact influence immigrant worker mental health. The findings also serve dual purposes as a foundation for mental health promotion efforts for Chinese immigrant workers and as a basis for intervention design to advance the elimination of health disparities.

Funding: The National Institute for Occupational Safety and Health, K01 OH009308.

RISK FACTORS IN UNDERSERVED POPULATIONS

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FACTORS INFLUENCING SEXUAL RISK BEHAVIORS OF HIV-POSITIVE PERSONS: A MULTISITE STUDY

Kathleen Sullivan, Carol Dawson Rose, Dean Wantland, Marta Rivero-Mendez, Patrice Nicholas, Kathleen Nokes, Carmen Portillo, Joachim G. Voss, Allison R. Webel, Bill Holzemer, John Brion, Jeanne Kemppainen, Kenn Kirksey, Mallory O. Johnson, Lucille Eller, Elizabeth Sefcik, Wei-Ti Chen, Lynda Tyer-Viola

EXPLORING THE HEALTH NEEDS AND ISSUES OF TRANSGENDER LATE ADOLESCENTS AND ADULTS

Margit B. Gerardi

PREDICTORS OF PROGRAM ATTENDANCE FOR A GROUP BASED HIV/AIDS SELF-MANAGEMENT PROGRAM

Kathleen M. Sullivan, Jillian Inouye, Claudio Nigg

WHERE DO FOSTER YOUTH RECEIVE COMPREHENSIVE HIV/PREGNANCY PREVENTION INFORMATION?

Angela L. Hudson

DOCUMENTING HIV PREVENTION STRATEGIES IN MOCHUDI, BOTSWANA

Katie A. Adamson, Bagele Chilisa, Matlhogonolo Montshiwa, Gaolaolwe Mopolo

RISK FACTORS IN UNDERSERVED POPULATIONS

Factors Influencing Sexual Risk Behaviors of HIV-Positive Persons: A Multisite Study

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Purpose/Aim: We explored the relationship between intrapersonal, psychosocial and contextual factors associated with sexual risk behavior among an ethnically diverse population of HIV-positive persons. Study participants (N= 1773) were recruited from 18 distinct sites in the U.S. and Puerto Rico. This is a subset of data from a 22-site international project developed by the International Nursing Network for HIV/AIDS.

Conceptual Basis: Framed in Social Action Theory, HIV-positive persons are viewed as being challenged with limiting the transmission of the virus to others. Intrapersonal, psychosocial and environmental factors can moderate personal perceptions and beliefs, and health-related behaviors including condom use. A review of the literature indicates that sexual risk taking behavior is multi-factorial. Factors considered for this analysis include demographics (age, sex, ethnicity), contextual factors (study region, substance use, years HIV positive) and psychosocial mediators (self-efficacy for condom use, and chronic disease management, stigma, treatment optimism and social support). Self-efficacy is a self-evaluative belief that one can effectively perform a specific behavior (condom use) under different environmental conditions (new sex partner).

Methods: Using a cross sectional descriptive design, a convenience sample of persons living with HIV/AIDS was recruited through active outreach at HIV/AIDS health care and social service sites, specialty clinics, through private practice and at select residential living facilities. The study was approved by the institutional boards of each study site. A proxy variable of high risk sex included participants who reported engaging in sex with two or more partners during a three month recall period and reported not using condoms.

Results: Participants included mostly African American (43%), Caucasian (25%), Hispanic (24%), and Asian/Pacific Islander (3.0%) men (72%), with nearly half (48%) reporting the transmission risk of men having sex with men. Over half of the men (56%) and the vast majority of women (90%) reported engaging in sex within the past 3 months. One quarter (25%) reported engaging in sex without condoms. Thirteen percent of the participants ($n = 237$) reported having multiple sex partners. Using linear regression (backward selection model), condom use self-efficacy, and race were significant predictors of having multiple SPs without consistent condom use. Lower condom use self-efficacy scores were associated with less condom use ($\beta = -.08$; $p = 0.012$), and compared to Caucasians, Asian Pacific Islanders were less likely to engage in sex with multiple partners without a condom ($\beta = -3.4$; $p = 0.015$).

Implications: Nurses must routinely discuss client HIV transmission-risk behaviors, and offer behavioral strategies that can enhance HIV-positive persons' intentions to use condoms. Encouraging open communication between sex partners about condom use is essential. Further research is needed on the impact of race/ethnicity on sexual risk behaviors.

Exploring the Health Needs and Issues of Transgender Late Adolescents and Adults

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Background: "Transgender people" refer to those whose gender behavior and identities do not conform to societal gender norms commonly associated with one's biological sex at birth. Current estimates of transgender people in the United States range from 1:100 to 1:500 (Human Rights Campaign, 2010). Although these estimates yield a significant number of transgender people in this country, there is a paucity of data related to their unique health concerns. Health researchers usually fail to identify or recognize transgender people who participate in their studies due to labeling biases. If research involving transgender health concerns has been collected, it was usually aggregated to into larger studies of the lesbian, gay, bisexual, and transgender community (LGBT) and the detailed, unique needs of the transgender community was diminished or lost.

Purpose: Members of a transgender interest group requested that community-based research be collected to determine health and social service needs in a large southwestern city and surrounding areas.

Methods: Items for a self-report survey were selected for inclusion and determined to be relevant and culturally competent by transgender community members with the assistance of the researcher. A pilot survey with descriptive methods approach and respondent-driven sampling method allowed for exploration of transgender participants' experiences in the acquisition of health care and mental health services. The prevalence of alcohol, tobacco, and drug use, violence, and medical/psychological conditions or diseases of participants were assessed.

Results: The mean age of participants was 39 years (*SD* =14, range =18 – 67) and the majority were Caucasian/Non-Hispanic (71%). The remaining late adolescents/adults reported Caucasian/Hispanic (16%), African-American (3%), or other (10%) as their racial/ethnic classification. Most participants identified as transgender male to female (66%). Participants were also likely to have experienced some form of violence (71%), have housing problems (69%), be uninsured (56%), earned less than $24,000 per year, and be single (64%). Health risks included HIV (+) status (10%) and illegal drug use (31%). A 5-point Likert-type scale was used to assess prioritized needs for health and social services. Participants identified several psychosocial services such as support groups (N=32, 64%), individual counseling (N=28, 56%), crisis intervention (N=19, 38%), and domestic violence intervention (N=12, 24%) as desired. Most participant responses (N=28) from an open-ended question querying what health service needs were presently unmet primarily centered on a desire for direct general health and wellness services (71%). Health care and information needs related to hormone therapy (18%) and mental health/violence prevention (11%) were also cited.

Implications: Pervasive marginalization may be the foundation from which many psychological and social needs arise in the transgender community. It is suggested that transgender people experience difficulty in obtaining needed medical care and social services. The lack of access to primary health care and mental health resources has been identified in this pilot study. Nursing intervention to open access and deliver needed health care services to this at risk population could have a substantial impact on reducing health disparities in the transgender community.

Funding: UT Health Science Center San Antonio School of Nursing Center of Excellence, Community-Based Health Promotion with Women and Children (CBHP).

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Predictors of Program Attendance for a Group Based HIV/AIDS Self-Management Program

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Purpose/Aims: This pilot study tested the feasibility of implementing the group-based Positive Self Management Program (PSMP) to participants living with HIV/AIDS on Oahu, Hawaii. One hypothesis was that increased client satisfaction with aspects of program curricula, structure and activities would be associated with increased attendance.
Rationale/Background: Group-based interventions that enhance HIV disease self-management skills are important, as this chronic illness now requires years of management during times of dwindling resources. Group programs can engender efficient use of resources, but participants must be willing to attend the sessions for full benefit. Attendance may be influenced by multiple factors including past experience with group involvement, topics addressed, learning activities utilized, and program structuring.
Conceptual Basis: The PSMP self-management program is grounded in Social Cognitive Theory with a focus on enhancing self-efficacy beliefs for behavior change. Examples of topics addressed during the seven weekly 2-hour group PSMP sessions include managing the physiological and psychological aspects of HIV illness, adherence to HIV treatment regimes, symptom management, and fostering healthy lifestyle behaviors. Examples of learning activities include goal setting, action planning and homework. Program structure included two trained HIV-positive lay leaders, all HIV-positive participants, setting, location, and incentives for group participation.
Methods: Using a randomized wait-list control design, participants (n = 37) were recruited via convenience sampling and active outreach. Certified PSMP group leaders delivered the manualized PSMP. Program feasibility analyses included enrollment and retention data with pooled data from participant satisfaction survey questions administered after the intervention group (n = 16). Scales were developed to measure satisfaction with program structure, topics and learning activities. Cronbach alphas for these scales ranged from .87-.94.
Results: Participants were mostly male (87%), Caucasian (43%), Asian/Pacific Islander (25%), or of mixed race (13%), with a mean age of 46 years. The average attendance rate was 83% (M = 5.8 sessions, range = 4 - 7). Regressions showed that previous group experience was associated with group attendance such that those with more group experience attended fewer sessions (β =- 2.1; p = .03). None of the factors for group structure, program topics or learning activities were significantly associated with session attendance (p >.05).
Implications: With the power limitations of this pilot study notwithstanding, HIV-positive persons with past group experience may need additional encouragement from nurses to attend group sessions to ensure the full impact of intervention. Other aspects of the group, such as the social environment, group cohesion or group process may play a larger role in attendance for HIV participants in this chronic disease self-management program.

Funding: Supported by P20NR010671 (PI Inouye).

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Where Do Foster Youth Receive Comprehensive HIV/Pregnancy Prevention Information?

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Purpose: The purpose of this study was to describe how and where do foster youth receive comprehensive HIV prevention and pregnancy prevention information.

Rationale/Conceptual Basis/Background: Although Adolescents living in foster care must see a primary health care provider every six months, adolescent foster youth continue to have high prevalence of unplanned pregnancy and are at risk for sexually transmitted infections. We used the Comprehensive Health Seeking and Coping Paradigm as a theoretical framework in order to understand foster youths' intentions to seek risk reduction information.

Method: A qualitative approach, using Grounded Theory, was the method of inquiry. Nineteen emancipated former foster youth participated in individual interviews.

Results: Many adolescents in foster care did not want to broach the subject of sexual activity with their primary health care provider, especially if the foster parent was in the exam room. Participants reported receiving the most comprehensive HIV prevention and pregnancy prevention information in school-based sex education programs or within their group home setting from community volunteers. Three categories emerged from narrative data: Discomfort Visiting and Disclosing; Receiving and Not Receiving the Bare Essentials; and Learning Prevention from Community Others.

Implications: Primary care providers are missing opportunities to provide comprehensive risk reduction and prevention information to youth living in foster care. Schools and other community health agencies are uniquely positioned to offer health promotion and risk reduction education programs to this vulnerable population.

Funding: Robert Wood Johnson Foundation # 445256AH58917.

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RISK FACTORS IN UNDERSERVED POPULATIONS

Documenting HIV Prevention Strategies in Mochudi, Botswana

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Purpose: The purpose of this study was to document existing HIV/ AIDS prevention interventions, specifically behavioral messages, being used in the country of Botswana and, more specifically, the village of Mochudi.

Background: Botswana continues to experience extreme loss due to the HIV/ AIDS pandemic. With a population of just under 2 million, the adult prevalence of HIV in Botswana is 248 per 1,000 (WHO, 2009). One of the country's goals for the 50th anniversary of its independent democracy is to achieve zero new infections, or zero incidence by 2016. Botswana's uniquely successful healthcare system which provides antiretroviral therapy to eligible citizens has seen promising results. However, prevention is the only assured way to halt the spread of HIV and achieve Botswana's goal of zero new infections. To that end, the Mochudi Prevention Project aims to determine the optimal package of prevention methods- both behavioral and biomedical- for the village of Mochudi, Botswana. In order to design effective behavioral messages, it is necessary to document the existing HIV/ AIDS prevention messages that are being used in the village so that new interventions can compliment rather than duplicate existing strategies.

Methods: Starting with national-level organizations, investigators conducted one-on-one, semi-structured interviews with a purposive sample of representatives from government and non-governmental organizations (NGO) about existing HIV/ AIDS prevention resources, strategies, and messages. These interviews were conducted in English. Next, investigators conducted semi-structured interviews with a convenience sample of representatives from government health clinics and NGO's within the village of Mochudi about HIV/ AIDS prevention messages, resources and strategies. In addition, focus group interviews were held with representatives from local churches. These interviews were conducted both in English and Setswana. Interviewers kept hand-written notes and reviewed/ transcribed the notes in English using MS WORD directly after each interview. Compiled notes were reviewed and summarized by the investigators.

Results: Representatives from five national-level organizations participated in the interviews. Responses from these interviews revealed that the national-level HIV prevention efforts emphasized abstinence, being faithful or sticking to one partner and, of late, safe male circumcision. Additionally, responses indicated that interventions were coordinated in such a way that each organization claimed responsibility for different facets of prevention. For example, one organization targeted safe male circumcision and breastfeeding practices, another organized condom distribution, while churches emphasized abstinence and sticking to one partner. One common theme among the HIV prevention strategies at the national level was that none of the responsible organizations were able to provide documentation of the efficacy of their respective efforts. Representatives from nine churches, clinics and NGO's within the village of Mochudi participated in interviews. These interviews revealed consistencies and inconsistencies between what the national organizations described as well as strengths and weaknesses of prevention strategies at the village level.

Implications: The documentation of existing HIV/ AIDS prevention interventions provided valuable insights into the efforts being employed to meet the goal of zero new infections by 2016. Investigators may now use this information to target additional prevention interventions as part of the Mochudi Prevention Project.

Funding: This research was supported by the Fogarty International Clinical Research Scholars and Fellows Program at Vanderbilt University (R24 TW007988) and the American Relief and Recovery Act.

SAFETY AND SIMULATION

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CREATING A VIRTUAL CLINICAL AGENCY EXPERIENCE IN LEADERSHIP AND OUTCOMES MANAGEMENT

Amy Miner Ross, Kristen Crusoe

OBJECTIVE PERFORMANCE MEASURES IN CLINICAL PATIENT SIMULATION

Alleene "Anne" Pingenot, Lisa Adams, Mary Ann Johnston, Dawn Craven

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THE IMPACT OF A POVERTY SIMULATION ON NURSING STUDENTS' ATTITUDES ABOUT POVERTY

Joanne Noone, Stephanie Sideras, Paula Gubrud-Howe,
Heather Voss, Launa Rae Mathews

ADVANCING INNOVATION AND COMMUNITY ENGAGEMENT TO PREVENT AND ADDRESS IPV

Jan Shoultz, Mary Frances Oneha, Lois Magnussen

COGNITIVE ATTENTION TO REBUILD AUTOMATIC COGNITIVE BEHAVIORS FOR PATIENT SAFETY

Joanne Olsen, Julie Fleury, Guillermo G. Mendez

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Creating a Virtual Clinical Agency Experience in Leadership and Outcomes Management

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Purpose of the Project: The purpose of this project was to re-design a Leadership and Outcomes Management course for the Baccalaureate Completion Program for RNs (RNBS) Virtual Campus at Oregon Health & Science University changing from clinical agency placements to creation of a virtual clinical agency experience.

Rationale and Background: The Leadership and Outcomes Management course, taught over two terms, had both didactic and clinical components. The original course designed for online delivery used modularized content with learning activities to assess competency of course outcomes. Students struggled to integrate the content to their clinical practice. At the same time, our RNBS program expanded student enrollment, which created difficulty in finding appropriate clinical placement in agencies with staff experienced in leading teams and conducting performance improvement projects (PIPs). With this expansion, many highly desired agencies, well prepared to host PIP experiences, could not provide clinical placement in the numbers that we hoped.

Description of the Undertaking: A re-design was undertaken to integrate essential course concepts in an applied teamwork environment while building leadership competencies in nurses prepared for direct care delivery. The content was morphed from the modular format to create more virtual learning experiences related to Leadership skills and PIPs. In the first section of the course, students worked in teams where every two weeks leadership was shifted between students as team building was occurring. Students viewed a scenario about safe patient handoff that unfolded every two weeks adding on content that aligned with the assigned reading and the current literature. The scenario showcased ethical violations, communication breakdowns, poor team coordination, and conflict as seen from the eyes of a new graduate nurse. A seasoned nurse mentor and a nurse manager in this scenario showcased open communication and collaboration, support, mentorship, leadership behaviors of various leadership styles, conflict management, evaluation, skills needed to effect strategic change, and self reflection. Students explored clusters of these concepts as the scenario unfolded over the term. In teams, students worked in forum discussions to "find the facts" in the scenario based on assigned readings; and they identified strengths, opportunities, aspirations and results for change. In the second section of the course, students elected where they wanted to work in a full service virtual health system and they selected the type of PIP they wanted to work on. The virtual healthcare system required having staff including a Nurse Manager, Senior Nurse Mentor, a Unit Practice Council (where student work was evaluated and returned), Informaticist, Nurse Epidemiologist, and a Flight Nurse. Noms de plume were created for faculty to assume these roles and interact with students in the virtual environment as they guided the students through creating system processes for communication, safety and quality monitoring, data analysis and generation of next steps.

Outcomes Achieved: The course evolved from a field-based clinical experience requiring clinical agency placement and clinical faculty supervision into a virtual learning environment. This provided a rich experience in team interaction while students learned and practiced essential leadership and outcomes management skills.

Conclusions: The leadership and outcomes management course combined theory and practice through an unfolding case leading into an experiential PIP in a virtual health care system.

SAFETY AND SIMULATION

Objective Performance Measures in Clinical Patient Simulation

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Purpose/Aim: The purpose of this study was to evaluate nurses' clinical performance when assessing simulated patients using the Situation Awareness Global Assessment Tool (SAGAT).

Rationale/Conceptual Basis/Background: Patient simulators provide a safe environment for teaching nursing students clinical application of the knowledge, skills and attitudes that they are learning in school. Simulation has the advantage of providing standardized experiences in patient care and gives faculty the opportunity to obtain objective measures of performance. Situation awareness means to know what is happening in a performance situation. This knowledge is important for decision making. SAGAT taps into a participant's knowledge of a situation (Endlsey, 2000).

Methods: Three emergency room scenarios were developed in which nursing students were to assess a patient and make a report to a physician by phone. Scenarios were conducted in the SimMan patient simulator. Ten nursing students volunteered to participate. Each student participated individually in all three scenarios. SAGAT measures were collected at four points during each scenario. Accuracy of the student's statement of the patient's blood pressure and pulse and lab report were the three outcome measures used in this study.

Results: Nearly sixty percent of the time (59%), participants did not know the vital signs of the patient they were assessing, even though the VS were on the monitor beside the patient continuously and they had just left the patient's side to give the SAGAT report. Only one of the participants realized that the UA showing infection was significant for the diabetic patient.

Implications: Faculty can obtain a number of objective measures of student situation awareness using this approach to measurement. These measures are useful in identifying student performance for teaching purposes. Future research should include exploration of SAGAT methodology for hiring decisions, comparison of teaching methods and even for licensing of nurses. In addition, this tool may be useful for designing bedside tools to support situation awareness in nurses.

Reference: Endsley, M. R. and Garland, D. J., (eds.) (2000) *Situation Awareness Analysis and Measurement*. Mahwah, NJ: Lawrence Erlbaum Associates.

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SAFETY AND SIMULATION

The Impact of a Poverty Simulation on Nursing Students' Attitudes about Poverty

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Purpose/Aims: The purpose of this comparative study was to determine the impact of a poverty simulation on undergraduate nursing students' attitudes towards poverty and their understanding of the link between poverty and health.

Rationale/Background: Poverty estimates from the 2009 American Community Survey show that poverty rates have increased in the United States from 13.2% in 2008 to 14.3% in 2009. Poverty is one of the social determinants of health. In order to deliver patient-centered care, it is important for nurses to have an understanding of the impact of poverty on health-related decisions.

Methods: A three-hour poverty simulation was developed by the Missouri Association for Community Action to educate and sensitize participants to the realities of living with poverty. Five cohorts of junior baccalaureate nursing students enrolled in a populations course participated in the study; two of the cohorts participated in the poverty simulation and three did not. In addition to demographic information, a 21-item The Attitudes Towards Poverty Short Form (ATP-S) questionnaire was administered before the simulation and six weeks after. The ATP-S has demonstrated psychometric validity and is a 5-point Likert scale, with each item scored on a scale from 1-5. A global score of a range of 21- 105 is obtained by summing the item scores; higher scores indicate more positive attitudes towards poverty. Three subscales have been identified: Personal deficiency, stigma, and structural perspective. Assessments of students' beliefs about the link between poverty and health were also collected.

Results: 178 nursing students participated in the study; 75 in the control group and 103 in the experimental group. Pre-test scores were higher for the experimental than the control group; this was related to the differences between the two groups. A higher pre-test global score was positively correlated with no religious affiliation (Pearson correlation, .290, p. =.000), prior poverty exposure (Pearson correlation, .292, p. = .000); and liberal political views (Pearson correlation, .454, p. = .000). Controlling for pretest group differences, posttest means for the experimental group (78.73) were 3.5 points higher than for the control group (75.72), which was significant at .007. Changes in posttest scores was attributed for the experimental group to growth in the personal deficiency and structural perspective subscales. There was also a significant association between the simulation and participants' beliefs about the link between poverty and health due to living conditions (a structural perspective) rather than behavior, drifting into poverty, or no link (chi square = 14.1, p=.003).

Implications: After the simulation, nursing students viewed poverty more from a structural perspective and less from a behavioral viewpoint. The poverty simulation is a unique, engaging learning experience that has positive impact on nursing students' attitudes towards poverty. This simulation can provide an opportunity for students to gain sensitivity for working with this increasing population.

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SAFETY AND SIMULATION

Advancing Innovation and Community Engagement to Prevent and Address IPV

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Purpose/Aims: The aim of this Community Based Participatory Research (CBPR) inquiry was to motivate system engagement and strengthen responsive support for Native Hawaiian and Filipina women and girls to prevent and address abuse in their intimate relationships. A Consortium for Health Safety and Support (CHSS) was formed to serve an identified geographic area on Oahu, Hawaii.

Intimate partner violence (IPV) is a complex health and social issue affecting women around the world, yet intervention strategies are based on Western notions of family life. Services do not take into account the unique perspectives of different cultures which may lead to barriers that prevent women from receiving effective care. Annually in the US, IPV is responsible for 40 – 50% of murders of women. An estimated $5.6 billion is spent on health care for more than 2.5 million injuries. The long-term purpose of the CBPR course of research is development of a culturally appropriate, community participatory, and gender focused prevention intervention for IPV.

Rationale/Conceptual Basis/ Background: Critical social theory (CST) is the theoretical framework for this course of research. The intent of CST is to "challenge conventional assumptions and social arrangements." CBPR is consistent with the perspective of CST. An expected outcome of CBPR is the attainment of new knowledge that guides actions, increases the relevancy of studies, leading to a deeper understanding.

Methods: A prior cross sectional, descriptive study collected both qualitative and quantitative data from peoples representing the following cultural groups: Native Hawaiians, Filipinos, Chuukese, and Samoan. Five common themes identified across the four cultural groups included: Living within a Collective; Cultural Protective Factors; Cultural Barriers to Helpseeking; Gender Specific Roles; and Belonging to a Place. The common themes served as the framework for CHSS activities, including the development of the current intervention and a community based strategic action plan.

Results: Focus areas from a community health needs assessment completed through the CHSS identified the following strategic action plan to address IPV: a) Community ownership of "talk story" discussion groups to learn about IPV and support or provide places of safety that are gender based and culturally specific to support women and girls; b) Strengthen linkages to build capacity with other coalitions or organizations within the targeted community to further identify natural helpers; c) Identify the need for specialized services; and d) Identify strategic best practices for service providers regarding IPV.

Implications: The focus of this presentation is the current intervention to engage community members and community based organizations in creating and owning a system of support for women and girls within the community to prevent and address interpersonal violence. This complex issue which is mediated within families and communities is best addressed with their full participation.

Funding: USDHHS, Office of Women's Health, 1CCEWH101006-01-00 & 1 CCEWH111025-01-00.

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SAFETY AND SIMULATION

Cognitive Attention to Rebuild Automatic Cognitive Behaviors for Patient Safety

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Aims: The study was aimed at determining the effectiveness of the intervention-positive power dynamic action communication intervention strategy (PACIS) in producing the desired theoretical mediating variable of perceived faculty leadership support for patient safety and rebuilding memory bundles for the ultimate outcome of improved hand-hygiene (HH). The study completed an initial investigation of the utility of the theory-based PACIS in an undergraduate baccalaureate nursing clinical simulation setting by conducting a formative evaluation of the intervention. The ultimate goal was to achieve student participant habitual HH behavior in the simulation setting resulting in performance transfer to the actual clinical setting.

Background: Our knowledge concerning best practices for making patient safety strategies "second nature" is limited. Further, researchers have designed few intervention studies to promote patient safety from a cognition perspective-building patient safety tasks that contain both the procedure rules and the skill within the same memory sequence. There is a scarcity of research on the methods faculty should use to ingrain patient safety strategies for student habitual execution.

Methods: A quasi-experimental design with repeated measures was used. A total of 7 clinical faculty members and 57 senior II students in 14 clinical simulation groups were recruited and participated in the study. The intervention groups received a manualized intervention of one-on-one three-minute communication on hand hygiene and ten minutes direct performance observation. A communication fidelity checklist was used. Time in simulation was captured using a chronograph timer. The control groups received standard benefit. An intervention acceptability measurement tool evaluated acceptability and feasibility of the intervention for the faculty and the student participant. Hand-hygiene adherence data collection forms were completed real-time at each measurement opportunity. The Agency for HealthCare Research & Quality (AHRQ) Hospital Survey on Patient Safety Culture under "Supervisor/manager expectations and actions promoting patient safety" measured faculty leadership support for patient safety.

Results: Overall, participants in the treatment group found the intervention acceptable. The odds of an individual in the intervention group adhering to HH performance guidelines are six times larger (95% CI: 3.0 to 12.1 times) than those in the control group. The odds of an individual in the intervention group adhering *before* when indicated are four times larger (95% CI: 2.0 to 9.4 times) than those in the control group. The odds of an individual in the intervention group adhering *after* when indicated are six times larger (95% CI: 3.5 to 12.8 times) than those in the control group. The odds of HH adherence doubles [$(1.078)^{10}$ @ 2.11] for every ten minutes increase in faculty time in simulation. There was no difference between groups of perceived faculty leadership for patient safety.

Implications: The low complexity of the intervention and the personal belief in the intervention by the faculty coupled with the student assessment of the reasonableness of the intervention should enhance the application of the intervention as a strategy to enhance patient safety performance. Further research, examining the performance of students in the simulation environment and in the natural environment, is critical to the development of effective patient safety interventions.

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TECHNOLOGY FOR INTERVENTIONS: THE NEW FRONTIER

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INTEGRATING TECHNOLOGY INTO A WELLNESS MOTIVATION INTERVENTION: THEORY-BASED DESIGN

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WHO GIVES A TWEET?
ASSESSING INTEREST IN THE USE OF SOCIAL MEDIA FOR HEALTHCARE

Jennifer H. Fisher, Margaret F. Clayton

ESTABLISHING TREATMENT FIDELITY IN A WEB-BASED BEHAVIORAL INTERVENTION STUDY

Linda H. Eaton, Ardith Z. Doorenbos, KrisAnn Schmitz,
Kelly Carpenter, Bonnie McGregor

REDCAP DATA MANAGEMENT:
A SMARTER STUDY EXPERIENCE

Teresa J. Sakraida, Sarah J. Schmiege, Linda Carlin

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Integrating Technology into a Wellness Motivation Intervention: Theory-Based Design

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Purpose: To describe procedures for pilot testing an iPod-touch application delivering critical content in a theory-based Wellness Motivation Intervention (WMI) designed to promote motivation for physical activity among older adults at risk for falls. iPod-touch applications have been used to track physical activity in older adults, however few interface with older adults from a theoretical perspective.

Rationale: The growing number of falls and related injuries among older adults continues to have a negative impact on quality of life and health care cost. Physical activity is a proven fall-preventive strategy, yet the majority of older adults have sedentary lifestyles. Intervention research that integrates the biomechanical benefits of physical activity with behavioral change elements is needed to stem the devastating effects of falls. The WMI is designed to enhance motivation for physical activity that reduces fall risk by targeting the social contextual resources and behavioral change processes central to fall-preventive physical activity. The WMI is delivered through critical content designed to promote awareness of social contextual resources, self-knowledge, motivation appraisal, and self-regulation. The interactive capacity and feedback mechanisms of the iPod-touch application allow for real time delivery of theoretically relevant critical content. The accelerometer sensor within the iPod-touch allows evaluation of physical activity behavior.

Methods: A software application was developed as an interdisciplinary collaborative effort to: (a) accurately measure physical activity; and (b) deliver theoretically relevant critical content of the WMI. Motivational content was developed for each of the critical areas and linked to behavior change techniques. Nine adults aged 60-79 years constituted a panel of content experts for evaluating the: (a) clarity of motivational content; (b) internal consistency of content within each motivational frame; (c) content validity; and (d) prototype usability and acceptability. Four volunteers evaluated the iPod-touch over the course of seven days for real time acceptability and accuracy of the accelerometer function.

Results: The expert panel found the iPod-touch to be usable and acceptable. The majority (66.7 %) indicated that abstract, aesthetic, and positive images were easy to understand and the most appealing. The motivational content was clearly worded. Content within each motivational frame was internally consistent. Ten of twelve motivational statements had acceptable content validity; one item was revised and another developed based on panel recommendations.

Implications: The high cost of falls among older adults and sedentary lifestyle makes interventions designed to promote motivation for physical activity essential. Theory guided iPod-touch applications may be a promising adjunct to promoting motivation for physical activity in older adults. Pilot testing of an iPod-touch application based in the wellness motivation theory supports application clarity, internal consistency, content validity, prototype accuracy and acceptability.

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Who Gives a Tweet? Assessing Interest in the Use of Social Media for Healthcare

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Aim: To assess patient preferences about the use of SoMe for their healthcare.

Background: Social media (SoMe) use is quickly increasing as healthcare delivery evolves. Evidence-based SoMe use may improve patient health engagement and communication leading to better outcomes.

Methods: An eleven-item, quantitative/qualitative phenomenological questionnaire was administered to all interested patients (N = 111; English speaking > 17 years old) at an outpatient family practice clinic in Southern Utah. Variables assessed were age, gender, health status, current or future SoMe use, provider use of SoMe, perceived barriers, and health mobile application use.

Outcomes Achieved: Eighty three percent of respondents used some form of SoMe. Fifty six percent wanted providers to use SoMe in a professional setting. Gender or health status did not affect SoMe attitudes or use, however use varied with age. Patients wanted providers to use SoMe for appointment setting and reminders; reporting diagnostic test results; prescription notifications; providing health information (boh general and patient-specific); and as a forum for asking general questions. Among those who did not use SoMe, 41.6% would consider using it if their healthcare provider did. Email and mobile telephones were the preferred communication mode. Privacy and confidentiality concerns were the most frequently cited barriers (48%) when considering the use of SoMe.

Conclusion: The current study indicates growing patient acceptance of the use of SoMe in healthcare delivery. Understanding user profiles, preferences and barriers can help providers in prioritizing where to direct efforts when using evidence-based SoMe in their practice. Many patients want providers to use SoMe and overcome the challenge to integrate SoMe while maintaining privacy and confidentiality. Regardless of communication strategy, the connection between patients and providers must remain relevant and personal. SoMe is reshaping how patients and providers communicate to promote effective patient-provider communication in an evolving healthcare system.

Establishing Treatment Fidelity in a Web-Based Behavioral Intervention Study

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Purpose/Aims: The purpose of this paper is to describe a methodology for ensuring treatment fidelity in a Web-based cognitive behavioral stress management (CBSM) intervention.

Rationale/Conceptual Basis/Background: Treatment fidelity pertains to the methodological strategies used to monitor and enhance the reliability and validity of behavioral interventions. Inadequate treatment fidelity during research can lead to implementation of ineffective interventions or failure to implement effective interventions. Approaches to establishing treatment fidelity in Web-based interventions differ from those used in interventions that are delivered in person.

Methods: The CBSM intervention *Coping with Cancer Workbook*, adapted for Web-based delivery from an in-person intervention, was tested in a randomized controlled trial with 123 breast cancer survivors. Study participants were recruited and self-selected primarily through the Army of Women's Website (www.armyofwomen.org). The web-based intervention included training in cognitive behavioral therapy techniques, coping-skills, social support, anger management and assertiveness, and a variety of relaxation techniques. During the 10-week experimental phase, participants randomized to the intervention group ($n = 62$) completed one chapter each week. The control group participants ($n = 61$) were on a "wait list" during the 10-week experimental phase, after which they received uncontrolled access to the online workbook. Besides presenting didactic information in an intuitive, easy to access manner, the workbook provided self-assessments with tailored feedback, interactive activities and problem-solving exercises that encouraged self-reflection, and relaxation exercises. Strategies for ensuring treatment fidelity were implemented and assessed. The National Institutes of Health (NIH) Behavior Change Consortium (BCC) Treatment Fidelity Guidelines were relevant to establishing treatment fidelity for the Web-based CBSM intervention. Study design, provider training, treatment delivery, receipt of treatment, and enactment of treatment skills were evaluated for treatment fidelity.

Results: Analyses suggest that the design of the Web-based *Coping with Cancer Workbook* improved receipt of the intervention and allowed participants to improve their coping skills. Since interventionists were not required, potential threats to treatment fidelity related to ensuring proper training and delivery of the intervention by an interventionist were eliminated. However, the potential for participants receiving an inadequate intervention dose posed a threat to treatment fidelity. It was also a challenge to determine whether participants used the skills in daily life.

Implications: Web-based delivery of behavioral interventions is both a strength and a threat to treatment fidelity. Nurse investigators must be cognizant of the elements of treatment fidelity and implement strategies to monitor and improve the reliability and validity of Web-based interventions. It is hoped that future investigators will build on the approach described in this paper for using the NIH BCC Treatment Fidelity Guidelines to ensure treatment fidelity of Web-based interventions.

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TECHNOLOGY FOR INTERVENTIONS: THE NEW FRONTIER

REDCap Data Management: A Smarter Study Experience

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Purposes/Aims: The purposes are to: (a) provide an overview of REDCap features, (b) demonstrate REDCap as used for data management in an active study, and (c) highlight considerations that support easier data analysis.

Background: Research Electronic Data Capture known as REDCap is a secure, web application that supports data capture for research studies. REDCap was developed as an open source, multi-institutional consortium project started at Vanderbilt University. For data management, the system provides online survey collection, web-based case reports, data entry validation, audit trails, and a de-identified data export mechanism. A data dictionary is maintained and readily downloadable. Data export can occur to common statistical packages (SPSS, SAS, Stata, R/S-Plus). REDCap allows for encrypted data sharing and is a useful package for multi-site data collection.

The self-management and resourceful transition (SMaRT) study used a randomized control design to study the use of an educational and behavioral counseling approach to support self-management of people with type 2 diabetes and chronic kidney disease. REDCap facilitated organization of the longitudinal measures collected at baseline, 3-months, and 6-months following treatment.

Methods: Using consulting services under the Colorado Clinical and Translational Sciences Institute (CCTSI), the research study team built the study database in the development mode by adding items with various entries consisting of drop down choices and some text boxes by event as needed for longitudinal design. The items entailed the use of branching logic, and calculation functions, i.e. height and weight for BMI. Building the REDCap data management system for the SMaRT study occurred over a 2 month period. After moving to the production mode, data collection/entry began.

Results: We have generated reports for study audit for safety parameters necessary for communication with the safety officer and for monitoring data entry/verification. The ease of report generation and the ability to de-identify protected health information expedites deliverables. Preliminary data analysis is underway.

Implications: Use of REDCap involved a short learning curve for the study team and provided a means to manage and preserve data integrity through its history function and control of study team access. Key to successful data management is biostatistician consultation given implications of REDCap features for later analysis. For future studies the online survey approach and the survey library will be used.

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UNDERGRADUATE LEARNING

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ENGAGING IN LEARNING TOGETHER: A GROUNDED THEORY OF POLITICAL LEARNING

Pamela Gehrke

UNDERGRADUATE STUDENTS' SELF-ASSESSMENT USING THE BREADTH OF EDUCATION SURVEY

Alice M. Tse, Victoria Niederhauser, Lois Magnussen,
John Steffen, Nova Morrisette

ANATOMY OF A MEDICATION ERROR: NURSING STUDENTS' LIVED EXPERIENCES

Sally Morgan, Jane M. Georges, Ann M. Mayo, Maryanne Garon

STUDENTS CREATE VIDEO ON SUCCESSFUL AGING FOR OLDER ADULTS IN THE COMMUNITY

Carol Redfield

USE OF ADMISSION HESI EXAMS TO SUPPORT STUDENT SUCCESS

Anita C. Reinhardt, Teresa Keller, Pamela Schultz

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Engaging in Learning Together: A Grounded Theory of Political Learning

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Background: Political and policy making skills are required in nursing graduate education (AACN, 2010). Undergraduate students also need to acquire and use political skills in their nursing practice (AACN, 2008; Institute of Medicine, 2010). These skills are needed for parity with other disciplines and to enter decision-making conversations about health and policy in workplaces, communities, and governmental spheres (Cohen et al., 1996). Political and policy making skills are seldom innate to nursing and are often foreign, intimidating and uninteresting to nurses and students.

While nursing literature is replete with "how to's" of political advocacy and skills (Abood, 2007) and offers wisdom for teaching students (Byrd et al., 2004), no research was found on how nursing students actually learn political concepts and skills. In our public university school of nursing, a unique hybrid online course-- Policy, Power, & Voice is required for undergraduate students. Studying how learning occurred in this course is consistent with calls to scrutinize and document teaching and learning in nursing (Benner, Sutphen, Leonard & Day, 2010; Boyer, 1996).

Aims: A constructivist emergent grounded theory (Charmaz, 2006) study was done and guided by two questions. 1) How do undergraduate nursing students, in one online hybrid course, make sense of civic engagement processes like policy making and political advocacy, which are often seen as unrelated to nursing? 2) During this course, how do these students progress in integrating these civic engagement processes into their views of nursing?

Methods: Students who took the course in spring semester 2011 were invited to participate after course grades were submitted. Fourteen students consented to semi-structured interviews with the researcher who was also teacher of the course. Interviews were transcribed verbatim and analyzed using Charmaz's (2006) method of coding and the constant comparative process (Glaser & Strauss, 1967). Interviews were supported with data from course documents and communications, teacher notes, and participants gave e-mail input on a grounded theory draft.

Results: Engaging in Learning Together emerged as the core category. Four primary processes were involved: Push Starting Learning, Doing the Work, Learning Online (OL) Together, and Making it Real. Through Engaging in Learning Together, students created new understandings of political processes, the profession of nursing, and the idea of political processes as connected to nursing. At the beginning of the course, about three-fourths of participants felt they were complete novices or uninterested in politics. By course end, all experienced new insights about politics, participation in political processes, and expanded views of nursing incorporating a political dimension. Participants found their learning, deep, meaningful, interesting and satisfying.

Implications: This study has improved teaching in this course and program and provides evidence for course and curricular policy decisions. It contributes to nursing literature by adding rich evidence about undergraduate students' learning in political processes and policy making and provides a foundation for further research into how students' learn and integrate political processes into their nursing practice. It provides insights for teaching political concepts and for deep learning, particularly in programs with similar hybrid learning contexts.

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Undergraduate Students' Self-Assessment Using the Breadth of Education Survey

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Purpose: To report on a measure assessing breadth of education (BOE) using self-appraisals of undergraduate nursing students following the implementation of a statewide education consortium curriculum.

Background and Rationale: Recognizing the need to improve faculty work life, increase enrollments to address workforce shortages, create access to baccalaureate nursing education throughout the state, and transform the educational environment based on an understanding of learning, the nursing program directors of a state-wide university system consisting of four-year institutions and community colleges created a nursing consortium. The goal was to develop a centralized, learning-driven approach across the university system, using a new pedagogy, including concept-based and student-centered learning, spiraling curriculum, and clinical educational redesign. In 2009, three nursing schools in the university system implemented the statewide curriculum. Three nursing schools in the system did not. These will be used as a comparison group.

Methods: This study reports on a measure developed by the Robert Wood Johnson Foundation to assure that educational interventions in nursing do not have an adverse impact on educational breadth. The items for the measure were based on competencies identified by the Baccalaureate Essentials, the Nursing Executive Center, the National Council of State Boards of Nursing and other key professional organizations. A nonequivalent comparison group design was used. Students answered the survey at the start of their first academic year. Those enrolled in the consortium programs ($N = 228$) and comparison sites ($N = 121$) rated their confidence and mastery performing 38 discrete nursing tasks.

Results: A total of 349 students (57% AS /43% BS) completed the survey. BS students indicated greater confidence in performing nursing tasks ($t = -2.97$, $p < .01$). BOE scores were significantly higher in the intervention versus control schools ($t=3.56$, $p < .001$) but did not differ across race or sex. A significant difference in BOE score was found between students who intended to obtain the baccalaureate degree versus those who did not intend to do so ($t=3.13$, $p < .01$).

Conclusions: The findings suggest that baccalaureate and consortium students start their education with more confidence than their counterparts. These trends need to be examined further as the BOE survey is administered at subsequent points in the students' educational trajectory.

Funding: Robert Wood Johnson Foundation, Evaluating Innovations in Nursing Education (EIN) grant # 68173.

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Anatomy of a Medication Error: Nursing Students' Lived Experiences

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Purpose/Aims: The purpose of this study is to uncover and describe the lived experiences of learning medication administration from the authentic voice of entry-level masters nursing students. In doing so, this study (a) revealed the personal experiences associated with student medication administration learning activities, (b) captured the meanings students gave to their medication administration learning experiences, (c) uncovered the influence from the classroom, skills lab, and patient care learning environments on student learning experiences, and (d) disclosed the influence of current medication administration nursing practice on student learning experiences.

Rationale: Medication errors are abounding and the complexity of medication administration creates an environment where health care providers are at risk for making errors. This environment includes nursing students learning medication administration. Coupled with a rigid, protocol-driven pedagogy, nursing students may be placed in a learning experience counterproductive to accuracy. Previous studies have focused on causes and perceptions of medication errors looking for the delineation between safe and unsafe practice. In doing so, past research may have narrowed the path of discovery needed to diminish medication errors. In addition, research regarding the lived experience of nursing students while they are learning medication administration is limited.

Methods: An interpretive phenomenological approach was chosen to hear the nursing students' genuine voices and to approach the reality of how nursing practice and practice wisdom is learned during medication administration. A purposive sample of 13 students attending an entry-level masters nursing program in Southern California were recruited on a voluntary basis. Individual interviews were conducted using an indirect discourse and documented by transcribed voice recordings and hand written jottings. Initial and values coding was completed by hand and the QDA Miner software program. Jottings from the interview were converted to analytical, methodological, and personal memos as an ongoing process during data collection and analysis. The analytical method according to Benner was used to identify paradigm cases, themes, and exemplars.

Results: Exploring these experiences offered insight into educational pedagogies that inhibited and those that promoted accuracy as well as perceived influences for medication errors. A significant theme was the destructive learning aftermath, resulting from one student error, yet experienced by multiple student participants. The meaning of learning experiences, power relations, as well as, missing medication administration content was revealed. The theory of nursing lens distortion and the perfectibility model were used to further illustrate the experiences.

Implications: This study gave voice to the nursing student participants, suggesting a connection between medication errors and the socio-political space and context within which they learn medication administration. Further research to triangulate the faculty and staff nurse lived experiences during student learning is recommended.

UNDERGRADUATE LEARNING

Students Create Video on Successful Aging for Older Adults in the Community

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Purpose: This presentation describes a health promotion video project on successful aging completed by senior baccalaureate nursing students.

Background: Ten thousand adults turn sixty-five every day. Planning for ones older years is critical if this population is to age independently and continue to live in a setting of their own choosing. To date, no one actively seeks or plans to live in an assisted living or nursing home settings. Middle-aged adults and high functioning younger older adults often do not make the plans necessary to support long-term maintenance their independence. Up to 40% of older adults will be admitted to nursing centers/assisted living settings for temporary or permanent placements in their life time yet a significant percentage of these could have been avoided placement with advanced planning. In addition, with the dramatic increase of the Baby Boomer population a lack of sufficient nursing centers/assisted living is expected. Comprehensive planning for aging is needed if positive aging lifestyles and living arrangements are to be realized by aging adults.

Brief Description: With faculty support, senior nursing students at Seattle Pacific University produced a 16-minute video titled: "Take Control of Your Future: Tips for Successful Aging". The video was designed for both public and professional audiences. The content aims to provide a holistic approach to aging that is focused on health, housing, financial, and legal issues. These issues have been identified as the four pillars of coordinated planning for desirable aging. In ten weeks, five students conducted interviews and focus groups with older adults for their perspectives on the issues. In addition, they collaborated with content and information technology professionals to produce and edit the video.

Outcomes: In September (2011) the video was made available for viewing and downloading from the Seattle Pacific University website http://www.spu.edu/depts/health-sciences/undergrad/videos/index.asp or www.spu.edu/successfulaging.
The video is being utilized by community partners/agencies within Washington State, such as Washington Association of Area Agencies on Aging, Senior Services of King County, Aging Options of Johnson and Nagaich Eldercare and Estate Planning. The National Council for Aging also viewed the video and passed the viewing information on to their national network of organizations. Most importantly, the students became passionate about with working with older adults and age related issues.

Conclusions: The creation of a 16-minute professional video on successful aging shows that nursing students not only can integrate the pieces of information around gerontology but also develop interventions to promote health in the community.

Use of Admission HESI Exams to Support Student Success

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Overview: As nursing programs try to address the impending shortage of registered nurses, admissions have increased substantially. Although many qualified applicants request admission, occasionally the incidence of grade inflation has skewed the college grades so some potential students' grades may not reflect their ability to successfully master the nursing curriculum. To establish a level playing field, schools have utilized standardized admission exams that tests knowledge in prerequisite courses.

Purpose: Some controversy may surround the use of these test scores, but in the following project the test scores were used to compare students' success in their first semester of the nursing program and attempt to identify a relationship of specific areas tested to program success.

Method: Student test scores in the undergraduate BSN program (traditional BSN n=292; second degree, accelerated program n=62; second degree traditional program n=6) for the Admission HESI exam were compared to their final grades in the first semester of the nursing program. The Admission HESI included eight (8) scores (anatomy/physiology, biology, chemistry, grammar, math, reading, vocabulary, and a composite score). The nursing courses compared were principles of nursing, health assessment, pharmacology, and pathophysiology. Follow through with the first cohort to be admitted under these guidelines was also undertaken.

Results: All admission scores showed a significant correlation between the course variables; therefore the higher the test score, the higher the course grade. Using a multiple regression model, the HESI scores were used to predict course grades. For the principles of nursing course, HESI grammar (.289, $p<0.0001$), math (.219, $p=0.0003$), and biology (.187, $p=0.004$) were predicative. For health assessment, HESI grammar (.166, $p=0.02$), anatomy/physiology (.164, $p=0.02$), and math (.162, $p=0.01$) were predictive. In pharmacology, the HESI scores in math (.256, $p<0.0001$), anatomy/physiology (.158, $p=0.02$), and grammar (.137, $p=0.04$) were predictive. Again, the pathophysiology grades were predicted by HESI scores in math (.255, <0.0001), grammar (.162, $p=0.02$), and anatomy/physiology (.161, $p=0.02$). In light of these scores and a review of the composite scores indicated a score of at least 78% as the base line for admission. Review of progression data for the first cohort following the admission HESI minimum composite score has shown an improvement in exit HESI success and NCLEX-RN passage.

Conclusion: By establishing a relationship to the HESI Admission Composite score to student success in the first semester of the nursing program, the school was able to establish a required composite admission score that is predictive of success. This study demonstrates the predictability of prerequisite knowledge as evidenced by HESI Admission scores. Specific prerequisite content was identified that was an integral component to first semester success. A greater percentage of students admitted following the implementation of the admission composite score requirement have successfully completed subsequent semesters of our program thereby increasing our progression and program completion rates.

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THE USE OF BIOLOGICAL INDICATORS IN NURSING RESEARCH

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CIGARETTE SMOKE EXTRACT-INDUCED CHANGES IN TELOMERES OF LUNG ALVEOLAR CELLS

Charles A. Downs, David W. Montgomery, Carrie J. Merkle

BARORECEPTOR SENSITIVITY IDENTIFIES NORMAL BRAIN BLOOD CONTROL IN BRAIN INJURY

Norma D. McNair, Mary A. Woo, Brenda Rinsky

SERUM URIC ACID: A SCIENTIFIC INNOVATION TO DETERMINE ADOLESCENT HEALTH OUTCOMES

Ruth C. Bindler, Kenneth B. Daratha, Robert Short, Ross J. Bindler

DEPRESSION AND INFLAMMATORY BIOMARKERS AFTER CARDIAC SURGERY

Lynn Doering, Rebecca Cross, Adey Nyamathi

INFLUENCE OF THE GABRA6 GENE ON THE STRESS RESPONSE IN VETERANS WITH PTSD

Donna Velasquez, Rochelle Lambert, David Montgomery, Alice Pasvogel

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THE USE OF BIOLOGICAL INDICATORS IN NURSING RESEARCH

Cigarette Smoke Extract-Induced Changes in Telomeres of Lung Alveolar Cells

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Background: Cigarette smoke (CS) is the single greatest factor in the development of chronic obstructive pulmonary disease (COPD). CS may affect telomeres, structures at the ends of chromosomes that shorten with each cell division, by accelerating telomere shortening which critically impacts cell function and cell division and ultimately leads to disease—i.e. COPD. The actions of second and third hand smoke, which have implications for the future pulmonary health of non-smokers and the very young, are just beginning to be appreciated. It is known that CS affects the cells of the alveolus, or gas exchanging unit of the lung; the alveolus is composed of alveolar epithelial type I (AT I) cells and microvascular endothelial cells (MVECs). However, the effects of CS on telomeres of AT I cells and MVECs are unknown.

Purpose: The purpose of this study was to determine the effect of cigarette smoke extract (CSE) exposure on relative telomere length of AT I cells and MVECs.

Methods: CSE preparations were standardized using research grade cigarettes. AT I cells and MVECs were harvested from the lungs of neonatal (7 day), young (3 months) and old (24 months) male Fischer 344 rats. Each age group of AT I cells and MVECs were cultured separately and then exposed to 2% CSE for 3 weeks. Relative telomere length was determined using RT qPCR. Gene expression profiling specific to telomere maintenance and telomerase pathways was used to assess for potential molecular mechanisms involved in CSE-induced changes in telomere length.

Results: CSE exposure shortened telomeres of neonatal AT I cells ($p<0.05$) while CSE exposed young and old AT I cells demonstrated longer telomeres than controls ($p<0.05$). CSE exposure resulted in shorter telomeres in neonatal MVECs ($p<0.05$) but did not affect telomere length in young and old MVECs. Gene expression profiling identified 6 genes in neonates and 7 genes in old AT I cells that were affected by CSE exposure. Comparison of gene expression between neonatal and old AT I cells exposed to CSE revealed that CSE exposure stimulated cell division in neonates and promoted growth arrest in old AT I cells.

Discussion: CSE affects neonatal cells differently than young and old cells. CSE exposure accelerated telomere shortening in neonatal AT I cells and MVECs, an observation that both furthers our understanding of how CS affects the lung and has implications for the future pulmonary health of neonates exposed to second and/or third hand smoke.

Funding: 1F31NR010843-01, Laurence B. Emmons Award (College of Nursing, The University of Arizona), Yuma Friends of Arizona Young Investigator Award, and the STTI Beta Mu Chapter Dissertation Award.

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THE USE OF BIOLOGICAL INDICATORS IN NURSING RESEARCH

Baroreceptor Sensitivity Identifies Normal Brain Blood Control in Brain Injury

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Background/Aims: Cerebral autoregulation (CA) is abnormal in patients with traumatic brain injury (TBI) and leads to secondary brain injury. Such secondary injury can be induced by common nursing procedures, such as sitting and ambulation. Standard measures of CA are not amenable to routine clinical use. Baroreceptor sensitivity (BRS) is a non-invasive measure of autonomic tone and shares some of the same neurological pathways as CA. Thus, BRS may be a useful clinical marker for CA in patients with TBI. The relationship of CA and BRS in patients with TBI is unclear. The specific aim of this research was to evaluate BRS and CA in a group of patients with moderate to severe TBI.

Methods: CA (cerebral artery blood flow velocity measured in the left middle cerebral artery using transcranial Doppler) and BRS were examined in 26 TBI subjects (age 37.04±14.51 years; 18 males) 30 seconds prior to (baseline) and 30 seconds after a postural challenge. CA and BRS were classified as normal or abnormal per published norms. Statistical analyses consisted of t-tests, Pearson's correlations and chi-square with significance set at $p < 0.05$. Sensitivity and specificity of BRS to detect abnormal CA were also evaluated.

Results: There were significant differences between CA at baseline and post position (baseline: 53.53 ± 10.13; post: 50.40 ± 10.87, $p = 0.005$) However, there was no significant difference in BRS between these time points (baseline: 13.62 ± 3.57; post: 13.73 ± 2.92, $p = 0.86$).

CA was abnormal in 6 subjects and BRS was abnormal in 6 subjects, but both CA and BRS were abnormal in only one subject. Ability of BRS to identify abnormal CA (sensitivity) was low (true abnormal CA = 1; 5%) but its ability to classify normal CA (specificity) was high (true normal BRS and CA = 19; 76%).

Implications: BRS can identify normal CA and may be a useful clinical method to evaluate nursing procedure readiness, such as position changes, ambulation, or Trendelenberg position. Thus BRS may have clinical utility to assess the presence of normal CA and decrease the risk of secondary brain injury in TBI patients.

Funding: Supported by a grant from Sigma Theta Tau, Gamma Tau Chapter-at-Large.

THE USE OF BIOLOGICAL INDICATORS
IN NURSING RESEARCH

Serum Uric Acid: A Scientific Innovation to Determine Adolescent Health Outcomes

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Purpose: The purposes of this study were to: 1) describe findings regarding serum uric acid levels (UA) in youth enrolled in the Teen Eating and Activity Mentoring in Schools (TEAMS) study; 2) examine associations of UA with anthropometric measures and cardiometabolic markers in youth; and 3) compare gender difference in UA while controlling for central adiposity and cardiometabolic markers.

Background: Elevated serum UA often precedes hypertension, obesity and kidney disease. Few studies have addressed UA in youth; it is associated with pediatric obesity but there is conflicting evidence about other associations. Research is needed to elucidate the normal ranges of UA in youth, the relationships of UA with health outcomes, and to establish usefulness of this biomarker in the science of nursing.

Methods: Participants included 171students in middle school in the inland northwest who participated in the TEAMS study to encourage healthy lifestyles. Data reported is cross sectional with assessments of students completed at the start of the seventh grade. University and school district Institutional Review Board (IRB) approvals were obtained. Student assessments included height, weight, BMI percentile, BP, and fasting serum blood draw according to CDC protocols. Descriptive statistics were used to characterize the sample. A multivariate ANCOVA was completed to examine mean differences in UA based on gender while controlling for central adiposity and serum lipid levels.

Results: 171 students were evaluated (71 male and 100 female). Among all subjects UA was normally distributed with mean and median of 4.9 mg/dL. Values were higher in obese (5.4 mg/dL) than non-obese (4.7 mg/dL) youth ($p<0.001$). No statistical differences were observed in males (5.1 mg/dL) and females (4.8 mg/dL) ($p=0.08$). UA levels were associated with BMI, waist circumference, c-peptide, insulin, triglycerides, HDL-C, hsCRP, HOMA-IR, and systolic blood pressure. Within a multivariate model describing more than 30% of the variance in serum UA, males had higher values compared to females ($p=0.005$), controlling for waist circumference and HDL-C.

Implications: Youth health characteristics have been shown to continue into adulthood. Uric acid's relationships with gender, central adiposity and cardiovascular markers in childhood demonstrate that UA is a marker that can be analyzed and evaluated among youth. In addition, common measurements obtained in office settings accurately reflect potentially harmful metabolic states in youth. While no recommendations have yet been made for normal serum UA levels in youth, this study contributes to findings and with other studies will provide a profile of UA in children and adolescents.

Funding: This project was supported by Agriculture and Food Initiative grant 2007-55215-17909 from the USDA National Institute for Food and Agriculture.

THE USE OF BIOLOGICAL INDICATORS IN NURSING RESEARCH

Depression and Inflammatory Biomarkers after Cardiac Surgery

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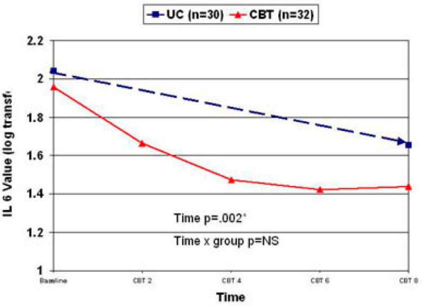
Aim: To describe the course of inflammation over the first 3 postoperative months in depressed cardiac surgery patients involved in a random controlled trial of cognitive behavioral therapy (CBT).

Background: Inflammatory markers (C-reactive protein [CRP]); interleukin [IL]-6) have been shown to predict adverse outcomes in patients with coronary artery disease (CAD) and are also positively associated with depression. While both CRP and IL-6 are increased immediately after cardiac surgery and decrease in the perioperative period, little is known about the later course of inflammatory markers.

Methods: We enrolled 808 cardiac surgery patients from five hospitals. They were screened for depressive symptoms with the Beck Depression Inventory (BDI) in the hospital and one month later and interviewed using the Structured Clinical Interview for DSM-IV (SCID-I); those who met criteria for clinical depression (n=62; 26% female, age 63 ± 9.7 years) were randomized to CBT (n=32) or UC (n=30). CBT patients received 8 weeks of nurse-guided therapy. UC patients received usual postop care plus biweekly phone calls to maintain contact. After 8 weeks, clinical depression in both groups was re-evaluated. Serum samples were collected during the SCID-I and after 8 weeks in both groups and biweekly during therapy in the CBT group. Samples were analyzed in a core laboratory by ELISA for high-sensitivity CRP and IL-6. Using general linear modeling and controlling for the time from surgery, we conducted repeated measures analysis to compare the change over time in inflammatory markers.



*controlling for time from surgery to first blood draw

Results: CRP and IL-6 decreased significantly in both groups during the first 3 months after surgery. However, the change over time did not differ between treatment groups.

Implications: This study is the first to provide evidence that reductions in inflammation continue for up to three months after cardiac surgery in depressed patients. Further study is needed to evaluate the relationship of decreased inflammation to CAD progression and treatment.

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THE USE OF BIOLOGICAL INDICATORS IN NURSING RESEARCH

Influence of the GABRA6 Gene on the Stress Response in Veterans with PTSD

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Purpose/Aims: The primary aim of this study was to test the feasibility of recruitment and data collection from veterans with PTSD enrolled in an inpatient Evaluation & Brief Treatment PTSD Unit (EBTPU). A secondary aim was to explore relationships between GABRA6 gene variants (TT, CT, CC), diurnal cortisol cycles, total cortisol, and program outcome measures. **Background:** PTSD is a complex disorder involving alterations in neuroendocrine, neuropsychological, and brain structure severely impairing interpersonal relationships, work, and quality of life of affected individuals and their families. Alterations in cortisol response to stress have been demonstrated in studies of individuals with PTSD and a link between HPA-axis dysregulation and aberrant memory consolidation may play a role in the reexperiencing of traumatic memories. A diurnal pattern is thought to indicate HPA-axis competence (the ability to maintain homeostasis). HPA-axis dysregulation is characterized by a disruption in the typical diurnal cycle. However, unexpected variations in cortisol cycles have been found in even healthy individuals. The CC variant of the $GABA_A$a6 receptor subunit (GABRA6) gene has been found to attenuate HPA-axis response to stress which may signal dysregulation. **Methods:** Veterans diagnosed with PTSD enrolled in a 3-week EBTPU program at a VA hospital located in southwest United States were recruited. Week 1 of the programs consists of evaluation and trust building, Week 2 consists of exposure treatment (trauma week), and Week 3 prepares individuals for discharge. Saliva samples were obtained over 2 days during each week. Salivary cortisol was assessed by enzyme immunoassay. Polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) was used for genotyping. Program outcome measures included PTSD symptoms, depression, and global functioning. **Results:** Of 27 subjects, 25 were genotyped. Three (12%) participants had the TT variant, 14 (56%) had the CT variant, and 8 (32%) demonstrated the CC variant. No significant relationship was found between genotype and cycle type nor was a relationship between cycle type and program outcomes found. However, although on average, there was a statistically significant improvement on each of the outcome measures, lower total cortisol at week 2 (trauma week) was correlated with increased PTSD symptoms (r= -.43, p= .047) and with increased depression (r= -.53, p= .030). **Implications:** Feasibility was evaluated in terms of recruitment, self-collection of saliva by subjects, and laboratory analysis. No major problems were encountered and the study design and methods appear feasible. Cortisol has been linked to the re-experiencing of aversive memories, specifically increased cortisol levels have been linked to reduction of reexperiencing symptoms in patients with PTSD. A larger study using a control group is needed to examine variables defined in this study and may have implications for future intervention.

Funding: Emmons Research Funds, The University of Arizona, STTI Beta Mu Chapter Research Grant, Research Start-Up Funds, Arizona State University.

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WOMEN'S HEALTH: CHILDBEARING YEARS

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CRITICAL ETHNOGRAPHY OF MEXICAN PRIMIPARAS REGARDING EXCLUSIVE BREASTFEEDING

Bonita Shviraga

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TEACHING AND LEARNING IN THE WORKPLACE: STAFF NURSES' EXPERIENCES OF CLINICAL LEARNING

Linda M. Veltri

* * *

MATERNAL SMOKING ALTERS PLACENTAL 11β-HSD2 MRNA & SERUM CORTICOSTERONE IN RAT PUPS

Gwen Latendresse, Merica Hale, Chengshe Jiang, Melanie Fitzhugh,
Christopher Calloway, Camille Fung, Daniel Malleski,
Robert Lane, Lisa Joss-Moore

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BARRIERS AND FACILITATORS OF CERVICAL CANCER SCREENINGS AMONG WOMEN OF HMONG ORIGIN

Dian Baker, Dao Fang

* * *

PROVIDERS SPEAK OUT!
A DELPHI STUDY OF SELF-COMPETENCE FOR CHILDBIRTH

Tanya Tanner, Nancy K. Lowe

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WOMEN'S HEALTH: CHILDBEARING YEARS

Critical Ethnography of Mexican Primiparas Regarding Exclusive Breastfeeding

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Purpose: The purpose of this study is to critically examine the cultural values, beliefs, and practices regarding infant feeding with a focus on exclusive breastfeeding in Mexican primiparas who have immigrated to Colorado within the last 5 years.

Aims: 1) To describe the culture care values, beliefs, and practices of recently immigrated Mexican women surrounding infant feeding and breastfeeding during the first three months. 2) To explore if (and how) culture, gender, and issues of power/marginalization affect recently immigrated Mexican primiparas' attitudes, beliefs, and practice regarding infant feeding and exclusive breastfeeding. 3) To gain an understanding of how recently immigrated Mexican primiparas respond to nurses' and healthcare providers' "authoritative" knowledge regarding exclusive breastfeeding, to determine how the women "sort through" this information to create new unique understandings/approaches to exclusive breastfeeding.

Background: Worldwide it is acknowledged that breastfeeding is the preferred method for feeding newborns, with significant health benefits for the mother and newborn. Recent breastfeeding duration statistics for Mexican women in the United States and Colorado are below the goals of Health People 2020. Mexican women in Colorado represent an underserved and marginalized group as evidenced by their culture's history in Colorado, gender status within their culture, their immigration status, inability to speak English, and socioeconomic status. All of these factors may affect duration of exclusive breastfeeding duration. In order for nursing to support breastfeeding in this population, it is important that we understand factors that may impact the sustainability of exclusive breastfeeding.

Method: This study used Carspecken's method of Critical Ethnography which aims to link social phenomena to sociocultural historical events "exposing prevailing systems of domination, hidden assumptions, ideologies, and discourses" (Hardcastle, Usher, & Holmes, 2006, p. 151). The method evaluates language and communicative processes.

Results: Findings revealed that WIC embraces a culture of exclusive breastfeeding and that WIC is a major source of information for women. Exclusive breastfeeding is a natural choice for women and is considered "women's work." Women's support systems were altered and they often experienced isolation during the transition to motherhood and the role of providing for their baby by exclusively breastfeeding. They experienced additional challenges exclusively breastfeeding as they negotiated issues of modesty as well as returning to work. Women asserted agency based on the values of providing the best for baby and the maternal-infant bond. Women valued biomedical information. Messaging of information and evaluation of "best for baby" slogan is advised.

Implications: This study provided new knowledge through a critical lens regarding exclusive breastfeeding in recently immigrated Mexican women. With this understanding nurses can provide care and institute system changes to increase exclusive breastfeeding and improve the health of infants in this population. Implications for further research were identified which include research with other vulnerable populations. Future research testing interventions are suggested based on findings that women desired more continuity and community in breastfeeding education.

References: Hardcastle, M. Usher, K., Holmes, C. (2006). Carspecken's five-stage critical qualitative research method: An application to nursing research. *Qualitative Health Research, 16*(1), 151-161.

Funding: Partial support provided by research grants from Sigma Theta Tau Alpha Kappa Chapter-at-Large and American College of Nurse-Midwives Chapter V-3.

Teaching and Learning in the Workplace: Staff Nurses' Experiences of Clinical Learning

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Purpose: To explore obstetrical staff nurses' unique experiences of working with nursing students in a busy, complex, and dynamic workplace.

Background: The clinical learning experience is integral to nursing education and preparation for professional nursing practice. Several models of clinical learning rely on staff nurses for clinical teaching. The nursing shortage, shortened length of patient stay, increased patient acuity and heavy clinical workloads can create stressful environments and may influence how staff nurses supervise, teach and provide learning opportunities for nursing students. Therefore, Nurse Educators (NEs) should not assume all nurses who work with students are able to provide a positive learning experience.

Methods: Using a Naturalistic Inquiry approach a purposeful sample of 12 obstetrical staff nurses participated in one-to-one semi-structured interviews to share their experiences of working with nursing students. A constant comparative method was used to inductively analyze the data.

Results: A significant finding is that staff nurses disclosed that their work with nursing students is primarily focused on providing nursing care for patients rather than achieving academic objectives. Several nurses report that often they are unaware of the specific learning objectives for the students. Six themes emerged from analysis of the semi-structured interviews: 1) Giving and Receiving: Working with students provided these nurses opportunities to "give back" to the nursing profession and, in turn, they learn new evidenced-based practice from students; 2) Advancing Professionally and Personally: Many nurses take advantage of workplace incentives, such as the clinical ladder to gain additional financial compensation and educational opportunities from their employer; 3) Balancing Act: Nurses revealed working with students requires them to balance their typical workload and patient care with students' learning needs. Working with students slows nurses down, especially if students are unprepared for clinical or demonstrate a lack of interest in obstetrical nursing; 4) Getting to Know and Working with You: Most nurses take time to establish personal relationships with students and determine how best to work with students; 5) Past and Present: Clinical experiences exert powerful and long lasting impressions. Nurses report using similar positive strategies they recall from their own clinical experiences as a student and ,likewise, vow they would never treat students in the negative ways they were treated; and 6) Gender (may) Matter: Under certain conditions the students' gender is a barrier to their learning experiences such as when male students are excluded.

Implications: Study findings suggest NEs should not assume student learning is focused or intentional in the clinical setting. NEs who establish strong collaborative working relationships with staff nurses increase the likelihood that student learning is enhanced and objectives are met. NEs should work with administrators to advocate and explore creative ways to compensate and recognize nurses who work with nursing students.

Funding: In part by Omicron Upsilon Chapter, Sigma Theta Tau International.

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WOMEN'S HEALTH: CHILDBEARING YEARS

Maternal Smoking Alters Placental 11β-Hsd2 mRNA & Serum Corticosterone in Rat Pups

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Purpose: The purpose of the study was to investigate the affect of maternal tobacco smoke exposure on glucocorticoid metabolism in the rat placenta. We hypothesize that MTS alters mRNA levels of 11β-Hsd1, 11β-Hsd2, and GR in the rat placenta, as well as pup serum corticosterone levels.

Background: Maternal tobacco smoke (MTS) exposure increases the risk of intrauterine growth restriction (IUGR). IUGR is a significant cause of newborn morbidity and mortality, with males more severely affected. Altered metabolism of glucocorticoids (GC) in the placenta contributes to IUGR. Placental GC metabolism is regulated by the GC receptor (GR) as well as hydroxysteroid dehydrogenase type 2 (11βHsd2), which metabolizes GC into an inactive form, and 11βHsd1 which converts inactive GC back to active GC. Despite these connections, It is unknown if MTS differentially alters placental GC metabolism in the male vs. female rat pup.

Methods: Pregnant dams were exposed to tobacco smoke from e11 to term (e21). Placentae and serum were collected from MTS pups and controls delivered via cesarean. Total placental mRNA transcript levels were quantified using real-time PCR. Pup serum cortiscosterone concentrations were measured using ELISA. * $p<0.05$ ** $p<0.01$.

Outcomes: In the female pup placenta, MTS did not alter 11β-Hsd1, 11β-Hsd2, and GR mRNA levels. However, serum corticosterone levels were decreased by 48%* relative to sex-matched controls. In the male pup, MTS increased placental 11β-Hsd2 mRNA levels by 192%.** Serum corticosterone levels were also increased by 185% in the male pups, however the increase did not reach statistical significance ($p = .11$).

Conclusions: We showed that MTS affects 11β-Hsd2 mRNA levels in the male, but not in the female placenta. Furthermore, MTS differentially alters serum corticosterone levels in male and female pups. We speculate that 11β-Hsd2 protein levels and activity are increased in male rat pup placenta in accordance with increased mRNA. We further speculate that altered GC metabolism in the male pup placenta could be a contributing factor to poorer outlook for male IUGR offspring of MTS exposed dams.

Barriers and Facilitators of Cervical Cancer Screenings among Women of Hmong Origin

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Background: Cervical cancer is a leading cause of death among Hmong women in California. The Hmong are the least likely to receive screening or treatment for cervical cancer compared to other women in California. As a consequence they experience health inequities and unnecessarily low survivor rates.

Objective: To better understand the barriers and facilitators of cancer screening among Hmong women, we conducted focus groups with women of Hmong origin in California to determine: (1) their concerns surrounding cervical cancer, (2) barriers to cervical cancer screening and (3) interventions that may facilitate cervical cancer screening.

Methods: We used a community-based participatory approach to conduct focus groups with Hmong women who represented four distinct demographic groups among the Hmong community.

Results: Sociocultural barriers to screening included a lack of accurate knowledge about the causes of cervical cancer, language barriers, stigma, fear, lack of time and embarrassment. Structural barriers included attitudes and practices of health care providers, lack of insurance and negative perceptions of services at clinics for the uninsured.

Conclusions: The Hmong women described multiple barriers to screening for cervical cancer that require new health care approaches to reduce inequities in cervical cancer outcomes for this population.

Implications for Practice: Health care providers may require additional training and increased time per visit to provide culturally sensitive care for refugee groups such as the Hmong. Health-related social marketing efforts aimed at improving health literacy may also help to reduce health inequities related to cancer screening among the Hmong.

Funding: This study was partially funded by Cooperative Agreement Number 5U58DP001006-02 from Centers for Disease Control and Prevention.

Providers Speak Out! A Delphi Study of Self-Competence for Childbirth

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Purposes/Aims: The purposes of this study are to investigate expert maternity care providers' descriptions of, understanding of, and clinical experiences with women who exhibit self-competence for childbirth, and to identify the defining attributes of self-competence for childbirth. The study aims to generate knowledge for future instrument development to measure self-competence for childbirth which will enable study of factors that affect the processes and outcomes of childbirth.

Rationale/Conceptual Basis/Background: Childbirth in America has changed. With today's escalating elective induction of labor and cesarean section rates and their potential negative health outcomes, it is essential to identify attributes of women who continue to birth powerfully with great grace and skill, embodying effectiveness, ability, sufficiency and/or success for accomplishing physiologic childbirth; in other words, women who are self-competent for childbirth.

Method: After obtaining IRB approval, this four round Delphi study was completed with a group of 108 expert physicians, midwives, nurses, and doulas representing opinions of varying maternity care professionals possessing a wide variety of experience with childbearing women.

The first round Delphi survey collected qualitative comments from panelists to five open-ended questions about their experiences with women who are self-competent for childbirth. Content analysis was undertaken revealing 550 codes which were analyzed resulting in the creation of 192 statements representing panelists' responses to these questions. These statements formed the basis for the second round survey which was comprised of these statements for ranking on a Likert scale according to how well each statement described women who are self-competent for childbirth. Data analysis revealed 49 statements reaching the level of group consensus, and identified the mean and interquartile range of each remaining statement which were then provided to panelists during the third round for reconsideration and re-ranking.

Third round data analysis identified panel consensus for an additional 13 statements describing women who are self-competent for childbirth. During round four, the sixty-two total retained statements were presented to the panel for final confirmation as well as for identification of how well the statements described their nulliparous patient population.

Results: At the end of the survey process, sixty-two statements were identified representing consensus about the defining attributes of self-competence for childbirth derived from this Delphi study of expert maternity care providers.

Implications: Study results will provide conceptual validation and an item pool for subsequent instrument development measuring self-competence for childbirth.

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ADOLESCENT/YOUNG ADULT HEALTH ISSUES

THE MATURATION OF SPIRITUALITY AND ITS INFLUENCE ON BEHAVIOR DURING LATE ADOLESCENCE

Deanna M. Mason

UNIVERSITY STUDENTS' KNOWLEDGE, ATTITUDES AND BEHAVIORS ON THE MATTER OF SEXUAL HEALTH

Saadet Yazici, Gülümser Dolgun, Neriman Zengin, Güliz Onat Bayram

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ADOLESCENT/YOUNG ADULT HEALTH ISSUES

The Maturation of Spirituality and Its Influence on Behavior during Late Adolescence

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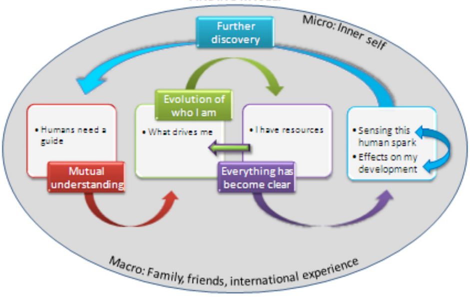
A theoretical model describing the maturation of spirituality in late adolescence and its influence on behavior was created from an embodied philosophical perspective using a grounded theory design. Previous quantitative research studies have linked spirituality and/or religiosity with both decreased health-risk and increased health-promotion behaviors during adolescence. However, reductionist methods have not revealed underlying reasons for these relationships that impede the ability to apply this knowledge to practice. A qualitative research perspective accounted for the embodied experience and development of the individual, during late adolescence, which illuminated the meaning, beliefs, and practices which begins to explain why the relationships between spirituality and/or religiosity and health-risk and health-promotion behaviors exists.

Research questions were structured to discover both the maturation of spirituality during late adolescence as well as the areas of influence spirituality had on behavior during late adolescence. Blumer's Symbolic Interactionism and embodiment were the conceptual lenses informing the study. Twenty-one adolescents, age 16-21 years, from two international educational institutions in central Spain and one non-profit after-school program in the United States for high-risk adolescents were interviewed electronically by email. A grounded theory research design was used to analyze the data. IRB approval was received for this study.

From the analysis, a theoretical model emerged with a core concept of *finding myself* that represents four core process concepts with *in vivo* titles: (a) *humans need a guide,* (b) *what drives me,* (c) *I have resources,* and (d) *sensing this human spark* and *effects on my development.* The theoretical model clarifies the cyclical process of spiritual maturation during late adolescence and where it influences behavior. Based on this knowledge, nurses can evaluate adolescent care in terms of spiritual development to devise appropriate and applicable interventions to decrease health-risk and increase health-promotion behaviors.

Direct implications of this study were threefold: (a) late adolescents are aware of their personal spiritual maturation as well as its influence on health; therefore continued exploration of this phenomenon regarding adolescent health is warranted; (b) the use of an embodied perspective when investigating adolescent health can illuminate information previously concealed by reductionist research methods; and (c) exploration of research designs to test the theory.



University Students' Knowledge, Attitudes and Behaviors on the Matter of Sexual Health

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In this research, the objective is to determine the level of knowledge, attitudes and behaviors of university students on the matter of sexual health.

The research was descriptive and cross-sectional. The sample is comprised of the students of İstanbul University Bakırköy School of Health and Hasan Ali Yücel Faculty of Education (N=877). The survey form used for data collection included questions on socio-demographic features, knowledge, attitude and behavior of students on sexual health. In analyzing the data, averages and percentages are calculated and Chi-square tests are performed.

The average age of the students in our study was 20.7±1.718 years and only 39.0% of them had sufficient knowledge on sexuality. Analysis revealed that there were differences between men and women about their reported relationship with the opposite sex ($p<0.001$), premarital sexual intercourse ($p<0.001$), expectation of virginity from spouse ($p<0.001$) and sexual preference ($p<0.001$) were significant.

We came to the conclusion that university students' sexual knowledge is insufficient, their behaviors and attitudes are influenced by traditional approaches and understanding of sexuality differs between two gender.

Keywords: Sexual health, Sexual knowledge, Sexual behavior, University students in Turkey.

ADOLESCENT/YOUNG ADULT HEALTH ISSUES

The Effect of Relationships on Behavior: Adolescent Transition to Emerging Adulthood

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Purpose: Guided by the life course theory, the purposes of this research were to better understand the role that peer and parent relationships, and gender have on reckless and deviant behaviors during the time of transition from adolescence to emerging adulthood.

Background: Reckless behaviors (minor theft, substance abuse, and unprotected intercourse) are common during adolescence. Once an adolescent proceeds down a life course characterized by these behaviors, changing direction can be difficult. It is not known which adolescents engaging in reckless behaviors are most at risk for progressing to deviant behaviors (assault, drug dealing, and violent crimes) during emerging adulthood.

Methods: This quantitative study used Wave I and Wave III data from the Add Health study. The public-use data set comprised one-half of the core sample of adolescents completing the Wave I in-home interview. Wave III respondents were a pool of Wave I adolescents participating in in-home follow-up interviews. The specific variables (adolescent reckless behavior, emerging adult deviant behavior, peer relationships, and parent relationships) were systematically selected from the data set. Confirmatory factor analysis tested relationships between variables and constructs. General estimating equations tested study hypotheses.

Results: Total study sample size was 3,142 males and 3,352 females. Overall, adolescent reckless behavior was significantly associated with emerging adult deviant behavior (Wald c^2 $(1, N = 4{,}615) = 105$, $p < .001$, $\beta = .152$, $SE(\beta) = .015$), slightly more for females ($\beta = .157$, $SE(\beta) = .015$) than males ($\beta = .132$, $SE(\beta) = .015$). Adolescent reckless behavior increases the probability of emerging adult deviant behavior among those adolescents having lower scores on the quality of peer relationships (Wald c^2 $(1, N = 4{,}615) = 56$, $p < .001$, $\beta = .062$, $SE(\beta) = .008$) and the quality of parent relationships (Wald c^2 $(1, N = 4{,}545) = 36$, $p < .001$ $\beta = .052$, $SE(\beta) = .009$) scales.

Implications: Although scholars have hypothesized relationships among adolescent reckless behavior, deviant behavior, gender, and relationships, this was the first study to test and confirm these associations. Human growth and development, and health promotion are important aspects to nursing. This research highlights the importance and significance of identifying and intervening in early adolescent problem behavior. In the clinical practice arena, these study results can guide assessment and interventions for adolescents during their transition into adulthood. During episodic clinic visits, clinicians should routinely ask about available support systems, particularly family and peer support. In intervening in the lives of those most at risk, clinicians can promote optimum development and protect the integrity and significance of the parent-child relationship.

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ADOLESCENT/YOUNG ADULT HEALTH ISSUES

Weight Change in College Freshmen: Personal, Interpersonal, and Situational Factors

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The purpose of the study is to explore the personal, interpersonal, and situational factors within the college environment that may increase the risk for weight gain in college freshmen. The specific aims for this study are to: 1) determine if college freshmen experience clinically significant weight change in the first semester of college; 2) examine the effects of gender, ethnicity, and race on weight change, after controlling for baseline BMI category and any change in height; and 3) assess the additional predictive value of physical activity, sedentary behavior, nutritional intake, beverage and snack intake, alcohol consumption, stress management, interpersonal relations, spiritual growth, and health responsibility on weight change in the first semester of college. Over the past 25 years, obesity has become the most substantial non-infectious health risk in the U.S., leading some health experts to call it an "epidemic". An estimated 100 million Americans are obese or overweight, with a predicted climb of 120 million obese Americans over the next five years. In addition, a three-fold increase in adolescent obesity (46% obese/overweight) has spurred a renewed interest to study the weight gain experienced by college students, dubbed the *Freshman 15,* the number of pounds reportedly gained by students in their first year of college. Although studies indicate the weight gain for college freshmen is less than 15 pounds (ranging from 3.3 – 7.8 pounds), it is still three-to-four times higher than the national average for same age peers not attending college. Overall, 77% of college freshmen gain weight in the first year, with 67% of the weight gained in the first semester. Much of past research has focused on freshmen weight gain, with far less attention on underlying personal, interpersonal and situational factors. The Health Promotion Model (HPM) is the theoretical framework selected for this study, because it is likely that the university environment influences college students' behavioral decision-making relating to weight gain. The setting for the study is a public, Southwestern university. The sample is traditional college freshmen who reside in dormitory housing and purchase the mandatory cafeteria food plan. Height and weight measures and the on-line survey will be completed at the beginning (T1) and end (T2) of the freshman fall semester. If clinically significant weight gain is determined, the predictive factors for the weight change will be differentiated through a regression model. Study analysis and evaluation will be available in spring 2012 at the WIN conference. U. S. college freshmen are at a threshold where overweight/obesity is increasing three-fold as they enter young adulthood. Additionally, college freshmen gain weight at double the rate of same-age adolescents not attending college. These findings indicate that there are personal, interpersonal and situational influences that place freshman college students at an increased risk for rapid weight gain. Once risk factors identified, the creation of long-term health-promoting behaviors may ameliorate obesity, and related chronic health problems.

ADOLESCENT/YOUNG ADULT HEALTH ISSUES

Risk Perceptions of International Students Related to Communicable Diseases

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Specific Aims: 1) To examine the perception of risk in international college students who travel related to non-sexually transmitted communicable diseases. 2) To examine the behavioral responses of international college students related to non-sexually transmitted communicable diseases.

Purpose of the Study: To examine the international college student's knowledge, understanding and perception of risk, attitude, and behaviors pertaining to non-sexually transmitted communicable disease universal prevention efforts. In communicable diseases the experiences are not the same, so the knowledge is not universal. Additional knowledge is needed regarding the influences of cultural and societal factors on health behaviors in populations which meet the IOM criteria for selective prevention which includes the international student.

Rationale: There is a lack of knowledge regarding the knowledge, perception of risk and preventive behaviors of the international college students who travel. Researchers must first understand the responses of these at risk students to universal intervention efforts before effective selective preventive interventions can be developed.

Background: The H1N1 pandemic resulted in 2,125 deaths in the US and 18,449 deaths worldwide (Centers for Disease Control and Prevention, Atlanta, 2009; World Health Organization, 2010a). The increasing ability of travelers such as international students to cover large distances to visit family and friends and the reduced efficacy of universal precautions have resulted in the World Health Organization calling for more research into the societal and cultural perspectives which influence risk perception.

Methods: This research study utilizes a parallel descriptive mixed method design in which there are two relatively independent questions, and data collection and analysis strands: one quantitative and the other qualitative (Quant-qual).

Sample: A total of six universities/colleges will be used in this study to provide a diverse population. The schools chosen will reflect both private and public. Azusa Pacific University, Loma Linda University and La Sierra University, University of California, California State University San Bernardino, Riverside Community College.

Quantitative method will utilize the Risk Perception of Infectious Diseases Questionnaire (RPIDQ) in a convenience sample of 384 (approximately 64 from each campus) male and female students from identified countries ages 18 through 40 years of age who meet the sample selection criteria. This sample size was determined using a power analysis for t-test to achieve a power of .90 with an alpha of 0.05 and an effect size of .30 (Chaves, et al., 2009).

Qualitative method will utilize individual interviews with a subset of 15 students will be selected from the original internet survey sample.

Results: Data collection in progress.

Significance to Nursing Science: The impact of the findings from this study will be to reduce the gap in the understanding of the complexities of non-sexually transmitted communicable disease experienced by international college students and the impact these complexities have upon their health behaviors. Through the development of this understanding educational and interventional efforts may be developed which will provide for selective prevention efforts for this population.

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BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

OVERVIEW: BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

Mary Dunn

BUILDING A COMMUNITY-ACADEMIC PARTNERSHIP: THE JACKSON COUNTY LATINA HEALTH COALITION

Joanne Noone, Maggie Sullivan, Belle Shepherd

USING CBPR TO BUILD MEXICAN AMERICAN FAMILY SOCIAL CAPITAL FOR MANAGING DIABETES

Marylyn Morris McEwen, Carolyn Murdaugh, Carletta Burrell

TELENOVELAS INCREASE MEXICAN AMERICAN ELDERS' KNOWLEDGE AND CONFIDENCE IN HOME CARE

Janice D. Crist

ENGAGING MEXICAN AMERICAN ADOLESCENTS TO PREVENT OBESITY & TYPE 2 DIABETES

Anne R. Rentfro, Cristina S. Barroso, Christopher Ledingham,
Susan P. Fisher–Hoch

MEXICAN YOUTH AND WOMEN RELATE EMPOWERING EFFECTS OF THEIR AFFILIATION

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BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

Overview: Be and Build (Estar y Hacer) Together: Community Based Participatory Research

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The five papers presented in this symposium provide culturally diverse exemplars of Community Based Participatory Research (CBPR) principles for improving health. These papers exemplify the CBPR principle that work begins by creating mutual understanding and collective empathy. This foundational work is critical and requires time to develop and sustain equitable partnerships.

The first paper by Dr. Noone describes how CBPR was used to develop a partnership with the Jackson County Health Department in Oregon to improve Latina health.

The second paper by Dr. McEwen illustrates the importance of trust as a necessary component in CBPR. In this case trust was built in part by forming a group to inform the research from the perspective of those affected by a person diagnosed with T2DM.

The third paper by Dr. Crist examines how Mexican Americans accept and understand home health care. This paper certainly points out that CBPR is especially applicable to health disparities research. Diversity of culture and opinions will highlight differences in the meaning ascribed by community members and the researcher to events, objects, or conditions.

The fourth paper by Dr. Rentfro examines adolescents at the Texas-Mexico border. Building on their knowledge an important study of health practices contributing to obesity was conducted. Each community's citizens and setting are unique and an application of specific CBPR strategies in one setting will not be transferrable to another. But you can see that many ages can contribute in CBPR.

The final paper by Dr. Dunn demonstrates that graduate nursing students can participate in CBPR as part of their learning. They witnessed empowerment of women as it unfolded in the group. Within a group setting, cooperation, dialogue, reflection, action, and co-learning are important processes for empowerment. Power should be shared equally by academics and community citizens. Power sharing will have a synergistic and empowering effect on both.

BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

Building a Community-Academic Partnership: The Jackson County Latina Health Coalition

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Purpose/Aims: The purpose of this study was, through a community-based participatory research approach, to build a community and academic partnership in rural Jackson County, Oregon to promote improved reproductive health for Latinas and healthier birth outcomes for Latino infants in our community. Year one aims were to 1) Develop and strengthen existing academic and community partnerships committed to promoting improved reproductive health for Latinas in our community; 2) Conduct a secondary analysis of existing data from previous community assessments to inform current partners regarding factors that impact reproductive health for Latinas; and, 3) Build commitment and capacity for community and academic partners in research methodology.

Rationale/Background: Latinas in the United States have less healthy birth outcomes than their non-Latina counterparts, and second-generation Latinas have less healthy babies and birth outcomes than their first generation Latina mothers, who delivered their babies in Mexico. Children born prematurely are more likely to have chronic neuromuscular and respiratory diseases than term births. In 2005, Latinas were twice as likely as non-Latina white women to be diagnosed with cervical cancer (Office of Minority Health, 2009). Latina teens get pregnant twice as often as the national average, and the Sexually Transmitted Infection rate is higher among Latinos. Of the 311 teen pregnancies in Jackson County during 2004-2006, 85 or 27% occurred in Latina adolescent women. This greatly exceeds census data that report 11.7% of people under age 18 in Jackson County to be Hispanic.

Methods: Recommended CBPR strategies were used to build the partnership including goal assessment and development of mission, values and operating norms of the coalition. Recent community assessments as well as the most current county data on pregnancy and birth rates were reviewed as a foundational step in our research process. A consultant with expertise in CBPR was utilized to provide training on CBPR methods and developing community-academic partnerships in rural communities.

Results: The Jackson County Latina Health Coalition was formed in 2009 and currently consists of seven partners from academic, clinical and service agencies that all provide support and services to Latina families. During year one, the coalition developed mission and vision statements; agreed on principles of collaboration, and decision-making process; developed roles of each partner; participated in CBPR training with outside consultant; and received responsible conduct of research training. Review of current community assessments resulted in the identification of key communities within Jackson County to target. The coalition identified key issues for system change and key questions that needed further research. An additional community assessment was then undertaken to determine the community readiness to address the problem of unintended teen pregnancy rates among Latina teens in Jackson County. Additional future funding was received for one coalition partner to implement a culturally-based intervention to reduce sexual risk and another for the coalition to continue community assessments and plan interventions.

Implications: Identification of key organizations and committed individuals within those organizations was crucial to the successful establishment of the coalition. Rural communities may pose specific considerations when building successful CBPR partnerships.

BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

Using CBPR to Build Mexican American Family Social Capital for Managing Diabetes

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Purpose: Refine and tailor a family-based type 2 diabetes (T2DM) self-management support intervention to build family social capital applying community based participatory research (CBPR) principles to engage community members with T2DM and their family member in a Family Action Board (FAB). The FAB partners community members with researchers in both the refinement and later implementation of the intervention.

Background/Rationale: Although strong family and social support have been shown to have a positive impact on glycemic control and diabetes self-management behaviors, the family is the least studied of the major factors of the social environment known to influence T2DM management. Traditional, individual-focused diabetes self-management education (DSME) programs have not capitalized on the role of the family in diabetes management.

A unique approach for reducing T2DM health disparities is to apply a collaborative partnership approach – CBPR principles – that equitably involves community members in all aspects of the research process. In our research we are extending the primarily community context of CBPR principles to the family context to promote diabetes management.

Methods: A total of 12 Mexican American adults with T2DM and their 12 designated family members (N=24) and the research team engaged in a 3-month reciprocal learning process in a series of 6 (2-hour) audio-taped focus groups. The groups were conducted by bilingual (English & Spanish) and bicultural facilitators to draw on the FAB's knowledge, expertise, supports, and perceived barriers for T2DM management in the context of family. Transcripts were analyzed using qualitative content analysis.

Results: Three major themes, *What I Didn't Know, Family Challenges, and How My Family Can Help Me Be Successful* were dominant. The unique perspectives and expertise of the FAB have contributed to an authentic understanding of T2DM management embedded in the social and cultural dynamics of the Mexican American family.

Implications: Using CBPR principles have enabled us to: 1) emphasize the family as the unit of identity, 2) build a shared commitment to decrease T2DM health disparities among Mexican American adults, 3) engage Family Action Board (FAB) members to contribute their expertise to refine the DSME intervention, 4) integrate a balance between research and action by building on local management of T2DM, 5)build on the assets and relationships within the family and 6) begin to develop strategies to disseminate findings and knowledge gained to build sustainability. Establishing an empowering process that builds equitable partnership and trust among the participants is critical for enhancing the capacity of all partners involved.

Funding: NIH/MHHD 1R01MD005837-01.

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BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

Telenovelas Increase Mexican American Elders' Knowledge and Confidence in Home Care

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Purpose: To test the effect of the telenovela intervention, developed and tested in partnership with the community, on Service Awareness and Confidence in HHCS.

Rationale/Background: Hispanic individuals use home health care services (HHCS) less than other groups, comprising 16.3% of the general population (U.S. Census, 2011), but only 7.7% of HHCS clients (CDC, 2007). Mexican American (MA) individuals, the largest percentage of the Hispanic population, are a group in great need of HHCS. MA elders are more functionally impaired at younger ages than others and are an under-studied group. The disparity of under-using HHCS is critical because of financial and human cost. Post-hospital care costs billions of federal dollars annually, but can be significantly reduced by using HHCS, which cost only half of nursing home care costs. Use of HHCS decreases elder functional impairment and health care services utilization (re-hospitalizations, emergency visits, and nursing home placement). HHCS reduce the indirect costs of caregiver illness, burden, depression, and mortality. Based on a community-based partnership research (CBPR) model, a local community advisory council has contributed to research questions, measures, and interventions during 10 years of preliminary studies as a basis for the study reported here.

Methods: A telenovela was developed based on a prototype that had been designed and videotaped with community partners. A 12-minute version was professionally produced by a local Latino-owned company selected by the community advisory council members. A 50-minute guided dialogue, designed to promote elders', caregivers', and family members' discussion about the content of the telenovela within their personal and cultural expectations of familism, was part of the intervention. A randomized two-group pretest-posttest design was used.

Results: 68 MA elder-caregiver dyads participated in the study. There were no significant interaction effects for either the Elders or the Caregivers. There were significant increases in Confidence in HHCS and in the Trust and Confidence subscale across time. There were significant increases in Knowledge of HHCS, Knowledge of the Existence of HHCS subscale, and Knowledge of Access to HHCS subscale across time. There were significant group main effects for Confidence in HHCS and in the Trust and Confidence subscale: the experimental group had consistently higher scores than the control group.

Implications: The findings provided evidence that viewing and discussing a CBPR-developed telenovela about HHCS can increase elders' awareness of HHCS and confidence in using HHCS. Several elder and caregiver research participants and hospital nurses have since joined the community advisory council to further collaborate on improving the content and presentation of the telenovela. This can lead to future CBPR-based interdisciplinary translational/adoption research that will reduce health disparities within vulnerable populations by increasing their use of HHCS.

Funding: Award Number R21NR010901 from NINR. Acknowledgement of the WIN Conducting Research with Latinos SIG; and ENCASA Community Advisory Council.

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BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

Engaging Mexican American Adolescents to Prevent Obesity & Type 2 Diabetes

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Purposes/Aims: To partner with Mexican American adolescents at the TX–Mexico border to determine physical activity and nutrition patterns associated with overweight, obesity, and insulin resistance (IR).

Rationale/Background: Worldwide estimates of type 2 diabetes (T2DM) are spiraling upward to 440 million by 2030, requiring more intricate management regimens than merely provider-directed glucose control. Although lower income countries expect to bear future increased disease prevalence, this disparate trend currently exists in the United States (US)–Mexico border region. Research to decrease disparity and advance prevention evidence is needed. The adolescent population provides an excellent target for prevention strategies. However, due to underrepresentation in research studies, baseline data for adolescents 15 to 19 years is lacking. This study was conducted along the Texas (TX)–Mexico border where schools serve one of the poorest US regions. Community based participatory research (CBPR) principles guided our partnership with the school community.

Methods: Recruitment strategies were developed in partnership with school nurses, principals, faculty, and students. Informational seminars about T2DM and study procedures were presented to potential participants by study partners. Measures included height, weight, waist circumference, fasting glucose, fasting insulin and surveys. Univariate and multivariate regression analyses were performed.

Outcomes Achieved: Anthropometric and laboratory data, reported elsewhere, provide evidence that obesity and metabolic abnormalities are present without overt T2DM (Rentfro, Nino, Pones, et al, 2011). Of 337 adolescents who consented to participate, 325 (65% female) completed all data collection. Most (68%) were enrolled in 9th/10th grade, average age was 16 years, and 92% self-reported Mexican descent. Waist circumferences ≥75th percentile indicative of central obesity occurred in 27%, body mass index ≥ 95th percentile (obesity) occurred in 27%, and IR in 27%. Participants spent an average of 5.23 (±1.62) hours screen time/day. Participants reported drinking sweet beverages on average 1.88 (±0.85) servings/day; eating high fat foods 9.25 (±2.93) servings/day and snack foods 6.64 (±2.19) servings/day. Compared to the non–obese, obese adolescents engaged in more screen time; drank more sweet beverages; and had higher intake of high fat foods/snack foods. Compared to those without IR, adolescents with IR engaged in more screen time; drank more sweet beverages; and had higher high fat foods/snack foods intake.

Conclusions: Lifestyle interventions with adolescents are needed to prevent T2DM. Obesity is already present by age 15. Adolescents most at risk for T2DM are likely to be among those who exhibit insulin IR. Transition to glucose intolerance in T2DM occurs gradually with chronic IR. Measurement of IR may be useful to assess improvement in prevention studies. Adolescents present particular challenges for recruitment/enrollment. Employing CBPR ideology facilitated adolescent engagement in recruitment, enrollment, data collection, and analysis processes. Research practice built upon CBPR philosophical foundations presents more meaningful research questions, strengthens data quality, and provides useful results.

Reference:

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BE AND BUILD (ESTAR Y HACER) TOGETHER: COMMUNITY BASED PARTICIPATORY RESEARCH

Mexican Youth and Women Relate Empowering Effects of Their Affiliation

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Purpose/Aims: Community Based Participatory Research (CBPR) principles were applied to the process of engaging graduate nursing students with the women's group, Las Mujeres Nobles de Harlandale over several semesters. By critically examining the role of power within the group's interactions, students were able to offer material, informational, and emotional support while learning about the women and their active role in reducing violence in the community.

Rationale/Conceptual Basis/Background: Women's groups regularly provide opportunities for the development of personal competence and a positive self-concept. Personal and group goals for social action, developed within the context of a socially supportive environment, improve the likelihood of individual and group success. Strengthening individual talents informs the group's sense of their collective capacity for improving life's circumstances and health. In this study, Mexican youth and women, using cooperative decision making as an operational tenet, participated in developing a community intervention for violence prevention in partnership with faculty and graduate students. The women's unique approach to social change was presenting skits depicting multiple forms of interpersonal violence during National Night Out. Their success was evident in comments from community members many of whom did not know about dating violence and elder abuse.

Methods: A series of individual and focus group interviews were conducted by faculty and students with youth and women members of the group to understand how their membership and activities in the group contributed to their personal growth and empowerment. Transcripts of audiotapes were analyzed using content analysis and analytical induction.

Results: A staged process of becoming empowered was identified from transcript analysis. While women did not report specific life changes outside the sphere of the women's group, the youth did state specific life goals related to education, career, and personhood.

Implications: Using CBPR principles to guide graduate nursing student trust building interactions within community groups is a viable teaching/learning strategy. In this study, interviews yielded information about the process of feeling empowered. Women's particular assets were identified in the group and strengthened through the work that they did.

Funding: Dean of the UTHSCSA School of Nursing and the Committee on Scholarship.

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BEST PRACTICE AND INNOVATION: SESSION I

IMPACT OF THE PATIENT-CENTERED MEDICAL HOME ON SELECTED PATIENT OUTCOMES

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INTEGRATION OF PROGRESSIVE MOBILITY INTO ICU PRACTICE

Rick D. Bassett, Kathleen M. Vollman, Leona Brandwene, Theresa Murray

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MULTIMODAL AND ULTRASOUND GUIDED PARAVERTEBRAL PATHWAY FOR BREAST CANCER SURGERY

Mark Gohl, Justin Heil, Joseph F. Burkard

CALIFORNIA SCHOOL NURSES' KNOWLEDGE, ATTITUDE, AND INTENT TO TEACH SEXUALITY EDUCATION

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AN INTERVENTION TO DECREASE THE PRESCRIPTION OF ANTIBIOTICS FOR VIRAL PHARYNGITIS

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VENOUS THROMBOEMBOLISM ASSESSMENT AND PROPHYLAXIS: A PROCESS IMPROVEMENT INITIATIVE

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H. Paul Smith

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Christina Tussey, Stephanie Clark

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DETERMINING BARRIERS TO PROVIDING RESPITE CARE SERVICES TO THE CHRONICALLY HOMELESS

Natalie Sloan, Joseph Gardner, Bonnie H. Bowie, Lauren Lawson

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PATIENT SATISFACTION AND PERCEPTION OF VALUE WITH SHARED MEDICAL APPOINTMENTS

Shannon Cohen

DIRECTED ANAL PAP USING FLOCKED SWAB BETTER PREDICTS HIGH-GRADE AIN THAN DACRON SWAB

Hilary Hsu, Ruvy Dayrit, Robert Bolan, Alen Voskanian, Stephen Young,
David Elashoff, Emmanuel Masongsong, Provaboti Barman,
Roger Detels, Dorothy Wiley

ACCEPTABILITY OF ELECTRONIC SELF REPORT ASSESSMENTS FOR CANCER AT TWO INSTITUTIONS

Kendra Hayward, Huong Nguyen, Donna L. Berry, Robert Burr

BEST PRACTICE AND INNOVATION: SESSION I

Impact of the Patient-Centered Medical Home on Selected Patient Outcomes

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Background: The US healthcare system has been described as a non-integrated entity with variable performance and largely unmeasured outcomes. The patient –centered medical home model (PCMH) is a holistic multidisciplinary approach to providing care in the primary /ambulatory care setting. The provider led team engages the patient and family in its own health care. It was conceptualized in 1967 by the American Academy of Pediatrics and has increasingly been recognized as an effective and efficient model for optimal health care. It is linked to improve continuity of care and enhance access. As such, it is regarded as being in alignment with the goals of the military healthcare system. Historically, little effort if any was being done to foster continuity of care throughout Navy Medicine. Although beneficiaries were assigned Primary Care Managers (PCM), patients rarely see their assigned PCM and vice versa. The Patient-centered Medical Home (PCMH) model has increasingly been recognized as a viable model of care delivery in primary care. The Military Health System (MHS) as do many of its civilian counterparts have embraced this model in an effort to improved population health, increase patient satisfaction, enhance readiness, and decrease cost.

Aim/Purpose of the Project: This evidence-based project was designed to evaluate the effectiveness of the PCMH in a primary care clinic at a military treatment facility (MTF). It assessed the impact of selected patients' outcomes and staff satisfaction 24months after implementation of the PCMH. It specifically, seeks whether implementation of the PCMH improved quality of care and continuity of care, while minimizing cost. The outcomes sought were a 75% or greater increase in continuity of care, decrease in Emergency Department visits during clinic hours by 50%, increase access by 75%, or greater, staff satisfaction of 50%, and achievement of equal to or higher than the respective percentile benchmark for the Healthcare Effectiveness Data Information set (HEDIS) measures for all categories of diabetes, breast cancer, colorectal cancer, and cervical cancer screenings.

Design and Methods: Pre and post data for access to care, continuity of care, and emergency department utilization was mined from the Commands Business Report. Pre and post data for population health was mined form the Performance Based Budget "Get to Goal" report. A brief survey was conducted to determine staff satisfaction.

Results and Outcomes: In progress.

Implications and Conclusions: To be determined following review and analysis of results. It is expected that the findings could enhance partnership and collaboration among healthcare providers at all levels, improve performance outcomes, and decrease cost.

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BEST PRACTICE AND INNOVATION: SESSION I

Integration of Progressive Mobility into ICU Practice

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Purpose/Aims: To evaluate and improve on current ICU mobility practices in a multi-site quality improvement collaborative. The goal was to identify key cultural, process and resource opportunities that would help define and coordinate interventions to integrate progressive mobility practices resulting in improved short and long term ICU patient outcomes.

Rationale/Background: This was a collaborative of 13 ICUs within 8 hospitals throughout the United States that were networked together to identify specific ICU practice improvement opportunities and create innovative approaches to changing these practices resulting in improved ICU patient outcomes. This initiative was chosen and the program was designed to address fundamental practice elements related to introducing progressive mobility into the ICU. The planning and implementation of this program took place over a 14 month period.

Undertaking/Best Practice/Approach/Methods/Process: Retrospective analysis of a multi-center data set was comprised of chart abstraction data on 130 patients and 3,120 prospectively collected hourly observations. Pre and post initiative implementation process and outcome data using 14 chart abstraction metrics and 9 direct observational metrics were measured and analyzed. Two team surveys were conducted during the one year initiative to assess key cultural and process ICU immobility issues related to ICU immobility. A performance improvement coach led discussions around culture change and paired with the subject matter experts who facilitated identification of key clinical practice strategies.

Outcomes Achieved/Documented: Process and outcome metrics demonstrated improvement. Most significant was a 31% relative improvement in average ventilator days/patient (3.0 days pre vs. 2.1 days post). Other clinical improvement included decreases in average ventilator-free days/patient and ICU mortality. Qualitative improvements were reported in culture and team processes.

Conclusions: This multi-center, national ICU collaborative has shown that improvements in team culture, communication and resources can improve early mobility in ICU patients resulting in enhanced ICU outcomes. The use of a standardized tool to advance mobility is central to achieving and sustaining effective practice changes. Objective measurement of ICU outcomes related to practice changes plays a crucial role in identifying evidence-based practice opportunities that can provide compelling evidence leading to enhanced resources and further organizational culture improvements. Through effective leadership and coordination of efforts, essential resource allocation can be defined and key cultural and practice changes made that will result in enhanced patient outcomes and superior patient care.

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BEST PRACTICE AND INNOVATION: SESSION I

Multimodal and Ultrasound Guided Paravertebral Pathway for Breast Cancer Surgery

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Background: Breast cancer affects more than 200,000 U.S. women each year, nearly 40,000 American women will die of breast cancer this year in the United States. Acute pain following breast cancer surgery remains a problem, with multiple pain management modalities being utilized with variable degrees of success. Clinically significant acute pain rates approach 50% on the day of surgery and continue to post-operative day two. Persistent post surgical pain (PPSP) following breast cancer surgery has been reported to be as high as 25-50%. Chronic pain rates following breast surgery in women age 30-49 approach 65% and 40% in patients 50-59 years of age. Treatment of acute pain using regional anesthesia and multimodal medications has also been shown to be effective in reducing chronic pain rates for a variety of surgeries. There also is a growing body of evidence suggesting that anesthesia technique, may influence immune function and possibly cancer recurrence. At a large military medical center, 90 women were diagnosed with breast cancer and 91% of the patients underwent general anesthesia for surgical excision of breast tumors from July of 2009 to July of 2010.

Aim/Purpose of the Project: To evaluate the effectiveness of an ultrasound guided regional anesthesia and multimodal pathway on acute post-operative pain for patients undergoing breast surgery,

Design and Method: A quasi-experimental pre and post design was chosen for this pilot project. A convenience sample of 22 patient records from the local tumor board registry; June of 2010 to November of 2010 were examined retrospectively to collect pre-pathway, non-patient identifier demographic, pain, and narcotic administration data. The pre-pathway group pain scores and narcotic administration will be compared to a retrospective sample of patients undergoing breast cancer surgery with ultrasound guided paravertebral and multimodal analgesia with surgery dates from June 1, 2011 to September 30, 2011. Expedited institutional review board will be sought on completion of project for data sharing. Descriptive statistics will be performed on demographics and independent variables. Mean pain scores for the PACU, during 1st 24 hours, and narcotic administration between groups intra-operatively, in the PACU, and during the first 24 hours will be analyzed using T-tests. Inter-variable influence of age, duration of surgery and type of surgery on pain and narcotic administration will be assessed using non-linear regression analysis.

Results: Project is ongoing. Estimated completion: Fall of 2011.

Conclusions and Implications: A regional anesthesia and multimodal pathway should reduce acute pain, intra and post-operative narcotic administration. Regional anesthesia may also lead to reduced PPSP and chronic pain rates as well as increase patient satisfaction. Furthermore, reducing narcotics, and volatile anesthetic exposure may lead to improved immune function in the peri-operative period and a reduction in cancer recurrence in the future.

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California School Nurses' Knowledge, Attitude, and Intent to Teach Sexuality Education

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A critical need exists to provide adolescents with sexual health education as identified by statistics of adolescent pregnancy, STI, and other high-risk behaviors. There is limited evidence to confirm if California students are receiving the sexual and reproductive health education as required by law. Given the contribution of school nurses in providing sexuality education (SE), as in other health-related topics, it is important to understand, from the perspective of school nurses, their knowledge, attitudes, and intention to participate in the sexual health curriculum. To date, no studies of this kind have been conducted in the United States, and in particular in California, to measure the perspective of school nurses as educators of sexual health content.

The purpose of this descriptive, correlational study is a) to describe California school nurses' knowledge, attitudes, subjective norm, and select demographics and b) to associate these independent variables with intention to teach (dependent variable) (SE). The associations among these variables will be used to predict the current level of SE participation of California school nurses serving K-12th grade students in California public schools. An original questionnaire was developed in the UK, revised, and validated through a Content Validity Index process; the final revision of the instrument is a web-based questionnaire known as the California School Nurse Sexuality Education Questionnaire (CSNSEQ). Descriptive and inferential statistics will provide data that will be useful to California school nurses, educators and policy makers in their evaluation of school nurses' contributions towards the effectiveness and compliance in sexuality education.

Results from this study will be critical in guiding school nurse practice in the areas of clinical practice, curriculum planning, and workforce development. Evidence-based practices that develop from this study will make a positive difference in health promotion, disease prevention, and academic achievement for school-aged and adolescent children.

An Intervention to Decrease the Prescription of Antibiotics for Viral Pharyngitis

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Background: Over the last 25 years, of the patients who presented with a sore throat in family practice settings in the United States, only 10 to 25% presented with group A beta hemolytic streptococcus (GABS). There are approximately 6.7 million adults seen in family practice settings for sore throat, and nearly three quarters or 5 million of these patients receive antibiotics. The signs and symptoms of GABS are similar to other viral and bacterial causes of pharyngitis making the diagnosis difficult on clinical criteria alone. The IDSA Guideline recommends the use of Centor Criteria which are: tonsils with exudate, swollen tender anterior cervical lymphnodes, history of fever and no cough. Also, two or more of these criteria should be met before ordering a Random Antigen Test (RADT) and if negative a throat culture. According to the IDSA Guideline antibiotics should not be prescribed unless there is a positive RADT or throat culture.

Aim/Purpose of the Project: The purpose of this study was to determine if use of the IDSA guideline for GABS would (1) decrease antibiotic use for viral pharyngitis (2) decrease costs associated with use of viral phyarngitis and (3) increase provider confidence in the use of the IDSA Guideline.

Design and Methods: This educational intervention with concurrent feedback and reminder system used a quasi-experimental nonrandomized times series post-test design at one, two and three months. A paired t test and ANOVA will be run to determine if there are statistical differences in the number of antibiotics prescribed, cost of antibiotics, and provider confidence in the IDSA Guideline compared to baseline. A 1 item survey using a likert scale ranging from 1 not confident to 5 very confident in the IDSA Guideline was completed by each provider before the project began and will be collected again at the end of the study.

Results: At one month post intervention the average number of antibiotic prescriptions significantly decreased to 30% compared to 75% at baseline. At two months the decrease was to 25% and at three months the decrease was to 24%. Antibiotic prescription costs for viral pharyngitis also decreased: pre-implementation antibiotic costs for the 100 charts reviewed from January 1, 2010 to October 31, 2010 were \$1,931.14; one month post implementation antibiotic costs were \$687.18; two months post implementation antibiotic costs were \$441.07; the third month cost was \$607.14. Analysis of provider confidence is pending.

Conclusions and Implications: Preliminary analysis suggests that an educational intervention using the IDSA guideline for the diagnosis and treatment of GABS with concurrent feedback in the form of monthly reports and a reminder system reduces the use of antibiotics for viral pharyngitis.

BEST PRACTICE AND INNOVATION: SESSION I

Venous Thromboembolism Assessment and Prophylaxis: A Process Improvement Initiative

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Background: The rate of preventable venous thromboembolism (VTE) is rising in hospitals. VTE is expensive to treat and a cause for increased morbidity and mortality nationwide. The Centers for Disease Control and Prevention (CDC) estimated that 300,000 to 600,000 people are affected by DVT/PE each year in the United States, and one in 100 people over 80 years of age are diagnosed with VTE in the United States. One-third of persons with DVT will have long-term complications such as edema, pain, discoloration, and skin changes in the affected limb (post-thrombotic syndrome). Finally, one-third of people with VTE will have a recurrence within 10 years causing DVT to become a chronic illness (CDC, 2011). CDC has also reported that 60,000-100,000 Americans die of VTE each year, 10 to 30% of them within one month of diagnosis. California is reported to have 41,825 to 71,700 cases of DVT/PE and 11,950 deaths per year (Office of the Surgeon General, 2008). In the past few years the occurrence of VTE has become a public health concern and various organizations have implemented evidence-based guidelines.

Aim/Purpose of the Project: This practice improvement work was done at a medium-size southern California military facility and was initiated by a VTE committee of three physicians, a nurse, and pharmacist charged to start a standard hospital-wide VTE risk assessment protocol. Stakeholders appointed an interdisciplinary committee to select an evidenced-based practice guideline for VTE prophylaxis. At the time, no standardized VTE prophylaxis and treatment guidelines were in place and patients were not routinely assessed for VTE risk.

Design and Methods: The committee modified a protocol from the University of California, San Diego (UCSD) and educated providers on its use. An electronic VTE risk assessment provider note was incorporated in the hospital inpatient record system (Essentris) to remind providers to perform VTE risk assessments on every patient admitted. Education, including formal presentations, reminder posters, and information conversation, was provided to all staff members involved in inpatient care. A pre/post – intervention survey of providers and nurses was used to assess the effectiveness of this process improvement initiative. Record review evaluated the prevalence of appropriate VTE prophylaxis before and after implementation. Verbal feedback from providers prompted team meetings to discuss issues related to guideline implementation. Data collection is ongoing at this time. Analysis will include findings from a survey to assess knowledge, attitudes, and beliefs regarding VTE assessment and prophylaxis. Providers and nurses in various departments completed the survey, which included ten items regarding attitudes and beliefs about VTE risk assessment and nine case scenario questions on VTE prophylaxis before and 3 months after the intervention. Additional chart review was also used to evaluate compliance with the guidelines after the education intervention. Descriptive and inferential statistics will be used to analyse the data.

Results: Data analysis is ongoing.

Conclusions and Implications: Implementation of VTE evidenced-based guidelines increased assessment of VTE risk, increased VTE knowledge, patient teaching on VTE, and hospital-wide awareness. The change allowed one standard protocol to be used for VTE assessment and prophylaxis.

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Patient and Family Perceptions of Care

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Purpose: The purpose of this study was to compare patient and family perspectives of care provided in the hospital setting to the domains of palliative care. Aims included the development of a written focus group meeting guide, which was used to obtain perceptions of care provided in the hospital setting from both patients and their family members. These perceptions of care will be then compared to the domains of palliative care.

Background: Palliative care ideally begins at the time of diagnosis of a serious illness and continues through the end stages of an illness, during the dying process, and through family bereavement. During the last several years tremendous strides have been made in raising awareness that palliative care is not, and should not be, limited to end of life care. In spite of increased attention on palliative care, the voices of the patients, and their family members, remains woefully absent from the palliative care literature. Professional organizations have endorsed clinical practice guidelines which identify the essential elements of quality palliative care, centered on eight domains. The domains of palliative care include: structure and processes of care; physical aspects of care; psychological and psychiatric aspects of care; social aspects of care; spiritual religious and existential aspects of care; cultural aspects of care; care of the imminently dying patient; and ethical and legal aspects of care.

Methods: After obtaining institutional review board (IRB) approval focus group interviews were used to collect patient and family member's perceptions of care provided in the hospital setting. To date two focus group meetings have been conducted. The first group consisted of patients only and the second group consisted of patients together with family members; all patients had been hospitalized within the last year. The third focus group, currently being recruited, will include bereaved family members who experienced the death of a family member who had been hospitalized within the last year. The goal is to have a total of up to 24 participants across three or more focus group sessions.

Results: The analysis will include qualitative methods including identification of patterns across the different focus group sessions and these patterns will be grouped into themes. The research team will initially review the transcripts independently, then meet to compare their analysis and seek consensus. The final stage of the analysis will be to compare patient and family perceptions of hospitalized care to the domains of palliative care. Results of the analysis will be presented.

Implications: Implications based on patient and family members' perceptions of care provided in the hospital will be presented using the words of the participants' themselves. Implications for nurses and other members of the interdisciplinary team will be discussed.

Funding: Montana State University College of Nursing Block Grant.

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Reducing Unnecessary Pap Smears in a Community Clinic

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Background: Cervical cancer continues to be the most common cancer in women worldwide. Since Pap smear screening became part of the well woman annual exam, incidence and mortality have decreased significantly. However, in recent years evidence has shown that women younger than 21 years of age tend to develop transient reactions to Human PapillomaVirus (HPV) known to cause cervical cancer; these reactions often resolve without treatment or complications. Current practice guideline recommendations have resulted in screening intervals for pap smears that vary across the female life span. However, a recent national survey demonstrated that less than 27% of primary care clinicians adhere to these recommendations. Abnormal pap smears and follow-up procedures may increase the risk for preterm delivery, premature rupture of membranes (PROM), and low birth weight infants. The potential harm of screening is likely to exceed benefits among women who are not at risk for cervical cancer.

Aim/Purpose of the Project: The aim of this project is to implement the use of current American College of Obstetric and Gynecology (ACOG) guidelines in the clinical setting to decrease the extent of unnecessary Pap testing among women, thus decreasing invasive procedures which do not improve outcomes in cervical cancer and may cause poor long-term reproductive results.

Design and Methods: Pre and post quasi-experimental time series design project to include three phases: Phase one, Pre-data collection: retrospective review of charts to collect age, race/ethnicity, number of pregnancies, history of pre-term deliveries, abnormal paps, colposcopy, biopsy and further procedures. Phase One data will be used to support the educational intervention. Phase two: An educational model including current ACOG cervical cancer screening guidelines will be presented to all staff and providers. Phase three: post data collection will occur three months after the intervention to include data on number of unnecessary pap smears. Inclusion criteria: All women seeking annual gynecological exam.

Statistical Plan: No controls and no randomization will be required. One hundred charts will be reviewed from our clinics to quantify unnecessary pap smears and unnecessary procedures before and after intervention. Pre and post means will be evaluated using a dependent t-test.

Results: Data analysis is in progress.

Conclusions and Implications: This project should heighten the awareness of providers regarding lack of guideline adherence in the clinical setting. Spontaneous screening tends to start and stop too early leaving too many women overscreened or underprotected. There is a low incidence of invasive cancer at a young age and a high incidence of regressive lesions that explains the relative effectiveness and harmfulness of screening practice recommendations prior to the 2010 revision. Hopefully, this project will affect the care we provide by reducing the number of unnecessary pap testing and overall health care costs. Although, considerable opportunity remains for advancing our understanding, current evidence strongly supports the need for clinicians and patients to adhere to current ACOG guideline recommendations.

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BEST PRACTICE AND INNOVATION: SESSION I

Intermittent Subcutaneous Button at End-of-Life

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Background: Eighty percent of dying patients present with complex conditions that contraindicate the use of oral opioids at end of life. The sublingual, rectal, and parenteral routes are available for opioid administration. However, oral opioids are preferred and these routes present with limitations. The sublingual route does not allow for high doses of opioids to be administered. Its benefits are lost if opioids are swallowed. Patients with stomatitis or mouth and throat cancer have painful mouth sores that prevent the use of this route. The rectal route is not always practical or welcomed by patients due to constipation, diarrhea, painful anal fissures, hemorrhoids, and dignity issues. Absorption of rectal medications is also questionable when a rectal mass or bowel obstruction is present. Continuous infusion pumps are costly, not readily available to patients' in home-settings, can cause toxicity, and can be overwhelming. When pain is not managed patients' and their loved ones experience emotional distress. Therefore, it is important for hospice and palliative care providers' to explore other routes for opioid administration to ensure timely effective pain management.

Aim/Purpose of the Project: The purpose of this evidence-based project was to determine whether an intermittent indwelling subcutaneous catheter (ISB) decreased end-of-life pain, thus decreasing patients' and their loved ones emotional distress, and to determine if caregivers could be taught to administer subcutaneous medications in a home-setting.

Design and Method: The population for the project was hospice patients in a home setting, with a caregiver, and contraindications to oral opioids. Among this group 30 patients were considered for piloting the ISB when caregivers reported a comfort level of administering subcutaneous medications. The comfort level was determined by use of a caregiver profile form completed by hospice nurses. Prior to inserting an ISB, hospice nurses pre-assessed pain using a FLACC scale, and pain scores were documented on the medication administration record (MAR). A subcutaneous caregiver handbook was developed as a tool to teach caregivers to assess pain using a FLACC scale, administer medications through an ISB, and document the effectiveness of the opioid used on the MAR . The same handbook was used by hospice triage nurses via phone to walk caregivers through administration issues to decrease nursing costs. A caregiver evaluation form was completed by a hospice nurse or social worker for five consecutive days to determine ISB compliances or need for another route. A post assessment of pain was done by a hospice nurse at day one, three, and one month on the same patient to determine if an ISB decreased pain within 24 hours in at least 90% of patients, decreased patients' and/or loved ones' distress by 50%, and identified caregivers who safely administered subcutaneous medications through an ISB. This project used a quasi-experimental time series design.

Results and Outcomes: In Progress.

Implications and Conclusions: To be determined once all data is collected and analyzed. Thus far this route has proven effective. Caregivers are administering medications as ordered safely through ISB as taught.

BEST PRACTICE AND INNOVATION: SESSION I

Chronic Care Model: Survey of Provider and Staff Perspectives

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Purpose: This pilot study evaluates the chronic care coordinator (CCC) role within the chronic care model (CCM) at Sea Mar, a community healthcare organization based in Seattle, Washington. Sea Mar implemented the CCM in 2000 and augmented it in 2009 with the addition of CCCs, similar to case managers in other health care organizations. There has been no evaluation of the implementation of the CCC model to date, however.

Background/Rationale: Sea Mar identified its primary mission as the improvement of the quality of care delivered to diverse, under-served populations. Sea Mar implemented the CCC role in order to help providers and staff better meet the needs of chronically ill patients, and in particular those with type 2 diabetes mellitus (T2DM).

Methods: The descriptive mixed methods model includes qualitative and quantitative data collected from providers and clinic staff through a web-based survey. The survey, consisting of Likert-type questions, was sent to Sea Mar providers and staff via link in an electronic mail invitation. Reminder electronic mail was sent two to three weeks later.

Results: This evaluation identifies both the strengths and barriers to implementation of the CCM, with a focus on the areas of provider and staff satisfaction regarding patient care made possible by the addition of the CCC role. There is high awareness and acceptance of the role within the clinics. In addition, a majority of those surveyed reported overall improvement in the quality of care provided patients with T2DM over the past two years. Major strengths of the program include more patient education, better follow up, more patients receiving the labs they need and improved team communications. Barriers to the program's success include limited provider access, confusion regarding role expectations of the CCC, cumbersome clinical information systems (a new EHR), inconsistent communications, CCC in the level of disease knowledge, and turnover issues.

Implications: Findings help validate the CCM and value of the CCC to positively impact quality of car. Essentially, the model helps to empower patients to improve self management. Primary benefits and barriers identified offer opportunity for additional research in areas nurses are typically skilled to address (patient education, follow up care, lab orders, team communications and self-management support). The emerging imperative of these results points to the need for both providers and staff to seek better understanding of each others' roles, to find ways to communicate effectively, and to be provided the tools with which to perform their work. Focus on these factors is anticipated to translate into to improved patient outcomes.

Funding: This work was supported in part by grants from the Sinegal Foundation and the National Institute of Health NCRR grant UL1RR025014.

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BEST PRACTICE AND INNOVATION: SESSION I

Osteoporosis Prevention: Improving Provider Compliance with NOF Guidelines

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Background: Osteoporosis is the most prevalent bone health issue for the elderly in the United States, creating huge economic, social and emotional burdens in the US population. Unfortunately, primary care providers do a poor job at providing adequate osteoporosis prevention (OP) to patients over 50 years of age. At Linda Vista Health Care Center (LVHCC) in San Diego, the number of missed opportunities to provide OP to our patients over 50 years old is consistent with other primary care sites in the US.

Aim/Purpose of the Project: The purpose of this program improvement project is to increase both the frequency and depth of osteoporosis prevention by primary care providers at Linda Vista Health Care Center, which hopefully will translate into better bone health for the LVHCC patients. This will entail increasing both understanding and application of the National Osteoporosis Guidelines, as put forth by the National Osteoporosis Foundation.

Design and Methods: This project utilizes a quasi-experimental, prospective pre and post intervention design. It is largely quantitative, but does collect some qualitative information for program evaluation and improvement. A multi-faceted program to increase the incidence of OP by clinicians at LVHC will be used. Based on the National Osteoporosis guidelines (by the National Osteoporosis Foundation), we used a provider education class, guideline summaries for easy reference, computerized screening tool for risk assessment of fracture, and reminder tools within the chart and patient exam rooms. To assess effectiveness of this intervention, 50 randomly chosen charts meeting inclusion criteria were reviewed for percent of patients with documented OP before intervention. Chart review at 3 months post intervention was then done on 50 charts, and this data is being analyzed for improved OP using descriptive and inferential statistics.

Results: Data analysis is in progress.

Conclusions and Implications: It is hoped that once analysis is complete, the interventions will have measurably increased the provision of OP by LVHCC providers, and will ultimately decrease the osteoporosis-related morbidity and mortality of older LVHCC patients.

BEST PRACTICE AND INNOVATION: SESSION I

The Effects of TeamSTEPPS on Provider and Patient Outcomes

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Purpose/Aims: the purpose of the study is to describe the effects of the simulation-based TeamSTEPPS interdisciplinary communication and teamwork training on participants' perception of communication and teamwork, and actual patient outcomes. The specific aims of the study are to: 1a) describe the effect of the simulation-based TeamSTEPPS intervention on patient outcomes and nurses' perception of communication and teamwork, as compared to the physicians; 1b) describe the change in nurses' perception of communication and teamwork following the intervention, as compared to baseline; 1c) describe the change in physicians' perception of communication and teamwork following the intervention, as compared to baseline; 2a) describe the association between nurses' characteristics to their perception of communication and teamwork, and actual patient outcomes; and 2b) describe the association between physicians' characteristics to their perception of communication and teamwork, and actual patient outcomes.

Rationale/Conceptual Basis/Background: Although few studies provide evidence of improved nurse-physician communication and teamwork following simulation-based interdisciplinary communication and teamwork interventions, there is a lack of studies evaluating the effect of such interventions on patient outcomes.

Methods: Using a quasi-experimental, a pretest-posttest repeated measures study design; data will be collected at baseline, immediately following, and six months following the intervention. Per power analysis using a multiple regression analysis in G*Power 3.1, a sample size of 218 participants (109 per group) would allow detection of moderate (0.15) effect sizes at an alpha of 0.05 and power of 0.80. All registered nurses employed at the study site and affiliated physicians will be considered for participation. The study will be conducted at an acute care medical center at the University of California, Los Angeles. A multiple regression analysis will be used to determine the relationship between nurses' and physicians' characteristics, perceptions of communication and teamwork, and patient outcomes. A repeated measures multivariate analysis of covariance (MANCOVA) will be used to determine changes in the nurses' and physicians' perception of communication and teamwork, as well as patient outcomes following the intervention.

Results: We hypothesize that patient outcomes and perceptions of nurse-physician communication and teamwork will be improved following the TeamSTEPPS intervention. We also hypothesize that the participant's characteristics (e.g. age, gender, ethnicity, primary language, English proficiency, educational level, country of pre-licensure nursing/MD education, years of U.S. work experience) will affect patient outcomes and perceptions of nurse-physician communication and teamwork.

Implications: The knowledge gained from the study is important for guiding development and implementation of evidence-based interventions, including simulation-based trainings, as well as policies that establish minimum requirements for practice (e.g. training related to U.S. scope of practice, education level, English proficiency, etc.) that impact patient safety and quality of care.

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BEST PRACTICE AND INNOVATION: SESSION I

Depression and Pain Interference among Emergency Department Chronic Pain Patients

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Purpose: This study analyzes outcomes of recruitment efforts in a community hospital emergency department (ED) for a web-based program targeting chronic pain patients. The specific aims are: 1) quantify recruitment rates, and 2) provide a summary of patient characteristics for those who proceed from consent to pre-intervention survey.

Background: Chronic pain affects 6 million Americans at an estimated cost of $600 billion per year. An increase in ED visits from chronic pain patients coincides with an increase in opioid addiction, and deaths from unintentional overdose. Internet-based programs have shown success in moderating symptoms of pain and mood, yet recruitment rates have been as low as 11%. Exploration of recruitment methods offers an opportunity to understand how to select patients who may participate and benefit, and determine whether these programs offer a viable option for chronic pain patients.

Methods: This is a descriptive, exploratory study of the recruitment phase of a randomized controlled trial that will seek to measure effects of the Chronic Disease Self-Management Program (CDSMP) web-based version. Recruitment was initiated by ED case managers and direct care RNs in face-to-face and telephone encounters. Inclusion criteria were ED patients who were: literate and English-speaking, aged 25 to 60, diagnosed with chronic non-cancer pain, presenting with pain complaint, and documented as receiving opioids. Data were collected on rates of patient consent, reasons for refusing consent, and rates proceeding to the pre-intervention survey phase of the study. These patients completed a web-based survey that included validated measurements: (1) The Brief Pain Inventory (BPI) to measure pain intensity and interference; (2) The Profile of Mood States; and, (3) Personal Health Questionnaire Depression Scale (PHQ-9).

Results: Patients were approached in person during ED visits and by phone afterwards; 110 (78%) of approximately 140 agreed to contact by researchers, and 51 (47%) of those contacted signed an informed consent. Twenty (39%) successfully completed the pre-intervention survey. Reasons given for not continuing with the study after consenting were no computer access (3), and surgery (1). The remaining 27 (53%) did not respond to phone or email messages after consenting. Participants were 25% male, 75% female with a normal distribution of ages 26-54 (Mean 40.3, SD 8.5). Four (21 %) had rural zip codes. Mean pain severity score was 5.5 (SD 1.9) and mean pain interference 7.4 (SD 1.6) on 0-to-10 scales. PHQ-9 ratings placed 40% of respondents in the moderately severe or severe depression category. Fourteen distinct pain diagnoses were reported.

Implications: ED nurses and case managers present a feasible first contact to approach patients regarding interest in programs designed to address psychosocial, cognitive, and educational needs. Male and female patients from diverse age and diagnosis categories indicate willingness to trial web-based programs. More effort is needed to increase patients' ability to progress from recruitment to CDSMP enrollment, especially among rural patients and those without computer access. Pain interference and depression remain significant unmet needs after ED interventions.

Funding: In part by the WA State Life Sciences Discovery Fund (Grant LSDF 08-02, John Roll, PI).

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BEST PRACTICE AND INNOVATION: SESSION I

Changes in Central Venous Oxygen Saturation during Outpatient Hemodialysis

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Purpose/Aims: The overall aim of this study is to determine whether central venous oxygen saturation (ScvO2) is related to changes in systolic blood pressure (SBP) and acute signs and symptoms in outpatients undergoing hemodialysis. The specific aims of this study are to determine the: 1.) change in ScvO2 as fluid is removed during outpatient hemodialysis; 2) relationship between ScvO2 and changes in SBP during hemodialysis; 3.) association between percent change in ScvO2 and acute signs and symptoms during hemodialysis; 4.) association between the percent change in SBP and acute signs and symptoms during hemodialysis; and 5.) change in ScvO2 in patients without symptomatic hypotension compared to those with symptomatic hypotension.

Background: Symptomatic hypotension is the most common complication during hemodialysis. It can induce cardiac arrhythmias, predispose patients to coronary, splanchnic, and/or cerebral ischemic events, and negatively affects patients' feelings of well-being. Non-invasive intermittent blood pressure measurement is used to identify hypotension during dialysis, yet it is a post-facto indicator of intravascular hypovolemia. Continuous monitoring of ScvO2 is used routinely in critical care as an indicator of impending hemodynamic instability. Central venous oxygen saturation monitoring may offer an innovative approach to early detection of symptomatic hypotension during outpatient hemodialysis.

Methods: In this prospective observational study, data were collected from adult hemodialysis outpatients with a central line dialysis catheter. ScvO2, blood pressure, blood volume change, total fluid removed and acute signs and symptoms were recorded during one week of consecutive hemodialysis treatments. Descriptive statistics, multi-level regression and multi-level negative binomial regression models were utilized to analyze data.

Findings: Subjects (n=39) were mostly male (56%), African American (49%) and White (28%) with a mean age of 60 +17 years. There was a statistically significant linear and quadratic change in ScvO2 over the duration of hemodialysis and the change trajectory was significantly greater in those patients with symptomatic hypotension. Change in ScvO2 was significantly associated with SBP and acute signs and symptoms. A five unit increase in ScvO2 % change was equivalent to a 29% increase in the presence of a symptom and a 10 unit increase in ScvO2% change was equivalent to a 66% increase in the presence of a symptom during outpatient hemodialysis. Acute symptoms associated with hypotension occurred in 38% of patients and 24% of dialysis treatments.

Implications: The change trajectory of ScvO2 during outpatient hemodialysis is relevant and related to SBP and acute signs and symptoms. ScvO2 may be used by dialysis nurses to guide therapeutic interventions to avoid symptomatic hypotension in the outpatient setting. Further research is warranted to replicate these findings and broaden our understanding of strategies to mitigate hypotensive symptoms.

Funding: American Nephrology Nurse's Association.

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BEST PRACTICE AND INNOVATION: SESSION I

Healing Touch Effect on Reduction of Anxiety of High Risk OB Patients

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Purpose: The purpose of this study is to determine if a complementary therapy, healing touch decreases anxiety and/or improves patient satisfaction in antepartum patients.
Rationale: Women on prolonged pregnancy-related bed rest are susceptible to high levels of physical, emotional, and economic hardship. Studies have shown 15.9% of the parents-to-be were highly anxious and/or depressed during pregnancy, (Figueiredo, 2011). Hospitalized high risk antepartum patients may be anxious and concerned about the uncertainty of their health and the well being of their unborn child, prompting feelings of powerlessness, isolation, separation anxiety, fear concerning the potential loss of pregnancy, and financial stress. Once the body's energy is cleared and balanced, we have the innate capacity to heal ourselves (Hutchison, 1999). The goal of Healing Touch is to accelerate the recipient's own healing process by restoring the harmony and balance in the energy system, thus affecting all levels of body, mind, and spirit through the use of the practitioner's hands, intentionality, and a centered heart (Umbreit, 2000).
Method: Using a randomized controlled design, we conducted a three intervention arm study of anxiety and satisfaction in antepartum patients Interventions included: (1) standard nursing care-control group, (2) Healing Touch therapy, in which a trained practitioner performed modalities that facilitate a healthy, balanced energy field, including freeing bound energy by sweeping away the energy blocks with their hands, (3) and "caring presence" (CP), where spiritual care personnel help patients express their feelings or emotions, respecting any faith affiliation and personal values. The HT and CP groups received the intervention two times a week for 2 weeks.

Depression and anxiety were measured by Edinburg and State-Trait Anxiety Inventory screening tools and a patient satisfaction survey. Physiological measures such as pulse, respirations, blood pressure were taken before and after interventions. Comments from the patients will also be included in analysis.
Results: The study was conducted from September, 2009 to September, 2011. Approximately 15 patients were enrolled in each arm (HT, CP, and Traditional) of the study. Preliminary analysis has been conducted on the overall differences between pretest and posttest anxiety scores using paired t-tests. The caring presence group demonstrated a significant ($p<0.05$) difference in decreasing anxiety. Further analysis will assess differences within groups between interventions.
Implications: This study applies the principles, processes and methodology of Healing Touch with the intent to reduce symptom distress associated with long term hospitalization in the high risk obstetrical patient population. Results indicate that addressing the psychosocial needs of the patient improve patient satisfaction and reduce anxiety.

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BEST PRACTICE AND INNOVATION: SESSION I

Transitional Care Medication Safety: Stakeholders' Perspectives

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Purpose: To identify barriers to and solutions for accurate and complete medication information transfer during patients' transition from hospital to home.

Rationale/Conceptual Basis: Medication errors are the most prevalent adverse event following hospital discharge. Approximately 90% of patients who are discharged from acute care to home care have at least 1, with an average of 4, medication discrepancies. Despite these astounding findings, indicating widespread potential for patient harm and increased medical liability, proactive risk management during care transitions is virtually nonexistent. The *Patient Safety Management Framework* guides this study which will fulfill a *critical need* of linking medication risk management strategies to emerging transitional care models.

Methods: An IRB-approved descriptive study using data gleaned from stakeholder focus groups is being completed. Segregated focus groups (N=10) comprised of patients and family members from urban hospitals (n=11), patients and family members from rural hospitals (n=6), ambulatory care and hospitalist physicians (n=7), urban hospital nurses (n=5), rural hospital nurses (n=7), home care nurses (n=4), retail and acute care pharmacists (n=8), acute care, home care and long-term care social workers (n=12), health plan contract administrators (n=3), and health care lawyers (n=6), were asked to reflect on, or make sense of, selected case studies that captured critical safety and medical liability risk characteristics. The selected case studies were based on actual medication discrepancies and the associated outcomes, with details changed to ensure patient confidentiality. Focus group participants' perspectives about the causes and contributing factors that led to adverse event(s) were captured by guiding stakeholder groups to participate in a root cause analysis. Participant comments were audio recorded and field notes were taken by two members of the research team during each focus group.

Results: Themes and antecedent structure, process and outcome factors that contribute to errors are being delineated. Evidence based risk management strategies to maximize medication safety during hospital to community care transitions will be suggested.

Implications: Stakeholder focus groups provided unique perspectives about factors that contribute to medication discrepancies, including the relatively unexplored legal and ethical issues. Collective stakeholder data will be used to design best practice risk management strategies for transitional care. This knowledge can, in turn, be used to define the best metrics to monitor the effectiveness of medication safety during transitional care.

Funding: AHRQ grant #R21HS019552, *Transitional Care Medication Safety and Medical Liability: Closing the Chasm.*

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BEST PRACTICE AND INNOVATION: SESSION I

Determining Barriers to Providing Respite Care Services to the Chronically Homeless

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Purpose: The aim of this study is to gain an understanding of the beliefs of the chronically homeless within a Seattle neighborhood around medical respite care services.

Background: Medical respite is a model of care that provides adults experiencing homelessness with recuperative or convalescent services away from the dangers of the street. Traditionally, the term respite care refers to providing a break for a caregiver of a chronically ill family member. However, as many emergency shelters do not allow clients to remain on the premises during the day, sick or injured adults experiencing homelessness need a place where they can rest and recuperate, receive nutritious food, assistance with dressing changes, general nursing support and safely store needed medications. While respite care services for sick or injured homeless people is not a new concept, there are many homeless people who remain suspicious or reticent about receiving such services based on prior experiences or hearsay. The overarching purpose of this study then is to identify possible barriers to providing medical respite services to the homeless population in this community.

Methods: After obtaining informed consent, interviews with homeless men and women are being conducted using a descriptive phenomenological method. In keeping with the principles of community based participatory research, graduate students are paired with formerly homeless people to locate and gain trust of homeless residents within the neighborhood. The teams will interview approximately thirty chronically homeless men and women residing in the Lake City neighborhood or until interview saturation is reached. Questions such as, "If there was a safe place available to you to recuperate after you have been in the hospital or were sick, would you stay there? If not, can you tell us why?" In appreciation for their participation, participants are given bus tickets in the amount of $10.

Results: Data collection and concurrent data analysis are in progress.

Implications: The data from this study will be used to inform the Community Advisory Board overseeing the larger programmatic approach to services for the chronically homeless in this community. Results will also be used to design respite care services that meet the needs of the chronically homeless in this particular neighborhood.

Funding: The Sinegal Foundation.

Patient Satisfaction and Perception of Value with Shared Medical Appointments

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Background: Over 70% of Veterans are considered overweight or obese and have higher rates of chronic disease and tobacco use than the civilian population. Three programs at the Department of Veterans Affairs Medical Center which utilize shared medical appointments were chosen for this qualitative study: Managing overweight/ obesity for veterans everywhere (MOVE), Metabolic assistance group intervention clinic (MAGIC), and Tobacco Cessation. These programs address obesity and physical activity, management of diabetes and hyperlipidemia, and tobacco cessation. The programs incorporate motivational interviewing techniques and include stress management and coping strategies. The content of these programs overlap and complement each other and are part of the larger organizational focus on health promotion and disease prevention.

Purpose: To explore the experience of participating in a shared medical appointment and patient satisfaction and perception of value related to these programs.

Sample: Approximately 112,500 Veterans living in a 26-county area of southwestern Virginia receive outpatient medical care at the Salem, Virginia facility. Veterans are older with more health problems and fewer financial resources than civilians. Sixty male and female adult veterans between the ages 18-89 who are current or past participants in at least two shared medical appointment sessions were invited to join this research study; focus group size was limited to 10 participants.

Method: Focus groups collect data related to questions posed by the moderator but also include the unique interaction between group members who encourage others to tell stories and examples, ask each other questions, and clarify their point of view and the meaning of their experiences. Interaction between group members has the advantage of allowing deeper exploration of complex topics than individual interviews or surveys. Focus groups build on participant responses and include members with low literacy levels or visual impairments who might otherwise be unable to fully participate.

Results: Demographic data collection and thematic analysis is in progress and will be completed before the conference date.

Implications: This study will provide data related to Veteran experiences in shared medical appointments, and their satisfaction and perception of value related to those programs. Veterans will benefit as a result of program improvements stemming from this research, and preliminary findings support the continued use of shared medical appointments.

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Directed Anal Pap Using Flocked Swab Better Predicts High-Grade AIN Than Dacron Swab

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Purpose and Aims: To compare two cytology collection methods: nylon-flocked swab vs. Dacron swab.

Background: Invasive anal cancer (IAC) is a health crisis for gay, bisexual, transgender and other men who have sex with men (MSM). MSM show a 20-40 fold higher risk for disease, especially within the context of HIV and since the introduction of highly active antiretroviral therapy (HAART) (1-4). Cervical cytology using Papanicolaou's staining (Pap test) reduced ICC incidence significantly (5). Although experts recommend anal Pap test every 1-2 years for MSM, and screening strategies using Dacron swab passed blindly through the anus, there is no national consensus for screening and funding is limited. Specimens are marginally sufficient, requiring diagnostic work-up for *any* detected atypias, a lower threshold than is set for cervical cytology in women (6-10). Using similar referral thresholds, anal Pap test using Dacron swab shows lower sensitivity and specificity for high-grade dysplasia (9-16).

Materials and Methods: Dacron-swab cytology specimens were collected first using standard procedures; subsequently, Nylon Flocked (NF)-swabs were collected through an anoscope inserted just beyond the verge. Swabs were approximated to the canal, rotated slowly while withdrawn, and placed into preservatives. HRA, with medical biopsy, where indicated, was performed by experienced clinicians. Pathologists evaluated cytology using the Bethesda Classification System (17, 18), and histology using the International Classification of Diseases for Oncology (19). HPV genotypes were assessed from cytology specimens using Linear Array (Roche Diagnostic Laboratories, Pleasanton, CA). Maximum likelihood logistic regression was used to summarize the data, to compare NF- and Dacron swab collection methods, and obtain adjusted estimates (20). The final model included swab collection methods (NF- vs. Dacron-swab), demographic characteristics (age and race), HIV-infection status and, among the infected, the year a CD4 count was first detected below 200 cell/mm^3.

Results: Among 58 men tested using the same clinical protocol, 16% (9/58) Dacron and 10% (6/58) NF-swab specimens were inadequate for cytological evaluation; accordingly, Dacron swabs were 1.6 times more likely to render an unsatisfactory specimen when compared to NF-swabs. Sensitivity and specificity for Pap test showing ASCUS or more severe dysplasia differed for NF- and Dacron swabs. However, sample size was limited and sensitivity estimates did not achieve significance: 79% (61-97%) and 50% (28-72%) for NF- and Dacron swab respectively. Specificity associated with NF- and Dacron swab differed similarly: 62% (45-78%) versus 53% (35-71%), respectively. NF-swab increases the number of interpretable assays, improves detection of HG-AIN and increases the specificity of anal Pap testing. Multivariate analyses suggested NF-swabs better predicted HG-AIN than did Dacron swab: NF-swabs showing $\geq$ASCUS vs. no intraepithelial lesion (NIL), OR=2.0 (1.0, 4.3), vs. Dacron swabs, similarly classified, OR=1.37 (0.6, 3.0). These relationships persisted after controlling for age, race, HIV-infection, and, among the infected, history of CD4+ cell count below 200 cells/mm^3.

Conclusions: Cytology specimens collected using NF-swab and anoscope to guide placement more often predicted HG-AIN than did Dacron-swab blindly inserted through the anus.

Implications: Improved performance of cytology will likely improve professional consensus for screening and the public's health.

References: Available upon request.

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BEST PRACTICE AND INNOVATION: SESSION I

Acceptability of Electronic Self Report Assessments for Cancer at Two Institutions

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Purpose: To examine the acceptability of the Electronic Self Report Assessment for Cancer (ESRA-C), a computerized program for patients with cancer to report symptoms and quality of life concerns.

Background: Cancer is second only to heart disease as the leading cause of death in the U.S. It is important that standardized symptom assessments are performed during cancer treatment to ensure that patients' symptoms are addressed and optimally managed. Better symptom control is associated with increased health related quality of life and patient satisfaction.

Methods: This was a secondary cross-sectional analysis of two data sets collected from the Seattle Cancer Care Alliance (SCCA – 2004-2008) and Dana Farber Harvard Cancer Center (DFHCC- 2008-current). The sample included 1,525 adults 18 years and older with various forms of cancer receiving radiation and/or chemotherapy at SCCA and DFHCC who spoke and read English. The Acceptability E-Scale (AES) was used to assess patient acceptability and satisfaction with ESRA-C. Higher scores on the AES indicate greater acceptability. The AES was administered after participants had completed other questionnaires about their health, symptom distress, quality of life, and pain intensity.

Results: Approximately 92% of the participants in both samples were Caucasian and ~ ~36% of the SCCA sample and 45% of the DFHCC were 60+ years of age. AES scores were similar between the SCCA and DFHCC sample (26.00±3.42 and 25.26± 3.85). Correlations between age and total AES and individual items were very small (r=-.001 to -.091). Higher levels of education were negatively correlated with total AES (rho=-0.189; p=<0.001). Depressed mood was also negatively correlated with AES scores for men: SCCA (r=-.209, p=0.004); DFHCC (r=-.115; p=0.046) but not for women: SCCA (r=-.047, p=0.515); DFHCC (r=-.101; p=0.82).

Conclusion: Results of this study indicated that ESRA-C was acceptable to a large sample of Caucasian, non-Hispanic patients with at least a high school educations receiving care from two comprehensive cancer centers. While small differences in the acceptability scores were identified for education, race and gender and level of depression, the sum and item scores were high and within range for an acceptable patient-centered technology in both samples.

Funding: These studies were supported by National Institute of Nursing Research (2R01 NR008726).

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BEST PRACTICE AND INNOVATION: SESSION II

TRANSLATING EVIDENCE INTO PRACTICE: USE OF DASH DIET IN A MILITARY TREATMENT FACILITY

Julie Jarl, Kathy James

DIABETIC PERIPHERAL NEUROPATHY: A BARRIER TO QUALITY OF LIFE

Cherrié M. Holland

CLINICIAN-TO-CLINICIAN COMMUNICATION: HOW CONFIDENT ARE WE AND DOES IT DIFFER BY ROLE?

Anne Marie Kotzer, Maree Burke, Sharon Sables-Baus

PATIENT OUTCOMES USING INDIVIDUALIZED ASTHMA ACTION PLANS

Linda Ziegler, Laura Williams, Mary Jo Clark

IMPROVING THE MANAGEMENT OF ASTHMA IN PEDIATRIC PATIENTS 12 TO 17 YEARS OF AGE

Debra J. Graham, Susan Instone

GLYCEMIC MANAGEMENT IN CARDIAC SURGERY: EVIDENCE BASED PROJECT

Elena Todorova, Mary Jo Clark, Joseph F. Burkard

USING COMPETENCY ASSESSMENT IN AN ACUTE CARE SETTING

Allen J. Orsi, Shirley Girouard, Stephanie Mearns, Donna Kistler

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ASSOCIATION OF PEDOMETER STEPS AND HEALTH STATUS: A PILOT STUDY

Young-Shin Lee, Chul-Gyu Kim

COMPARISON OF EXPERT AND NOVICE RURAL NURSE DAILY PRACTICE ACTIVITIES

Deana L. Molinari

INTERDISCIPLINARY ONCOLOGY REHABILITATION: LONG-TERM PROGRAM OUTCOMES ASSESSMENT

Nadine Parker, Maureen O'Malley, Elizabeth Predeger,
Thomas Hendrix, Cindy Decker, Meaghan Kuklok

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Translating Evidence into Practice: Use of Dash Diet in a Military Treatment Facility

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Purpose: The problem of unhealthy lifestyle in the overweight and obese patient with hypertension poses a relevant clinical question. Can patient education in the primary care setting promote healthy lifestyle changes and self-management capacity in the overweight and obese population with hypertension? This innovative project is currently being examined in a military primary care clinic serving retirees and dependents of the United States Armed Forces. The project focuses on the Dietary Approaches to Stop Hypertension (DASH) diet. The DASH diet has well established its ability to implement lifestyle modifications that may prevent the development of hypertension, obesity, and improve their treatment.

Background: Adult obesity and hypertension in the United States (U.S.) are public health epidemics that lead to substantial morbidity and mortality. Obesity is one of the major health problems in the world. Obesity is recognized as a disease in the U.S. and internationally by government, health organizations, researchers, and medical professionals. Approximately 66% of U.S. adults are overweight or obese. Elevated blood pressure (BP) remains a vast public health burden, and 27% of U.S. adults have hypertension defined as systolic BP>140mm Hg and diastolic BP> 90mm Hg or use of antihypertensive medication. Unhealthy lifestyle factors such as sedentary lifestyle, high diet sodium intake, and high saturated fat and total fat intake are related to the poor control of obesity and hypertension. Successful educational programs targeting overweight and obese adult patients with hypertension are needed in the primary care setting.

Methods: The goal of this project is to improve unhealthy lifestyles in the overweight and obese patient with hypertension. A patient education program based on the DASH diet is currently being implemented over a three-month span. The objective is for patients to adopt a healthy lifestyle by making dietary and exercise changes. The program consists of one group class per month for three months, each lasting 45 minutes. Individual one-on-one education is being done bi-weekly during 20-minute telephone sessions over a 3-month period that is scheduled in advance. Patients are being surveyed before and after the patient education program at baseline and in three months to assess changes in healthy lifestyle practices and self-management capacity. Body mass index is also being measured before and after the patient education program.

Outcomes Achieved: Data analysis is in progress.

Conclusion: Implementing a healthy lifestyle intervention in the primary care setting may help promote healthy lifestyle changes and self-management capacity in overweight and obese patients with a diagnosis of hypertension.

Diabetic Peripheral Neuropathy: A Barrier to Quality of Life

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Background: Patients with diabetes face a multitude of quality of life and self-care issues when trying to manage multi-morbidity conditions. Diabetic peripheral neuropathy (DPN) is a chronic pain associated with sharp pain, numbness, tingling, and burning, to the arms, hands, legs and feet. Since DPN affects up to 50% of older type 2 diabetics (Bolton, 2005), it is often a barrier to lifestyle changes and regimen adherence making it difficult to maintain good overall health status.

Purpose: The purpose of this review is to describe the quality of life of patients with DPN. Specifically, the objectives are to: 1) describe factors associated with quality of life in patients with DPN; and 2) describe interventions on self-management of DPN; and 3) evaluate the effect of self-management interventions.

Method: CINAHL, Google Scholar, and PubMed were searched for English-language articles published 2000–2010 using the following key words: Diabetes mellitus, Type 2 diabetes, non-insulin-dependent diabetes mellitus, chronic pain, aged, older adults, multi-morbidity, self-care, self-management, neuropathy, geriatrics, glycemic control, comorbidity, neuropathic pain, intervention therapy, and quality of life. This search resulted in a total of 29 articles studies and systemic reviews. Three studies met the inclusion criteria: one cross sectional study, one cross sectional survey, and one randomized controlled trial. After examination of the reference list of all articles one pilot study and one prospective survey was added for review.

Data Source: Through the use of modified Brief Pain Inventory or self-reporting questionnaires, each study assessed chronic painful symptoms as having a negative impact on quality of life. Four out of 5 studies reported no significant changes in pain or quality of life. DNP was also associated with anxiety, depression, sleep disturbance, fatigue, loss of physical functioning, and independence. Poor adherence to self-management (*P*_0.003) was reported in 4 of the 6 studies.

Conclusions: Although lifestyle intervention and optimization of glycemic control are recommended as initial steps for the management of diabetes, DPN can be a barrier to these interventions since chronic pain is a major limiting factor in quality of life and the performance of self-care behaviors (Piette, 2006). More research is needed on the impact of chronic pain associated with quality of life and self-management. Future studies should barriers to self-management, and physical functioning, associated with DNP. Nursing is plays a vital role both clinically and in the community assisting patients with diabetic education and pain management. It is essential that we are also instrumental in providing a better quality of life for patients living with DPN.

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BEST PRACTICE AND INNOVATION: SESSION II

Clinician-to-Clinician Communication: How Confident Are We and Does It Differ by Role?

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Background: Direct care nurses in the Neonatal Intensive Care Unit (NICU) identified inconsistencies in practice related to challenges of measuring and treating infant pain and sedation. These inconsistencies centered on the nurse's knowledge of infant pain expression and their approaches for managing the infant's agitation. The question also arose as to the nurse's confidence level in approaching the physician or neonatal nurse practitioner (NNP) about their concerns, i.e., nurses' confidence with their communication skills may be lacking and also may differ based on provider (MD vs. NNP).
Purposes: 1) Evaluate communication self-efficacy among clinicians in the NICU; and 2) Determine whether clinicians' communication self-efficacy differs based on provider.
Methods: All clinicians (RNs, therapists, pharmacists, dieticians, etc.) in the NICU were invited to complete a Communication Self-Efficacy Scale (CSES). The CSES measures communication confidence on two subscales, "assertiveness" and "systematic/organized" with a 5-point Likert scale. Subscale scores range from 5 to 45.
Outcomes: 104 clinicians completed the CSES with nurses the largest group (N=73), NNPs (N=12), and therapists (N=8). Across all groups, 79% reported providing direct patient care ≥ 75% of the time. Respondent's mean age was 38.26 ± 10.71 yrs and 62.1% held a baccalaureate degree and 22.1% a master's degree. For all participants, the mean "assertiveness" score when communicating with an MD was 36.15 ± 6.20 and the mean "systematic" score was 37.98 ± 5.96. Assertive and systematic communication with an NNP was significantly higher than with the MD ($p < .0001$). Significant differences also were seen between MD and NNP communication on both subscales for RNs alone ($p < .0001$), with greater confidence when communicating with the NNP. Although small numbers, therapists' subscale scores also were statistically higher when communicating with the NNP than MD. Selected questions, e.g., *confidence with expressing concerns about a patient when faced with rude or uncooperative behavior*, also showed significantly higher scores ($p < .0001$) when clinicians were communicating with the NNP vs. MD.
Conclusions: There is little information about other disciplines' communication self-efficacy, especially differentiation between physicians and mid-level providers. This study revealed differences across all clinicians and provider groups, demonstrating less confidence when communicating with physicians. Of greatest concern are the lower scores when clinicians are faced with rude or uncooperative behavior. While staff education on specific clinical practice issues may be needed, the impact will be optimized if education and training also are provided around assertive and systematic communication.

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Patient Outcomes Using Individualized Asthma Action Plans

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Background: Despite the monumental gains over the past several years in the effectiveness of asthma medications and treatment, asthma remains high on the list of disabling chronic conditions, affecting 1 in every 12 people in the United States. About 300 million people worldwide have asthma, and every decade its prevalence has increased by 50%. Approximately 180,000 asthma-related deaths occur each year worldwide. In Riverside County, CA there about 366,000 people diagnosed with asthma with an annual treatment cost greater than $8 million, making asthma prevalence in Riverside County comparable to national figures. In 2007, The National Heart, Lung and Blood Institute (NHLBI) developed a patient self-management tool called the Asthma Action Plan which provides explicit evidence-based guidelines for how patients can assess the severity of their symptoms and respond appropriately using drugs prescribed by their health care providers. However, many providers do not use these patient teaching tools.

Aim/Purpose of the Project: This evidence-based project examined the effectiveness of educating asthma patients on asthma self-management using the NHLBI Asthma Action Plan.

Design and Methods: The project employed a pre and post quasi-experimental time series design. A retrospective review of charts in a primary care setting was performed to identify patients with a diagnosis of asthma who had no documented use of an asthma management plan. Asthma patients in a primary care setting were given an asthma ACT questionnaire to establish baseline knowledge about their disease. Primary care providers gave each patient an individually tailored asthma action plan and used this as a focus for education on prevention and self-management of asthma exacerbations. The ACT questionnaire was repeated at day 45 and results were compared to prior scores.

Results and Outcomes: To date, 15 patients (aged 22 to 63 years) have been provided with asthma management plans. Preliminary results indicate lower ACT scores after intervention indicating better asthma management. Data collection is still in progress.

Implications and Conclusions: To be determined following review and analysis of data for additional patients. It is expected that when asthma patients are given individualized Asthma Action Plans for self-management, the scores on ACT questionnaires will decrease as a result of more effective asthma management.

Improving the Management of Asthma in Pediatric Patients 12 to 17 Years of Age

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Background: According to the CDC, Asthma is a leading chronic illness among children and youth in the United State (US) and a leading cause of school absenteeism. Over 10 million US children aged 17 years and under have been diagnosed with asthma. Adolescent asthma is associated with poor medication compliance, excessive use of ineffective over the counter medications, lack of knowledge about asthma triggers and an appropriate asthma action plan that follows the National Heart, Lung, and Blood Institute (NHLBI) Guidelines for the diagnosis or treatment of asthma. Poorly controlled asthma symptoms lead to excessive hospitalizations, emergency department visits, urgent care visits, sick days and activity limitations that may cause asthma suffers to have or accept a decrease quality of life.
Aim/Purpose of Project: The aim of this study was to improve the health status of adolescents age 12- 17 years of age with asthma in a in a southern California primary care pediatric clinic using the NHLB practice guidelines. The study focused on four components to improve patient care: patient education, controlling trigger exposure, objective monitoring using a peak flow meter and medication management that included the correct use of meter dosed inhalers and aerochambers with an asthma action plan.
Design and Methods: The study used a prospective time series design at baseline, one, three, and six months. The intervention involved 25 patients with the diagnosis of asthma. The team administered the Asthma Control Test (ACT) questionnaire at each visit and checked the patient's peak flow. The patient was interviewed and assessed for the number of days missed from school, number of ER visits, number of hospitalizations, previous education on asthma, written asthma plan in place, wheezing in the morning, wheezing in the evening, interference of asthma symptoms with activities, use of short acting beta 2 agonist, use of controller medications, pulmonary function test within the last year, exposure to common asthma triggers (dust mites, cock roaches, cigarette smoke, pet dander, etc..) and demographic data. The data will be analyzed form initial 1-, 3-, 6- month visits using descriptive statistics, including means, ranges and standard deviation for the variables. The results should show an improvement in the management of asthmatic patients. It should also reveal if adherence to asthma practice guidelines improve the management of asthma.
Results: In progress.
Conclusions and Implications: The results of this study suggest that implementation and adherence to asthma practice guidelines will improve the management of asthmatic patients. It will improve the adolescent patient's knowledge of asthma.

BEST PRACTICE AND INNOVATION: SESSION II

Glycemic Management in Cardiac Surgery: Evidence Based Project

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Background: Hyperglycemia is a significant problem in the postoperative cardiac surgical patient population and an independent predictor of morbidity, mortality, and wound infections. Following glycemic protocol and, more importantly, maintaining postoperative euglycemia, has been shown to improve outcomes. In spite of Surgical Infection Prevention Project (SCIP) initiatives and recent efforts to improve hyperglycemia by introducing a hospital-wide basal-bolus-correctional insulin protocol, a therapy currently preferred to a simple sliding scale, incidence of hyperglycemia in the postoperative cardiac surgery patient at one community hospital continues to be excessive (22.2% SCIP noncompliant). A clinical question was raised: In the cardiac surgery patient population, will incorporating the practice guideline for glycemic management of the Society of Thoracic Surgeons (STS) (Lazar, 2009) that has been shown to improve outcomes, compared with current practice, improve glycemic control? It was hypothesized that the implementation of the STS population-specific guideline for glycemic management would decrease the incidence of hyperglycemia in the postoperative cardiac surgery patient, decrease morbidity, and show a cost-benefit effect.
Aim/Purpose of the Project: To evaluate the effects of incorporating the latest evidence-based guideline from the STS for hospital management of hyperglycemia in patients who underwent cardiac surgery. To decrease by 10% the incidence of postoperative hyperglycemia in the cardiac surgery patient population after transfer from the ICU to the ward. The goal is to reach recommended glycemic targets: Fasting Blood less than 140mg/dL and postprandial less than 180 mg/dL.
Patients and Methods: We will conduct a pre and post quasi-experimental evidence-based practice project in a performance improvement model. This project will evaluate glycemic control before and after the implementation of the recommendations from the STS guideline in consecutive adult cardiac patients who undergo cardiac surgery between March 1, 2011, and April 31, 2011 and November 1, 2011, and December 31, 2011, at a southern California hospital. The primary outcome measure will be mean postoperative glucose for the first and second day after transfer to the ward. Secondary endpoints will be ICU and hospital length of stay, SCIP glucose values on postoperative days one and two, and antibiotic use for infections developed within the immediate postoperative period. Descriptive and inferential statistics will be used to analyze the data.
Results: In progress.
Implications: Implementing the evidence-based guideline from STS for hyperglycemia management may decrease incidence of hyperglycemia in the postoperative cardiac surgery patient population and help decrease incidence of SCIP noncompliance.

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Using Competency Assessment in an Acute Care Setting

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Problem: Expectations that nurses be competent have always been a part of professional codes and standards, licensing and accreditation requirements and, are a key component of the profession's social contract. During the last decade, we have seen increasing demand to demonstrate accountability for nurse competencies associated with safe, quality practice. Defining, assessing and documenting competencies is challenging, especially doing so efficiently and effectively. A local medical center identified the need to more precisely define its core nursing competencies particularly those associated with the IOM competencies for the health professions and to develop and evaluate methods for assessing and documenting higher-level competencies.

Purpose: Assess and document professional nursing competencies to assure safe, quality nursing practice.

Method: A multiple choice and short answer examination was the first step in the competency testing process. The purpose of the test was to evaluate knowledge, comprehension, application, analysis and synthesis of core knowledge, problem solving and critical thinking. Registered Nurses were given a 50-item examination that will take approximately one hour to complete. After the written exam, simulation was used as an active approach to performance evaluation with nurses directly engaged in a simulated patient care situation where care competencies were evaluated. Using standardized patients, RNs participated in one simulated scenario to assess knowledge application, skill proficiency, problem solving skills and critical thinking related to safe, quality nursing practice.

Results: Thirty- five nurses participated in the testing process: 25 took both the written and simulated tests; 3 took only the written test; and 8, took only the simulation test. The mean score on the written exam was 78% with a range of 58 to 90 percent. Exam results suggested that the area needing the greatest attention was patient-centered care, specifically the subcomponents of clinical judgment. Thirty-three Registered Nurses participated in the scenario testing. Test scores were categorized as strong, average, or weak. Most (75%) nurses met overall performance expectations using the standardized patient. Most difficulty related to preoperative teaching, accurate assessments, and identifying patient discharge needs. Most nurses met the expectations for initiating nursing interventions.

Implications: Use of simulation testing is a valuable tool to measure the competency of staff nurses in an acute care facility. Nurses found the experience positive. Overall, the findings substantiate the benefit of incorporating simulation testing in acute care. Further research is needed to determine if simulation testing performance correlates with improved patient outcomes in the clinical setting.

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BEST PRACTICE AND INNOVATION: SESSION II

Association of Pedometer Steps and Health Status: A Pilot Study

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Background: Walking is an important physical activity (PA) providing health benefits to older adults. However, methods of monitoring walking, particularly characteristics of steps, have not been well studied.

Purpose: To conduct preliminary tests of the reliability and validity of pedometer use by older adults living independently.

Methods: Step counts along a 10 m line were determined by observation and pedometer for thirty-one older adults living independently in senior apartments and retirement communities. Each individual then completed a 7-day step count using a pedometer, a PA diary, and a self-reported PA questionnaire.

Findings: There was no significant difference in steps measured by observational count and pedometer. Average walking speed was 1.28 m/s, and average step length was 56 cm. Cronbach's alpha coefficients for 7-day pedometer records ranged from 0.77 to 0.90. Number of steps recorded by pedometers was significantly correlated with self-reported walking distance and amount of leisure time PA, but not with household activity. Pedometer step counts were somewhat, but not significantly, higher in individuals who reported normal blood pressure, normal BMI, and no prescription drugs, than in other individuals.

Conclusions: The use of a pedometer to monitor walking as a physical activity in older adults appears to be reliable and valid. A future study using a larger sample and evaluating the association of walking activity with health outcomes is recommended.

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Comparison of Expert and Novice Rural Nurse Daily Practice Activities

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Purpose/Aims: The purpose was to compare rural novice and expert work activities and medication errors in order to better understand the workplace.
Rationale: The literature is mixed about the rural nursing quality and safety. Some studies report novice nurses commit more medication errors than experts while others do not. Some authors state novices perform the same duties as expert nurses and without transition support. As turnover of new rural nurses ranges from 35-65% during the first year of practice, responsibilities and pressures of practice need to be understood. Understanding novice rural nurses practice is foundational to program improvement.
Methods: Participants of a national residency program participated in tracking and reporting daily work activities and medication errors. Novice and expert nurses reported one week's shifts three times during a year. The Medication Error Survey was also completed three times. During the first reporting period 217 novices' (163) and experts' (64) reports were averaged and compared using Spearman's Correlations, Kruskal-Wallis and Mann-Whitney tests.
Results: Novices cared for significantly more patients per shift (f 1.690, .06) than experts. Experts did not report workload reductions while teaching new employees. Expert nurses supervised more people during a shift (f 17.460, .001). Novices found more patient errors (f 5.563, .019). Expert nurses also spent more time on more committees than did novice nurses (f 3.764, .054). Using the Medication Error Survey, there was not significant differences between novice and experts other than in reporting/documenting errors found. Experts made significantly more reports. Experts reported making fewer errors than novices but this was due to a lack of rating the questions about making errors rather than a difference in error commission. Although responses could have been-no errors, nearly one third of expert participants refused to answer the question at all.
Implications: Medication error Safety issues need further examination, systems organization, and nurse education. Future research questions include: Why do expert nurses avoid answering medication error questions when they could affirm or deny commission of an error anonymously? Was personal safety an issue? Which organizational systems produce professional safety concerns? What occurs and when for socializing novices to report errors? How do nurses define professional advancement? If advancement means more supervision and committee work in addition to patient care, is this satisfying? Were experts given workload accommodations for committee work and supervision? How often are expert nurses pulled from patient care? Comparison among groups over time needs reporting. Since novices reported finding more patient errors than experts, an understanding of who commits errors is needed. Do experts and novices perceive errors differently? Are there socialization issues involved in not reporting errors? Differences in practice impact job expectations of novices and experts. More information is needed in order to develop effective transition to practice programs.

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Interdisciplinary Oncology Rehabilitation: Long-Term Program Outcomes Assessment

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Purpose: This study is the second phase of a research project determining the influence of a multi-dimensional, rehabilitation intervention on health-related quality of life. The purpose of this phase is to assess long-term outcomes after participation in a supportive, interdisciplinary, group-focused, oncology rehabilitation program.

Rationale: With improving treatments and longer survivorship, exercise has been shown to be an effective intervention, resulting in positive outcomes in the short term. Little is known about maintaining an exercise regimen over time following supportive cancer rehabilitation. This phase of the study will identify client characteristics that are associated with positive outcomes after completion of a multidisciplinary program.

Methods: All participants in the study completed the RAND, 36-Item Short Form Health Survey (SF-36) (RAND 2009) before and after oncology rehabilitation. The SF-36 is a self-report questionnaire measuring health-related quality of life (HRQOL). It focuses on physical and mental components of health. The SF-36 has shown satisfactory internal consistency (alpha 0.76-0.90) and construct validity in studies of HRQOL (Bell & Kahn, 1996). Post program data will be collected via a mailed survey to determine health-related quality of life outcomes.

Data Analyses: Descriptive statistics will be used to summarize the demographic characteristics of the sample, as well as the health-related quality of life and cancer health indicators. Overall scores and subscale scores will be analyzed using a paired sample t-test and crosstab correlations.

Findings and Recommendations: Study findings will provide needed insight into long-term program effectiveness, as well as add to the current state of evidence surrounding exercise rehabilitation for survivors of cancer. Recommendations for program improvements in the area of supportive oncology rehabilitation will result.

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BEST PRACTICE AND INNOVATION: SESSION II

Facilitators/Barriers to Pressure Ulcer Prevention: VA Community Living Centers

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Purposes/Aims: This study aims to describe nursing assistant (NA), licensed vocational nurse (LVN), and registered nurse (RN) perceptions of facilitators/barriers to implementing pressure ulcer prevention (PrUP) in VA Community Living Centers (CLCs). Knowledge, beliefs, values, attitudes, and work practices were examined.

Background: Implementation of PrUP best practices is a strategy used to promote quality of care. Maintaining such practices is difficult. Knowledge, beliefs, values, attitudes, and work practices may facilitate and/or impede their implementation.

Methods: Cross-sectional qualitative audio-recorded 45-60 minute structured individual interviews were conducted using a purposeful and convenience sample in two CLCs in southern California. VA CLC nursing staff provides PrUP as part of usual care.

Results: 16 subjects participated. Data were analyzed using content analysis and descriptive statistics. The sample was mostly female (88%); middle-age (average age 50 years); ethnically diverse (white/non-white); experienced (average 16 years/nursing); stably employed at VA (average 7 years). Aggregate analyses are noted; exploration of potential differences among nursing types is in progress. Factors related to facilitation included a centralized wound care program (work practices/knowledge) that included CLC-level team members; intrinsic motivation (attitudes) by staff and beliefs that PrUs were preventable (beliefs); early detection of PrUs by NAs during performance of daily activities of living (work practices); belief that prevention enhanced a Veteran's quality of life (beliefs); strong staff personal responsibility for PrUP (attitudes/values) and provision of care despite positive or negative feedback received about performance (work practices); commitment to Veterans' well-being (values, beliefs, attitudes); and teamwork/communication with wound team). Factors related to barriers included limited performance feedback by nurse managers (work practices/values); difficulty in articulating components of common best practices (work practices/knowledge); difficulty in distinguishing how usual care differed from high-risk care to prevent PrUs; lack of knowledge of Veteran chart information such as written individualized care plans (work practices) and Braden Scale scores (knowledge).

Implications: The effective functioning of a centralized and CLC-level wound team was important to successful PrUP. Staff valued PrUP and Veterans' well-being, was self-motivated, and felt personally responsible to prevent PrUs. Teamwork and communication were seemingly important for learning and implementing aspects of PrUP care versus formal understanding of components of evidence-based PrUP practices.

Funding: This study is based in part upon work supported by the Department of Veterans Affairs, Veterans Health Administration, Office of Research & Development, Health Services Research & Development & Nursing Research Initiative.

BEST PRACTICE AND INNOVATION: SESSION II

Use of a Silicone Dressing to Reduce Pressure Ulcers in ICU Patients: A Randomized Trial

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Background: Skin integrity is identified as a measure of nursing care quality, yet hospital acquired pressure ulcers (HAPUs) are a major health problem, due to patient morbidity, treatment/legal costs and reimbursement issues. Development of HAPUs is related to pressure, shear and/or friction. These can be prevented/treated if identified in the early stages. HAPUs cause harm to patients, impact their quality of life, prolong length of stay; and may prove fatal. In the acute care setting, HAPU incidence ranges from 14% to 17%, thus more scientific interventions to decrease pressure ulcer rates are being sought.

Aims of the Study: The primary aim of this randomized, controlled trial (RCT) is to determine whether prophylactic application of Mepilex® Border Sacrum dressing (*intervention)* will reduce the incidence of pressure ulcers (PUs) in ICU patients, by reducing (Moisture; Friction; & Shear), compared to a control group receiving *usual care* (SKIN BUNDLE). Primary endpoint is to demonstrate a reduction in PU incidence. *Secondary aims* are to examine the role of multiple explanatory variables (age, sex, condition related factors; treatment and patient related factors) as correlates to the development of HAPUs.

Research Hypotheses:

H1.1 The rate of pressure ulcer prevalence will be significantly lower in the intervention group compared to the control group.

H2.1 There will be a reduction in medical costs and resource utilization as measured by number of days of hospitalization.

Study Design: A two-group study design was used with 734 critically ill patients, who were randomized in a 1:1 ratio, either to a prophylactic application of the Mepilex® Border Sacrum dressing intervention or a control group. All patients admitted to the ICUs, with a Braden Scale Score < 13, and intact skin, were enrolled in the study. Demographic data and severity of illness was collected at baseline. Patients remain in the study during their ICU stay, and are tracked (post-ICU discharge) through the EMR, for HAPU incidence/mortality, until hospital discharge.

Intervention Group – Subjects receive *Usual Care (SKIN BUNDLE)* and application of the *Mepilex® Border Sacrum dressing,* which is changed every 3 days and prn. Each shift, skin assessment is done on all subjects, including lifting the edge of the dressing to check the sacral area beneath the dressing. We also examine the integrity of the Mepilex® Border dressing.

Control Group – Usual Care including daily evidence-based care identified in the SKIN BUNDLE. The Braden score, use of SKIN bundle & skin condition is recorded daily.

This RCT study is in progress. Descriptive statistics will be used to describe the sample population demographics, co-morbidities, and HAPU incidence rate. Pearson's Correlation will be used to examine for particular risks, as correlates to the development of HAPUs. Statistical significance is $p < .05$.

Implications for Nursing: By analyzing all HAPUs, education/ interventions can be implemented with a goal of zero HAPUs, which is part of the national Bold Safety Goals and the Institute for Healthcare Improvement's "5 Million Lives". Findings contribute to nursing science and also serve as a driver for evidence based changes in our current clinical practices.

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Impact of Provider's Assessment on Women's Knowledge of Consequences of Smoking

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Purposes/Aims: The first aim of the study was to identify women's level of knowledge about the health consequences of smoking, smoking during pregnancy, and exposure to environmental tobacco smoke. The second aim was to compare levels of knowledge for those who reported that the health care provider asked about smoking behavior, environmental smoke exposure, and offered assistance in smoking cessation to those who reported that the health care provider had not asked these questions or offered assistance in smoking cessation.

Rationale/Background: In Wyoming, 22.1% of adults smoke cigarettes and 21.8% have no rule prohibiting smoking in the home.

Method: A convenience sample of 366 women who were surveyed in a women's health clinic. As part of a larger study, women were asked whether their health care provider asked about smoking behavior, environmental tobacco smoke exposure, and offered assistance in smoking cessation. Knowledge was tested using 27 questions about the health consequences of smoking cigarettes, exposure to environmental tobacco smoke, and smoking during pregnancy.

Results: Health care providers asked 86% of the women (n=318) about smoking behavior. The mean knowledge score was 24.19 (SD=5.00) for this group and 21. 58 (SD= 7.89) for the group who were not screened for smoking behavior (t = 2.22, df = 52.85, p = .031). The mean difference of 2.60 with equal variances not assumed yielded a 95% CI of [.25, 4.95]. Health care providers asked 54% about environmental tobacco smoke exposure. The mean knowledge was 24.34 (SD=5.14) for those screened and 23.25 (SD=5.91) for those not screened (t = 1.89, df = 364, p = .06). The mean difference of 1.09 with equal variances assumed yielded a 95% CI of [-.05, 2.23]. Of the 366 respondents, 40 were identified as smokers. For the item, my doctor/nurse offered to help me quit smoking, 24 (60%) responded yes and 16 (40%) responded no. Mean knowledge was 24.67 (SD=4.21) for the yes group and 24.19 (SD= 3.58) for the no group (t = .37, df = 38, p = .71). The mean difference of .48 with equal variances assumed yielded a 95% CI of [-2.12, 3.07].

Implications: Level of knowledge related to the consequences surrounding smoking behavior is greater if the health care provider addresses the question of smoking behavior.

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BEST PRACTICE AND INNOVATION: SESSION II

Telehealth for Adult Family Homes: *State of Technology Usage*

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Purpose/Aim: The purpose of this study is to assess the different types of technology in use in adult family homes in order to better design tools that will enhance care in these settings.

Rationale/Background: America's current health care system is unable to meet the health care needs of our aging population. This shortfall is becoming increasingly pronounced due to diminishing resources and a lack of nurses trained in gerontology. Beyond the need for competency in caring for older adults in hospitals, nursing also need critical thinking skills to provide nursing care oversight for community dwelling vulnerable older adults. Older adults prefer to age in place in home-like environments. One residential setting that is meeting varying levels of care needs of many community dwelling older adults is the adult family home (AFH). However, limited research on care giving has been done in this setting and there is a need for innovative solutions that will address the challenge of reduced resources. A progressive solution for extending limited health care resources is telehealth, using real-time audio-video conferencing to bridge geographic distance. Such an approach could potentially be beneficial for AFH settings as well. There is however, minimal data on types of technology being used, learning needs of direct caregivers, and best model of community-based nursing oversight of care practices. This project remedies the lack of evidence by assessing current technology usage in adult family homes and learning needs of caregivers for frail older adult residents in this setting.

Methods: Cross sectional descriptive design was employed to survey technology usage and potential learning needs of AFH operators in Washington State. The study was approved by the Institutional Review Board at the University of Washington. Using the Delphi technique, a survey was designed to assess technology usage and pain assessment learning needs of AFH operators. The survey was mailed with a letter of introduction to all AFHs listed by the Washington State Department of Social and Health Services (n=2848). Completed anonymous surveys were returned via self addressed postage paid envelopes to the researcher (response rate =12.1%).

Results: Preliminary findings indicate diverse profiles of technology usage in AFHs. Most homes have plain old telephone land lines (POTS) (98%) and cellular phones (96%). Less than half of the respondents (40%) have used telehealth and approximately one-third (30%) have used real-time audio-video voice over internet protocol (VoIP). In addition to communication technologies, preliminary findings indicate over one-third of respondent AFH (39%) use health monitoring devices as part of resident care.

Conclusions/Implications: The results of this study inform the development of community-driven curriculum for care of diverse community dwelling vulnerable older adults in settings such as adult family homes. This study also informs development of service learning strategies and care delivery programs that use telehealth in the AFH setting.

Funding: Hester McLaws Nursing Scholarship and NLN Jonas Scholarship.

BEST PRACTICE AND INNOVATION: SESSION II

Effects of Cofactors on Postoperative Recovery in Obstructive Sleep Apnea Patients

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Purpose/Aim: To determine if there is a difference in post operative recovery times between Obstructive Sleep Apnea patients with and without cofactors (HTN, Diabetes, Cardiovascular Disease) and Non Obstructive Sleep Apnea patients with and without cofactors.

Significance/Background: Obstructive Sleep Apnea (OSA) is the most common disturbance during sleep affecting 2-26% of the general population (Chung et. al, 2008). The occurrence of moderate to severe OSA is estimated to be 11.4% in men and 4.7% in women (Seet et. al, 2010).

OSA is caused by repetitive partial or complete obstruction of the upper airway with apnea periods during sleep lasting greater than 10 seconds. OSA is a prevalent problem in western society, but is frequently undiagnosed due to lack of awareness or knowledge of this disorder. This patient population presents a unique challenge during the peri-operative period due to increased risk for several complications. Of particular interest to the Nurse Anesthetist, are the respiratory complications that can result in delayed emergence from anesthesia, delayed post operative recovery, increased apneic episodes, hypoxemia, and death in this patient population. Examining duration of recovery periods between these two groups will help to determine if patients with OSA and additional cofactors of hypertension, cardiovascular disease and diabetes can benefit from a longer post operative monitoring or change in Anesthetic management.

Design: An experimental design to include a non- randomized convenience sample with two groups including males and females 18 to 65 years old. Comparisons will be made between subjects on duration of postoperative recovery times and other discharge criteria with patients identified as having mild, moderate to severe OSA or no OSA utilizing the STOP-BANG tool.

Methods: Patients undergoing elective abdominal surgery and consented for general anesthesia at a Military Treatment Facility (MTF) will be identified and asked to participate in the study. OSA status will be determined based upon Sleep Studies, and responses to the eight question STOP-BANG tool. Data will be obtained in the Post Anesthesia Care Unit. Total recovery times will be obtained. Additional information will come from occurrence of pre-existing disease processes, Aldrete Scores, apneic episodes, pulse oximetry measurements, and use of continuous positive airway pressure devices.

Findings: Multivariate Regression Testing will be incorporated to compare the effects of cofactors on postoperative recovery times of sleep apnea patients. A statistical Ancova analysis will evaluate individual cofactors and OSA postoperative recovery times. Mann-Whitney U analysis will be utilized to compare Aldrete scores, apneic episodes, pulse oximetry measurements, and number of positive airway pressure devices. T-test analysis will be performed on demographic information. A p score of < .05 will be considered significant.

Implications for Practice: If a significant difference in recovery time between groups is found, recommendations for appropriate postoperative monitoring and recovery measures could be implemented. Additionally, alternate forms of anesthesia can be studied to prevent extended postoperative periods and minimize complications.

BEST PRACTICE AND INNOVATION: SESSION II

Explorations in a-EEG Analysis: Searching for Cyclicity

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Purpose: Describe varied approaches to graphical analysis of EEG signal from premature infants.

Background: Amplitude-integrated EEG offers a limited channel brain function signal suitable for use in the clinical setting of the Neonatal Intensive Care Unit (NICU). The output is a graphical pattern of compressed data. Raw EEG signal and amplifier impedance readings are also displayed and recorded. The device has promise as a non-invasive measure of sleep wake cyclicity, neurodevelopmental maturation, and brain function background continuity. Analytical approaches described in the literature are limited to categorical descriptions of visual pattern display, or automated counts of EEG features such as bursts of high amplitude interspersed by periods of low signal power. The data of premature infants is characteristically non-stationary with seemingly chaotic changes in amplitude occurring over short time windows (e.g.10 second blocks). Oversimplification of the data although practical may not be the optimal analytic approach to describe the complicated occurrences of brain function.

Design and Methods: Data from four premature infants with postmenstrual age range (26-32 weeks) was obtained during normal care conditions in the NICU as part of a descriptive within subject study. An FDA approved limited channel a-EEG device (CFM 6000, Natus Medical, San Carlos, CA) was used to record a single channel of continuous raw EEG (100 samples/second) after placement of three hydrogel scalp electrodes in P3-P4 location by modified International 10/20. EEG signal is recorded as amplitude (μV) over time, impedance values are recorded in K-Ohms. Data was downloaded to disc and analyzed using MatLab R2010a (The Math Works, Natick, MA).

Results: Preliminary explorations of background brain function data using varied techniques for qualitative graphical display of dynamic time and frequency data will be conducted including: phase diagrams and wavelet transformation analysis to decompose the signal. Each approach will attempt will search for frequency cycles of brain function as separate from noise.

Implications: Complex signals such as premature brain function are poorly modeled by traditional techniques without loss of data richness and depth of cyclic structure. Graphical explorations may enhance the understanding of underlying cycles within brain function signal. Physiologic cycles and variability within a signal often reflect health of an organism. In the case of the preterm infant, cyclicity of neural patterns associated with sleep and wake states is paramount to normal brain development.

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Women's Experiences of Transitioning to Endocrine-Based Oral Therapy

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Purpose/Aims: The specific aims of this study are to:
1) Describe the transition to endocrine based oral therapy (EBOT) experience of women with estrogen receptor positive breast cancer.
2) Identify what women transitioning to EBOT describe as unmet needs requiring intervention to improve the transition experience.
3) Determine what women transitioning to EBOT describe as facilitating and hindering the transition experience over the first several months of treatment.

Background: Eighty per cent of breast cancers in women over 45 years of age are estrogen receptor positive cancers (Glass, Lacey, Carreon, & Hoover, 2007). At the end of what is typically a yearlong, aggressive treatment period, these women are expected to initiate 5-10 more years of ongoing treatment with endocrine-based oral chemotherapy (EBOT). Evidence from clinical trials aimed at reducing recurrence and improving life expectancy suggests that women on EBOT experience many distressing symptoms (Fellowes, Fallowfield, & Saunders, & Houghton, 2001; Fallowfield, et al., 2004; Tchen, et al., 2003; Whelan, et al., 2005). As a result, as many as 25% of patients discontinue EBOT treatment in the first year (Patridge, Wang, Winter, & Avorn, 2003) despite evidence suggesting decreased recurrence (Cuzick, Sestak, Cella, & Fallowfield, 2008) and improved survival (Fink, Gurwitz, Rakowski, Guadagnoli & Silliman, 2004; Ruddy, Mayer, & Partridge, 2009). For women on EBOT, the management of symptoms related to treatment is one they are expected to independently handle with minimal follow up from health care providers (Winters, Habin, & Gallagher, 2007). This creates an added challenge to the survivorship experience of these women that the current survivorship models of care do not address. To date there are no nursing studies in the literature that address this transition experience of women on EBOT. Thus, a first step in addressing the gap in survivorship care related to women on EBOT is to describe the experience from the perspective of these women who live daily with the reality of breast cancer while receiving EBOT.

Methods: This study will use a qualitative design, specifically the hermeneutic phenomenological (HP) design of Van Manen (1990) to describe the transition to EBOT experience of women with estrogen receptor positive breast cancer during the first year of treatment. This study will employ purposive maximum variation sampling to meet the study aims focsed on understanding women's transition experience to EBOT. Twenty patients with estrogen receptor positive breast cancer meeting the inclusion criteria listed below will be recruited for particpation in the study. The proposed number of participants for this study is based on other qualitative studies in the literature that have employed a maximum variation sampling. (Morse & Richards, 2002).

Results: At this point data collection is ongoing, but we expect to have the data analyzed by February.

Implications: Understanding how women transition to long term EBOT will provide information about their survivorship needs.

Funding: Boston College Research Incentive Grant.

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Abdominal Discomfort after Ingesting Intestinal Permeability Test Solution

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Background: Chronic abdominal pain is a common symptom reported in the United States. The Gastrointestinal Pain Pointer (GIPP) is a computerized tool designed to improve both subjective and objective data capture of abdominal discomfort in real-time.

Aim: The purpose of this study was to profile patients who reported having abdominal discomfort on the GIPP within the first hour of drinking an intestinal permeability test solution.

Methods: Individuals with chronic abdominal pain and healthy volunteers ages 13-45, overweight and healthy weight according to BMI, were recruited to a natural history protocol. After an overnight fast, blood was collected and individuals were asked to drink a 100 ml intestinal permeability test solution composed of lactulose, mannitol, sucralose, and sucrose. Individuals were then monitored for the next 5 hours during which all urine was collected and the GIPP was administered at set time points. This analysis specifically focuses on individuals who reported pain on the GIPP within an hour of drinking the test solution.

Results: Of the overall sample (N=77) 22 patients reported abdominal discomfort on the GIPP within one hour of ingesting test solution. Almost 70% of patients with a prior history of chronic abdominal pain (n=25) had abdominal discomfort induced by the intestinal permeability test solution. Patients with a prior history of chronic abdominal pain were almost 20x (Exp (B) 19.98, $p<.001$) more likely to have symptoms of abdominal discomfort, as evidenced by the GIPP, in response to the intestinal permeability test solution.

Conclusions: This study demonstrates that the IP test solution induced abdominal discomfort in patients with a prior history of chronic abdominal pain. Furthermore, the novel computerized assessment tool (GIPP) was able to capture this patient entered data in real time. The GIPP may have future application in discriminating differing patient pain profiles with ease of long term collection of both subjective and objective (physiological) patient related outcomes.

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CARING FOR OLDER ADULTS: RESEARCH AND PRACTICE

TRANSITIONS OF PARENTS CARING FOR ADULT CHILDREN WITH INTELLECTUAL DISABILITIES

Alison Eldredge

MOBILITY LIMITATION IN COMMUNITY-DWELLING OLDER ADULTS: A SYSTEMATIC REVIEW

Jane Chung, George Demiris, Hilaire J. Thompson

EFFECTIVE GERIATRIC PAIN EDUCATION PROGRAM FOR NURSING HOME STAFFS: EVIDENCE-BASED PRACTICE

Youngmi Kim, Joseph F. Burkard, Jeffery Howell

RECRUITING AFRICAN AMERICAN CAREGIVERS OF OLDER ADULTS FOR RESEARCH STUDIES

Ebere Ume, Bronwynne Evans

OPTIMIZING WELL-BEING IN CAREGIVERS OF A SPOUSE WITH DEMENTIA

Kathy A. Ward, Nelma Shearer

NURSING PERSPECTIVES ON CARING FOR OLDER ADULTS WITH DEMENTIA IN THE ACUTE CARE SETTING

Karen Tetz, Verlene Meyer, Scott Tetz

RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND DEPRESSION IN OLD ADULTS

Heeyoung Lee, Jung-Ah Lee, Elizabeth Rush, Christina Jolley

TRANSITION CARE FOR OLDER ADULTS WITH HIP FRACTURE TO PREVENT VENOUS THROMBOEMBOLISM

Jung-Ah Lee, Diane Drake, Jill Donaldson, Vincent Kennedy

BLACK FAMILY CAREGIVER MANAGEMENT OF BEHAVIORAL SYMPTOMS IN DEMENTIA

Allison Lindauer, Theresa Harvath, S. Basilia Basin

DEVELOPING A CARE MANAGEMENT PLAN FOR AGING IN PLACE IN RURAL COMMUNITIES

Jennifer B. Averill

THE MSU CAM HEALTH LITERACY SCALE

Jean Shreffler-Grant, Elizabeth Nichols, Clarann Weinert, Bette Ide

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Transitions of Parents Caring for Adult Children with Intellectual Disabilities

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Purpose: The purpose of this study is to describe the transitions and health trajectories of aging parents caring for adult children with intellectual disabilities (IDs).

Background: The number of people with IDs is increasing because of greater life expectancies. Nationally, great concern exists regarding the health disparities among this vulnerable population. Parents are essential to eliminating the health disparities because of the key roles they play in the lives of their children. One method to support parents in their ongoing caregiving role is to help them optimize their own health. Health trajectories can act as a guide to show patterns of health over time, allowing for a broader view of parental health. Very little is known about the transitions and health trajectories of parents of adult children with IDs.

Methods: This narrative and life history study will use in-depth interviews and lifelines to elicit stories about raising children with IDs. In-depth interviews will be used to explore the experience of raising a child with an ID. Lifelines, drawn by participants, will depict critical events and transitions in their lives. A purposeful sample of 3-5 parental dyads will be selected for the study. All participating parents will be caring for their own adult children with mild to moderate IDs between the ages of 18-40, and all adult children with IDs will live at home with their parents. Parents will first be recruited from a previous study with parents of adult children with IDs. Then, depending on initial interviews, additional participants may be recruited from other sources using snowball sampling. Narrative analysis will be used to create cohesive stories about parents' experiences where transitions can be examined. After analyzing the stories individually, the stories will be compared among dyads, fathers, mothers, and as a whole group.

Anticipated Results: A basic description of the unique and complex transitions of parents of adult children with IDs will be produced. Depending on the data, the final product of analysis may be portrayed as one or two stories that explain how parents transition or a series of smaller transition stories. Ultimately, a new model explaining the transition process could be created or an existing one modified.

Implications: This study will improve scientific understanding of transitions and health trajectories among parents of adult children with IDs. With a greater capacity to describe, anticipate, and respond to transitions, professionals may create timely and appropriate interventions to better support parents through the transitions they encounter over a lifetime. Policies may be created to give parents more support as they care for their children and are called on to assist in the elimination of health disparities among this population.

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CARING FOR OLDER ADULTS: RESEARCH AND PRACTICE

Mobility Limitation in Community-Dwelling Older Adults: A Systematic Review

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Aim: The aim of this study was to systematically review the literature to identify mobility assessment tools for community-dwelling older adults and to synthesize the evidence on risk factors for mobility limitation and its impact on health.

Rationale: Mobility is defined as the ability to move independently from one location to another. Mobility limitation makes it difficult for older adults to be involved in their activities of daily living as well as reduces social participation. A number of studies have shown that decline in mobility is a main cause of physical disability, and ultimately lead to loss of independence, institutionalization, and death. In this context, identifying assessment tools based on a variety of conceptual definition of mobility and reviewing evidence on risk factors and health outcomes of mobility limitation in elderly can provide an opportunity for interventions that will prevent adverse consequences and promote healthy aging.

Methods: A systematic search of PubMed database (1980-June 2011) was conducted using keywords: "mobility limitation" or "difficulty in ambulation" combined with terms of assessment on community-dwelling older adults 65 years and older. Only articles written in English were included. Articles were included if the study defined mobility, described instruments or interventions associated with mobility for older adults, or described analysis of data sets that explored how mobility correlates to other parameters or outcomes. The selection of papers was performed independently by two reviewers.

Results: Over 700 abstracts were identified from the initial search. After reviewing the title and abstract, 188 abstracts were considered for full-text review. Following full text review, a total of 130 articles remained. 66 were longitudinal studies, 54 were cross-sectional studies, 9 were experimental design studies, and 1 was case-control study. Mobility was measured by either instruments that focus on self-reported difficulty in walking or climbing stairs, or performance-based measurements on physical function related to balance, chair stand, gait speed, or muscle strength. Several measures have been tested for reliability and validity. Because of the lack of consistency in instruments, it is not possible to compare outcomes across interventions. Determinants of mobility limitation included fear of moving, obesity, and a decline in physical function and physical activity. Mobility limitation was consistently associated with falls or frailty, physical inactivity, restricted involvement in daily activities, use of assistive devices, institutionalization, and higher mortality rate.

Implications: Given the lack of consistency in assessment tools for mobility, standardization of instrument is necessary for comparison across studies and for future comparative effectiveness research.

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Effective Geriatric Pain Education Program for Nursing Home Staffs: Evidence-Based Practice

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Background: Pain can cause immobility and depression of the elderly patients. Many studies on pain show that among the elderly, pain is the most common symptoms of diseases and the most frequent complaint expressed to health providers. Pain among the elderly persons living in nursing homes is a major problem that increases lengths of stay while decreasing social activities and quality of life. Pain is common among nursing home residents, although it is often underreported, under assessed, and undertreated. Also, a number of studies have indicated that knowledge deficits and inadequate pain assessment are the most important barriers for health care professionals in implementing pain management. Many of results from studies reveal that many nurses lack pain management knowledge. In nursing home, 60% of residents complained of mild to severe pain but only 20 to 30% of patients had pain medications provided by nursing staff.

Aim/Purpose of Project: Pain control is one of the most challenging tasks that the clinician faces when providing care for patient. The pain experience can be seen as a dynamic process that includes the perception of pain, the evaluation of pain, and responses to pain. Effective pain management has been one of the major tasks to improve patient's quality of life in the nursing home setting. The Purpose of the program is to develop, implement, and evaluate the impact of a Geriatric Pain Education Program for nurses in a nursing home setting for elderly patients.

Design and Methods: The study uses a quasi-experimental pre and post design. The program will be conducted in a 250 bed nursing home in Southern California. The program participants are nursing staffs, LVN, RNs in long term care facility. Evaluation of this program is based upon changes in the organizational structures in place to support pain assessment, participants' knowledge, and patient's pain experiences. The "Knowledge and Attitude Survey Regarding Pain (KASRP)," developed by Ferrell et al will be used to assess pain. The KASRP is a 38 items questionnaire that assesses nurses' knowledge and attitude toward pain. Descriptive statistics will be use to describe nurses' demographics data. Chi-squared analyses will be conduct for categorical variables. After the intervention, the paired *t*-tests will be conduct to test the difference in mean scores on KASRP survey.

Results: Data analysis is in progress.

Conclusions and Implications: This pain education program is developed for licensed nurses (RN and LVN), but it will need to be developed for CNAs (Certified Nursing Assistants) education program for their knowledge level. This project will lead to improvement in pain documentation and pain management in the geriatric nursing home patient. It will be necessary in the future to survey the long term impact on pain practice in both groups.

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Recruiting African American Caregivers of Older Adults for Research Studies

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Purposes: The purpose of this presentation is to explore the challenges and effective strategies for recruitment of African American (AA) post-caregivers to participate in research studies.

Background: There are over 40 million older adults (65 years and older) in the US. Most of them rely on their family caregivers for 80% of their care, yet we know little about the post-caregiving transition in either Anglos or African American (AA) families. Using Meleis' Transitions Theory as a conceptual framework, we explored the post-caregiving transition in AAs. During this exploration, we confronted recruitment challenges as we worked to gain access and establish trust with willing, qualified AA participants. Recruitment of such minorities to research studies is often an arduous task because they often distrust researchers due to historical and ethical research concerns, e.g., the Tuskegee Syphilis Study.

Methods: We designed two mixed methods studies with African American (AA) post-caregivers whose elderly loved ones died within the last 10 years. The preliminary study used a focus group for data collection and the second study utilized individual semi-structured interviews of post-caregivers, along with Social Support, Brief Cope, and CES-D. Effective recruitment strategies identified during the course of these studies included: Providing an AA researcher/cultural broker as the main contact for recruitment and data collection purposes; creating close positive working relationships with church leaders at local AA churches; cultivating personal or word-of-mouth contacts; and establishing positive relationships with various local businesses (such as hair dressers) and community organizations.

Outcomes: We have been successful in two on-going research studies in meeting and sometimes surpassing our recruitment goals with AA population. For the focus group, we expected 4-6 participants and recruited 12 in one night. For the individual interviews, we were able to recruit 31 of our needed 40 participants within a 2-week period.

Conclusions: Research studies with ethnic minorities must respect the cultural disposition of the group and include culturally and linguistically congruent investigators, who are either active in the community itself or closely allied with community leaders.

CARING FOR OLDER ADULTS: RESEARCH AND PRACTICE

Optimizing Well-Being in Caregivers of a Spouse with Dementia

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Purpose: The purpose of the project is to test the theory-based Health Empowerment Intervention (HEI) with older caregivers of a spouse with dementia with the intent of assessing intervention feasibility and evaluating the impact of the HEI on theoretical mediators of health empowerment, purposeful participation in goal attainment, and the health outcome of well-being.

Rationale/Conceptual Basis/Background: An ever increasing number of older couples are faced with the situation of a changing relationship that is evolving into one of caregiving and care receiving. Older caregivers, caring for a spouse with dementia outside an institutional or clinical setting, may be isolated or marginalized within the community. As a result, these individuals in a spousal caregiving role frequently experience physical, psychological, and economic impacts on their individual well-being.

Methods: The study will employ a 2 (group) X 3 (occasions of measurement) randomized controlled design. Participants will be 55 years of age and older, male and female, providing primary care for a spouse with dementia, and residing in various parish communities in a southwestern metropolitan area. A network sampling method will be used to intentionally include specific attributes among the selected participants. Participants will be randomly assigned to either the intervention group or comparison group. The intervention group will receive six consecutive group sessions following a standardized format designed to facilitate recognition of personal resources, social contextual resources, and the identification of desired health goals and the approach to attain these goals. The control group will attend six group sessions focusing on health and safety issues relevant to older adults.

Results: Data will be analyzed using a two-sample group, repeated-measures analyses of variance (ANOVAs) designed to examine the effects of HEI on health empowerment, purposeful participation in attaining health goals, and perceived well-being.

Implications: Nurses practicing from a health empowerment viewpoint integrate approaches that promote awareness of and access to personal and social-contextual resources. Nursing actions assist older adults with understanding of and engagement with those resources to purposefully participate in working toward attainment of health goals.

Nursing Perspectives on Caring for Older Adults with Dementia in the Acute Care Setting

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Background: An estimated 5.1 million older Americans have Alzheimer's disease or a related dementia (Alzheimer's Association, 2010). Many of these older adults will be hospitalized, and receive care in the acute care setting. Acute care nurses often find caring for these patients difficult because the acute care setting is focused on treating illness and is not set up to meet the needs of patients with dementia. There is reason to believe that nurses in the acute care setting vary in their level of skill in providing care for these patients (Cowdell, 2010).

Purpose: The purpose of our study is to explore nurses' experience of caring for patients with dementia in the acute hospital setting and to better understand how they gain knowledge and skill in providing care.

Methods: We have conducted semi-structured, tape recorded interviews with six staff nurses (with six more interviews planned) who work on the medical surgical units of a mid-sized metropolitan medical center. Nurses were asked to share their experiences in caring for older adults with dementia, to describe barriers to providing care, and strategies they found most effective. They were also asked about how and where they had learned about caring for older adults with dementia, what additional information they would find helpful in providing this care, and how that information could best be made available to them.

Results: Themes identified during preliminary content analysis of the transcribed interviews include: Hospital environment not set up for patients with dementia, Unfamiliar environment and new routines, Patient safety, Working with family to provide care, Modifying nursing interventions, and Learning to care for patients with dementia.

Implications: Understanding nurses' experience of caring for patients with dementia in the acute care setting may increase understanding of the barriers they face in providing care and the strategies that are effective. In addition, understanding how to make new information most accessible and applicable for nurses will inform future educational programs with the goal of improving care for patients with dementia.

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Relationship between Physical Activity and Depression in Old Adults

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Purpose: The current study has two overarching goals to assessing a) protective effects of physical activity on depression in a nationally representative sample of older adults (age ≥ 60) and 2) demographic factors that may be associated with Physical Activity (PA) and depression in this population.

Background: Depression affects 1-5% of older adults and can lead to multiple negative consequences including impaired psychosocial functioning, higher morbidity and mortality, and increased risk of disease such as cardiovascular disease. Recent research suggests that PA is related to fewer depressive symptoms. It is important to explore levels of physical activity and their associations with depression in older adult populations specifically in order to assess the importance of incorporating physical activity into intervention strategies.

Methods: A total of 810 older adults (age 60+, M=70.37) were used from the US National Health and Nutrition Examination Survey (NHANES) 2005-2006. Participants were approximately 55% female and largely Caucasian (86.34%). Depression was measured by the Patient Health Questionnaire (PHQ). PA was defined utilizing steps taken per day as measured by an accelerometer ActiGraph AM-7164 worn by participants for 7 days. Binary logistic regressions were used to analyze the data accounting for the complex sample design and sample weights of the NHANES data.

Results: The average of PA was 7759.12 (SD=204.23) steps/day. 48.16% of the sample was classified as active/highly active (≥7500 steps/day), 27.69% as low activity (5000-7499steps/day), and 24.15 as sedentary (<5000 steps/day). The mean score of depression was 2.24 (SD=0.22). Active/highly active PA predicted fewer depressive symptoms (OR=0.32, p <.05) relative to sedentary PA, when controlling for the other demographic variables. Taking psychotropic medications (OR=2.74, p <.05), presence of chronic medical conditions (OR=6.37, p <.01), and low annual house income (<$45,000; OR=4.77, p <.05) were also significantly associated with moderate depressive symptoms. Age (OR=1.11, p <.001), being female (OR=1.37, p <.001), taking psychotropic medications (OR=1.50, p <.05), presence of chronic medical conditions (OR=1.92, p<.05), and low annual house income (OR=1.79, p<.05) were significantly associated with sedentary PA.

Implications: Mental health clinicians should consider regular PA as an essential component of psychosocial interventions for the elderly with depression. The evident associations of chronic medical conditions, psychotropic medication use, and income with both depression and PA have research and clinical implications for designing and providing interventions for elderly individuals.

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Transition Care for Older Adults with Hip Fracture to Prevent Venous Thromboembolism

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Background: Venous thromboembolism (VTE), manifesting in deep vein thrombosis (DVT) and pulmonary embolism (PE), is a major health care concern in the United States (US). The risk of VTE is highest in patients undergoing major surgery, particularly hip fracture surgery. Approximately 350,000 hip fractures occur in US annually. The mortality associated with hip fracture is notably high at 4-6% during hospitalization and dramatically increases at 1 year after discharge at14-36 %. Patients aged 65 years or older with hip fractures have the highest risk of VTE. While transitioning from acute healthcare settings to the community, elderly patients with hip fractures are especially vulnerable to undesirable outcomes due to fragmentation of services.

Purpose: The purpose of the study is to evaluate informational needs of older hospitalized adults with hip fractures and their family caregivers.

Methods: Older adults (≥65 years old) who received non-elective hip fracture surgery at a community hospital and their caregivers were asked to participate in the study. Inclusion criteria for this convenience sample were the ability to communicate in English, alert and oriented, and able to communicate by telephone. On the day of hospital discharge, participants answered questions regarding VTE risk, symptoms, anticoagulation, satisfaction with their care and educational information, and perceived needs for care after discharge. Participant medical records were also reviewed to identify underlying medical conditions, risk factors for VTE, and treatment during their hospitalization. Follow-up phone calls were conducted one month after discharge to identify adherence to anticoagulation therapy, functional assessment, and general medical conditions.

Results: The mean age was 79 years old (SD± 9) of 19 patient participants (14 females, 5 males). The majority had completed high school or higher education. Falling was the most common reason for hip fracture in this study population. Approximately 40% had cancer. Most patient participants had heard about DVT/PE (74%/95% patients, 82%/91% caregivers). Most participants (79%) were aware that immobility was a risk factor. However, the participants had limited knowledge about signs and symptoms of DVT/PE. Participants were satisfied with their daily injections/oral medication but less satisfied with the information they received about side effects from their medication. The overall satisfaction of care and education was 73% among patients and 69% among caregivers. All patient participants received both pharmacological and mechanical treatment to prevent VTE during hospitalization. More than half of the patients planned to stay in a skilled nursing home for additional care after hospital discharge. Data collection is ongoing and more findings will be presented at the conference.

Conclusions/Implications: The preliminary findings indicate that participants needed more education about the prevention of VTE in the transition period. Focused discharge education including during transition care should be considered in the development of a hip fracture program for older adults.

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Black Family Caregiver Management of Behavioral Symptoms in Dementia

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Purpose: The purpose of this study is to identify the strategies Black family caregivers used to manage their care-recipients' behavioral symptoms of dementia. This is a secondary analysis of interviews with Black family caregivers. Earlier research (by one of the authors) on strategies used by White caregivers identified eleven typical interventions. In this secondary analysis, we expect to find that Black family caregivers employed strategies similar to those used by White family caregivers. Furthermore, we expect to identify new strategies that would help explain how Black family caregivers manage challenging behaviors in their family members with dementia.

Background: The incidence of Alzheimer's disease in the United States is rapidly growing. In lockstep with this growth is the increased demand on families to provide care to those with dementia. In order to cultivate both personal satisfaction for caregivers and successful management of the aging population in our society, it is essential to identify and use strategies that foster successful adaptation to the caregiving role. Studies on ethnic differences in caregiving suggest that that Black caregivers fare better in the caregiving role as indicated by lower depression scores and better life satisfaction than White caregivers. What can be learned from Black family caregivers about effective stress and burden management when caring for a person with dementia?

Method: 18 Black family caregivers living in Wisconsin were interviewed in the early 1990s. They were asked about how they managed the behavior symptoms of dementia in their care recipients. This current study uses latent pattern content analysis to identify patterns of intervention types used by these caregivers.

Results: Preliminary findings suggest that these Black family caregivers employed similar management techniques for managing the behavioral symptoms of dementia as White caregivers. Common approaches to managing behaviors included using "convincing" (attempts to change what the care receiver thinks), "going along" (caregiver does not try to change behavior) and "help-seeking" (employing family or formal services for help). Unique approaches used by the family caregivers in this study included "ignoring" and "risk management." Both tactics seemed to provide care-recipients the ability to engage in behaviors without constant interception on the part of the caregivers. Examples included allowing a family member to smoke a limited number of cigarettes with supervision ("risk management") and allowing a care-recipient to engage in preservative activities (e.g. repeating statements) without interference ("ignoring").

Implications: This study adds to the current understanding of how families manage behavioral symptoms of dementia. In order to address the needs of millions of caregivers of persons with dementia, effective interventions for behavioral symptoms are needed. Identifying the strategies Black family caregivers use could inform the development of interventions that foster healthy family caregiver adaptation to the caregiving role.

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Developing a Care Management Plan for Aging in Place in Rural Communities

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Purposes/Aims: Building on a previous qualitative study [1 R15 NR08217-01A2], the aims of the proposed study are to (1) define constructs and measurements for complementary quantitative analysis; (2) use combined evidence to identify and quantify disparities; and (3) establish and test a pilot program of services to ameliorate disparities for community-dwelling multicultural elders. The purpose of the proposal is to design and implement a program for improving access/acceptance of upstreamed discussion of advanced care planning in a population of elders facing potential compromise of function in the coming years.

Rationale/Conceptual Basis/Background: Rural elders often face inadequate access to health care resources, marginal ability to navigate the complexities of the managed care system, food insecurity, and further barriers related to history, culture, language, health literacy, geographic isolation, weather, and traditional norms. Multicultural elders living near the US–Mexican border suffer disproportionate morbidity and mortality related to geography, economics, cultural marginalization, and social isolation. Despite these barriers and inequities, elders with function-compromising diagnoses face the same eventual need for advanced care planning as any other vulnerable geriatric population. The theoretical background for this project draws strongly from Community-Based Participatory Research (CBPR), particularly the sequence formulated by Stringer, of *Looking*, *Thinking*, and *Acting*.

Methods: The overall research design for the study is a simple *Concurrent Embedded Design*, driven conceptually by *quantitative* elements, supported by an embedded *qualitative* component. This design is also referred to as a QUAN-qual project, reflecting the relative drive and prominence of both approaches. The mixed methods design involves a brief demographic questionnaire, quantitative and psychometric measurements, and ecological momentary assessment (EMA), along with critical ethnographic techniques, all in the context of community based participatory research (CBPR). Data analysis will include statistical and slope parameter calculations, EMA data summaries and frequencies, qualitative critical reflection, thematic analysis, and matrix analysis.

Significance: There are few effective, efficient programs for late life care/symptom management and community-based palliative care in rural settings. The knowledge base for this increasingly important content area is evolving, and this innovative mixed methods project may be able to contribute favorably to its development, given the increase in older adults as part of our population. If successful, this project will lead to improved assessment and self-management, better outcomes for elders wishing to age in place at home in rural America, and lower care costs to the health care system.

CARING FOR OLDER ADULTS: RESEARCH AND PRACTICE

The MSU CAM Health Literacy Scale

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Purpose: The purpose of this poster is to summarize the research of an inter-institutional team of nurse investigators from their initial work exploring the use of CAM amongst elderly rural dwellers to the development of a model of CAM health literacy and a scale to measure CAM health literacy.

Background: In an era of increased expectations for consumer involvement in decision making about health care choices, health literacy is both important and complex. The expanded availability and use of complementary and alternative therapies (CAM) adds to this complexity, as consumers usually have some assistance from providers to interpret information about allopathic care but this is less likely with CAM. CAM therapies are often self prescribed or self directed in nature and are less regulated or controlled by governmental agencies or health care providers. Current measures of health literacy focus on reading and computational skills. There are no published measures of health literacy in a CAM context.

Methods: The team's work was initiated with several studies on the use and availability of CAM. From these early studies it was evident that many users did not understand why they were taking particular herbal products or the potential risks and benefits of the product. The need for an instrument to measure health literacy in the CAM context became apparent, a definition of CAM health literacy developed, and a conceptual model constructed. Using DeVellis[1] process for tool development, the team generated items based upon the key concepts and empirical indicators of the model. The model and the items were subjected to review by experts in CAM and tool development and subsequent modification made as appropriate. The modified tool was reviewed by focus groups of senior citizens and providers. Reviews from these groups resulted in additional modification of the items and the scoring schema.

Results: The research team has a pool of items that have been carefully reviewed and are now ready for the next step in tool construction: administration to a development sample and validation against existing health literacy tools.

Implications: A psychometrically sound measure of CAM health literacy will be available for use by this research team and others in future research or clinical work. Our ultimate goal is to promote and improve health literacy about CAM.

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[1] R. R. DeVellis (2003). Scale development. Theory and applications. (2nd ed.) Thousand Oaks: Sage.

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CHILDHOOD OBESITY RESEARCH

COMPARISON OF PATTERNS OF FATIGUE BY CHILDREN WITH CANCER AND THEIR PARENTS

Lauri A. Linder

BARRIERS TO TREATMENT AND PREVENTION OF CHILDHOOD OBESITY IN RURAL PRIMARY CARE

Nancy Findholt, Melinda Davis, Yvonne Michael

WE CAN! IMPROVE FAMILY HEALTH HABITS

Hannah Weiss, Kaitlin Brasier, Kathy S. James

WE CAN! BE A HEALTHY FAMILY: A CHILDHOOD OBESITY PREVENTION PILOT PROGRAM

Kaitlin Brasier, Hannah Weiss, Kathy S. James

REDUCING CHILDHOOD OBESITY AMONG WIC RECIPIENTS

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KIDS USING TECHNOLOGY TO TEACH KIDS HEALTHIER EATING BEHAVIORS

Julie Bass Kaplan

PROMOTING HEALTH THROUGH FOOD: TOWARDS AN INTEGRATED HEALTH OUTREACH FRAMEWORK

Kala Mayer

A PARENT-DIRECTED PORTION EDUCATION INTERVENTION FOR YOUNG CHILDREN

Leigh Small, Darya Bonds-McClain, Linda Vaughn, Alex Gannon, Sharon Thompson

Comparison of Patterns of Fatigue by Children with Cancer and Their Parents

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Purpose: This study compared patterns of fatigue among school-age children with cancer as reported by children and their parents during an inpatient admission for chemotherapy.

Background: Fatigue is the most frequently reported symptom by children and adolescents with cancer. Perceptions of fatigue are influenced by children's developmental stage with school-age children more likely to conceptualize fatigue as a sense of weakness or being tired that interferes with the child's ability to engage in day-to-day activities.

Methods: The setting for this exploratory, descriptive, multiple-case study was an inpatient pediatric oncology unit in a tertiary pediatric hospital in the Intermountain West. Participants were 15 school-age children (mean = 8.8 years; SD = 2.3) with cancer who were receiving inpatient chemotherapy for three days or longer. Fatigue was assessed daily, beginning with the day of admission, using the Fatigue Scale: Child Version (FSC) which assesses children's perceived fatigue intensity and the Fatigue Scale: Parent Version (FSP), which assesses parents' perception of their child's fatigue intensity as well as perceived sources of their child's fatigue. Hematocrit levels were identified at the time of admission.

Nonparametric statistics evaluated correlations between child- and parent-reported fatigue and within-subjects differences between fatigue scores during the study period. Graphical analyses evaluated individual patterns of fatigue across the hospitalization.

Results: Children's self-reported fatigue scores were greater than those previously reported among hospitalized children with cancer and were indicative of high levels of fatigue. Children's self-reported fatigue intensity on the day of admission was not correlated with hemocrit levels; however, a moderate negative correlation was present between children's admission hematocrit levels and parents' reports of children's fatigue intensity ($\rho = -.57$; $p < .05$). Children's reported fatigue intensity was positively correlated with parents' perception of the child's fatigue intensity ($\rho = .58$; $p < .01$) and the parents' perceived sources of the child's fatigue ($\rho = .31$; $p < .05$).

Within-subjects differences were not present based on child- or parent-reported fatigue scores. Graphical analyses of children's fatigue scores revealed four patterns: 1) initial increase in fatigue followed by a decrease below baseline level, 2) moderate fatigue with minimal variation, 3) steady increase in fatigue with increased variability, and 4) gradual decline in fatigue. Graphical analyses of parents' reports of the child's fatigue revealed three patterns: 1) increasing fatigue scores, 2) a steep increase followed by a decrease, and 3) initial elevation followed by a decrease.

Implications: Findings highlight the importance of using developmentally appropriate self-report measures for children as well as challenges when using parent proxy reporting of subjective symptoms such as fatigue. Although parents' perceptions of children's fatigue may be more closely related to trends in clinical measures, such as hematocrit, children's perceptions may not. Children's perceptions of changes in symptoms also may differ from their parents'. Clinicians need to recognize the importance of seeking children's self report of their symptoms, especially when assessing more subjectively experienced symptoms.

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CHILDHOOD OBESITY RESEARCH

Barriers to Treatment and Prevention of Childhood Obesity in Rural Primary Care

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Purpose: The purpose of this study was to explore the practices and perceived barriers, resources, and training needs of rural primary care providers as these pertain to prevention, assessment, and treatment of childhood obesity.

Background: Childhood obesity is a significant health concern that disproportionately affects rural populations. Visits to the health care provider offer a key opportunity for identification and treatment of obesity, and for education and counseling concerning nutrition and physical activity. Yet, despite the existence of clinical guidelines addressing childhood obesity, these have not been consistently translated into practice. While some barriers to prevention and management of childhood obesity within primary care have been identified, barriers encountered by rural clinicians have not been explored.

Methods: Semi-structured interviews were conducted with 13 clinicians (6 physicians, 5 nurse practitioners, and 2 physician assistants), from a total of 35 employed in a pediatric or family practice in a three-county region in rural Oregon. Interview transcripts were analyzed by two investigators using a modified version of focused coding and grounded theory methods.

Results: The majority of clinicians routinely assessed for obesity in pediatric patients. However, efforts to prevent or treat obesity were limited by time constraints, lack of reimbursement, inadequate patient education materials, lack of parent motivation, the sensitivity of the issue, and clinicians' self-perceived low proficiency in diet counseling and behavior management. Despite these barriers, clinicians viewed primary care as the "first and last stop" for addressing childhood obesity in these rural counties, where specialists and tertiary weight management centers were inaccessible to much of the population due to distance, low family income, and/or lack of health insurance.

Implications: Primary care providers have an essential role to play in preventing and treating childhood obesity within rural communities, where other resources for addressing obesity are often non-existent. Training; clinical aids, such as checklists for assessing diet and readiness to change; and high quality patient education materials are needed to assist clinicians with this responsibility. Internet or written formats for clinician training are preferred over conferences which usually require considerable travel. Additionally, alternative approaches, such as employing nurses with expertise in child nutrition and motivational interviewing to lead support groups and counsel families, could be a feasible and cost-effective way to improve the management of childhood obesity within rural primary care.

Funding: This research was funded by a grant from the Betty Gray Rural Health Development Award Program at Oregon Health & Science University School of Nursing.

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We Can! Improve Family Health Habits

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Background: Unhealthy weight in childhood leads to immediate and future health complications causing devastating physical and mental illness, and an undeniable health crisis. According to the most recent National Health and Nutrition Examination Survey (NHANES), 16.9% of U.S. children ages 2 – 19 years are obese, and a startling 31.7% of children are overweight (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). Children are now developing illnesses that were only seen in adults' generations ago, shortening life expectancy by 2 to 5 years compared to the prior generation (Ludwig, 2007). Parents play a critical role in promoting obesity-preventing health habits and setting a foundation for lifelong healthy behaviors. To address childhood obesity, The National Institutes of Health developed the *WE CAN! Energize Our Families: Parent Program* to teach parents how to help their family improve eating habits and activity levels.

Aim/Purpose of the Project: The purpose of this project is to reduce obesity promoting behaviors of families with young children by focusing on parents as role models in order to encourage a foundation for lifelong healthy behavioral habits, thus protecting against obesity and related illnesses in the child's lifetime. The program uses the *WE CAN!* curriculum as a childhood obesity primary prevention pilot project addressing contributing risk factors, including knowledge, attitudes and behaviors of parents. The program educates parents on healthy weight, energy balance, food choices, portion sizes, physical activity, and screen time.

Design and Methods: This study will use a stratified pre-test/post test design. Forty parents of children ages 2-5 years old will be recruited from a physician group database in southern California. Twenty participants will be self-selected from offices located geographically in areas with lower socioeconomic class prevalence, and twenty participants will be self selected from offices geographically located in areas of higher socioeconomic class level. Six weekly sessions lasting 90-120 minutes will be implemented. Interactive activities and discussions will be used to assist families in developing problem-solving skills to overcome barriers to attaining healthy family habits. Participants will complete the Family Nutrition and Physical Activity (FNPA) questionnaire measuring behaviors linked to childhood obesity. The results will be analyzed using a paired t-test to examine change in behaviors as a result of the program, and an independent t-test will be run to compare program effects on the two SES groups.

Results: Data analysis is in progress. Anticipated results are that participants will report adopting behavioral habits that decrease their child's obesity risks shown by an improved score after the intervention.

Conclusions and Implications: Families who participate and complete the childhood obesity prevention program will hopefully report incorporating improved family behavioral health habits.

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CHILDHOOD OBESITY RESEARCH

We Can! Be a Healthy Family: A Childhood Obesity Prevention Pilot Program

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Background: Childhood obesity puts individuals at risk for significant health problems for the rest of their lives. Multiple origins of childhood obesity have been identified from diverse biological and environmental factors. The Institute of Medicine has recommended an ecological model for public health interventions, in which the individual is viewed within the larger context of family, community and society (Erickson, 2005). *WE CAN!* is a collaborative public outreach program developed by the National Institutes of Health to give parents, caregivers, and entire communities a way to help children stay at a healthy weight (NHLBI, 2007).

Aim/Purpose of the Project: This evidence-based project will investigate the effectiveness of the *WE CAN! Be a Healthy Family* obesity prevention pilot program, which will consist of six weekly 90-120 minute sessions that will be implemented in two groups. The program is based on Ways to Enhance Children's Activities and Nutrition (WE CAN) curriculum and it's aim is to prevent childhood obesity by educating parents/ care givers about risk factors and health consequences of child overweight and obesity, portion size, nutrition, energy balance, and healthy lifestyle habits.

Design and Methods: Forty parents of children 2-5 years of age will be recruited from a physician group database in southern California and will self-select to participate in the program. The pilot project will be implemented in two different geographic and socioeconomic locations in order to gain more data on generalizability of findings and to obtain a larger population. This quasi-experimental study will utilize quantitative data. Data collection measures included the Parent Perceptions of Child Appearance and Health Scale, a self-administered survey to evaluate parental opinions, perceptions and health behavior intentions before and after a pilot program; and *WE CAN!* curriculum-based quizzes to measure health and nutrition knowledge. The pre and post results will be analyzed using a paired t-test to compare knowledge, perception and behaviors before and after the intervention. Also, the relationship between knowledge gained and increased favorable health perceptions will be examined using a stratified pre-test/post-test design.

Results: Data analysis is in progress. It is anticipated that participants will show increased scores on Parent Perceptions of Child Appearance and Health survey and *WE CAN!* surveys. It is also hypothesized that there will be a correlation between knowledge gained and positive perceptions of control over family lifestyle habits that affect obesity risk.

Conclusions and Implications: It is anticipated that families who participate in the *WE CAN! Be a Healthy Family* pilot program will report improved knowledge of healthy weight, nutritional choices, physical activity levels and screen time for children based on recommendations from the *WE CAN!* curriculum. Increased health knowledge and ownership may contribute to improved lifestyle habits and potentially lower the risk factors associated with childhood obesity.

CHILDHOOD OBESITY RESEARCH

Reducing Childhood Obesity among WIC Recipients

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Purposes/Aims: The purpose of this R21 study is to determine the impact of an intervention delivered in neighborhood Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinics on childhood obesity (BMI> 95 percent for age and sex) in 2-4 year old children.

Conceptual Framework: The study is based on the Ecological Model of Growth, which views obesity as resulting from interactions from the food the child eats, the child's activity level, the interaction between the child and family members, and the child's home environment. The variables of dietary intake, food availability, child's hours of screen time, stimulation in home, parental feeding style, acculturation of the parents, and the safety of the neighborhood environment were all examined for their influence on child's BMI after the 6 month intervention.

Methods: The subjects were obtained from WIC waiting rooms, consented, and then randomly assigned to receive the intervention or standard WIC nutrition education. The sample size was planned to be 100 but due to natural disasters, the final sample size was 55 (control 33, intervention 22). The intervention was delivered in a series of 6 classes at the WIC clinics when the mothers of the children in the study were present for nutrition education or to pick up their food vouchers. The classes covered the following content: reading food labels, identifying appropriate types and amounts of food for preschooler, feeding picky eaters, basics of temperament, showing affection other than through food, ways to cook healthier food, how to be active when staying indoors, limiting screen time to 1 hour, appropriate ways to discipline preschoolers, and the importance of regular meal times and eating as a family. The children were weighed and measured for length every six months for 1 year to determine their BMI (baseline, at the completion of the intervention, and six months after the completion of the intervention).

Results: Data are being analyzed at this time. Results will be presented at the conference.

Implications: Childhood obesity is increasing in prevalence and severity. It is vital to access families of young children to help them with correct nutrition and parenting information so they can help their children avoid continuing to be obese as they become older children. When nurses work with families through common nutritional programs like WIC, they can have a strong impact on the future health of children in the nation.

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CHILDHOOD OBESITY RESEARCH

Kids Using Technology to Teach Kids Healthier Eating Behaviors

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One in three children, aged twelve to nineteen, are overweight in the United States (Rossen & Rossen, 2011). Overweight children have an eighty percent chance of remaining overweight for their entire lives (American Heart Association, 2011). Obesity is causing many physical health problems in children that previously were not observed until adulthood, including: type 2 diabetes, high blood pressure, depression, and low self-esteem (American Heart Association, 2011).

Purpose: The purpose of this project was to ask children to teach other children how to read food labels.

Rationale: Nutrition facts panels contain important nutritional information. However, nutrition facts and ingredients labels are like reading a foreign language for children. We sought to determine if they would be motivated to do so, and if children who receive information from peers will have improved eating habits. When kids learn from kids, the learning process can become more compelling and enjoyable (MacDonald, 2011).

Description: A pilot video project was developed to motivate kids to teach other kids how to read and understand nutrition facts panels and ingredients labels. Aims were to increase interest in and understanding of these labels and increase healthy eating behaviors and 2) determine whether children's eating behaviors improved after completing the video-making process and/or after watching other children's videos. Two elementary school-aged children were asked to produce a video on how to read nutrition facts panels and ingredients labels. An informative script was provided, and the children supplied their own creativity to communicate the information provided. The video was uploaded to YouTube and shared with friends and family.

Outcomes: Several important results were observed. First, the children were excited that their video recorded hundreds of views. After video production, the two children read more labels at home and in the grocery store. Both children voluntarily stopped eating foods with high-fructose corn syrup, and too much sugar. Both children reported that it was "fun" to read nutritional labels. Positive feedback from several people who viewed the YouTube video was received. Other parents whose own children viewed the video reported that their own children began paying more attention to nutritional labels and changed some eating behaviors.

Implications: The author will expand this study for Shasta County with monetary prizes awarded for the top three videos viewed. One anticipated outcome is that children will increase their knowledge of healthy eating, as measured by testing knowledge of nutritional labels before and after making their video and viewing other children's videos. Another positive outcome is that we anticipate children will develop/improve skills in video production, communication, editing, and teaching. The videos will be entered by the parents, along with the parental questionnaires to determine what, if any changes were observed with their children's reading of nutrition facts panels and eating habits.

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CHILDHOOD OBESITY RESEARCH

Promoting Health through Food: Towards an Integrated Health Outreach Framework

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Rationale: Disproportionate rates of obesity and chronic disease exist in socially isolated, food insecure and medically underserved U.S. households, highlighting the increasing importance of integrated health outreach. A *Healthy People 2020* goal is to "promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weights." The complex and dynamic nature of this goal has led the *Center for Disease Control and Prevention* to suggest a new approach to obesity prevention, requiring the pooling of strategies from disciplines to solve obesity and accompanying ill-health disparities. Nursing, as a science of methods and insights stemming from several established disciplines or traditional fields of study, is in a prime position to connect and integrate several strategies in order to solve this complex and dynamic health problem. The current challenge is to develop practice strategies that intersect across behavioral and environmental determinants of healthy body weights.

Purpose/Aims: The purpose of this paper was to synthesize the current state of science of effective behavioral and environmental-based healthy eating, social support networking and food access strategies that provide evidence for achieving and maintaining healthy body weights, food security and preventing social isolation long-term. Specific aims included: 1) identifying effective strategies that address healthy eating, food access and the development of social support networks; 2) identifying which determinants of healthy eating, food access and social support network development can be successfully manipulated to promote healthy body weights, food security and the reduction of social isolation; and 3) identifying how these determinants are successfully manipulated to produce intended outcomes.

Methods: An integrative literature review was conducted that focused on worldwide behavioral and environmental-based healthy eating, social support networking and food access strategies that provide evidence for achieving and maintaining healthy body weights, food security and/or preventing social isolation. Some of the terms and/or combination of terms used to conduct the article search included: Dietary Behavior, Social Support, Social Networks, Food Access, Strategies, Promotion and Prevention. An electronic search was performed using the following databases: PubMed, Web of Science, CINAHL Plus and Google Scholar. The grey literature was not searched. Articles were included based on exclusion and inclusion criteria.

Results and Implications: Environmental variables weaken individual strategies to achieve and maintain healthy body weights and food security, and prevent social isolation. Results indicate that healthy eating, food access and social support networks work together to protect against many diseases and promote health. Synthesizing integrated strategies from multiple disciplines provides a framework of ways forward for studying and solving obesity and accompanying ill-health disparities. A guiding framework generated from this paper can serve to advance the current body of Nursing Science related to integrated strategies to promoting health and reducing chronic disease risk through food. Results provide nurses with the knowledge and skills to improve care and achieve food-related health impacts.

CHILDHOOD OBESITY RESEARCH

A Parent-Directed Portion Education Intervention for Young Children

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Background: Portion sizes in the United States (U.S.) have greatly increased over the last 20 years, which some researchers believe is contributing to the rising prevalence of overweight/obesity in children. Despite evidence that increased portion sizes may contribute to overweight/obesity in young children, guidelines for feeding preschool children remain unclear and difficult for healthcare providers to relate to parents.

Methods: The purpose of this single-group pilot study, which used a pre-/post-test design, was to determine the effects of a parent-focused, skill-building intervention regarding child nutrition and portion sizes on parents' knowledge of healthy nutrition for preschoolers, parents' provision of food to their child, and the child's dietary intake. The information, motivation, and behavior skills model was the undergirding theoretical framework for this study in which behavior skills is the partial mediator of behavioral change. Following IRB approval, 45 participant parents were recruited and enrolled. All of the parents were mothers, 23-53 years old (M = 34.6 years, SD = 6.4); and their children were 4-6 years of age (M = 4.5 years, SD = 0.6). After completing formal consenting, baseline data gathering occurred. In addition to a demographic questionnaire, measures included a nutrition knowledge questionnaire and a photographic diet diary. The intervention consisted of the delivery of a manualized, parent-directed, hour-long individual session to discuss child nutrition information, age appropriate portion recommendations, and parents were offered portion-related skills activities to complete. Each parent was provided with a portion education plate, the Beary Healthy Plate, to assist participant parents to refine their skills regarding the provision of appropriate food portion sizes to their young children.

Results: Paired samples t tests were completed to examine the difference between macronutrients the mothers served and children consumed at pre- and post-testing. The average total daily calories mothers served significantly decreased ($t = 3.92$, $p = .00$), as did the average total daily calories the children ate ($t = 3.35$, $p = .00$) and the average amounts of fat/saturated fat, protein, and carbohydrates from pre- to post-testing. Effect sizes for each macronutrient ranged from .10 to .60, with medium effects for the total daily calories and carbohydrates served and consumed. However, no significant difference was found between pre- (M = 14.8) and post-test (M = 15.3) scores for parents' knowledge of healthy nutrition ($t = -1.12$, $p = .26$).

Conclusions: This suggests that the outcomes appreciated were most likely related to parents utilizing their portion skills and right-sizing the portions served to their preschool children. These preliminary findings warrant a full-scale, randomized control investigation.

Funding: The Center for Improving Health Outcomes in Children, Teens, and Families at Arizona State University, College of Nursing and Health Innovation.

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COLLABORATION AND INNOVATION TO IMPROVE ADVANCED PRACTICE EDUCATION

OVERVIEW: COLLABORATION AND INNOVATION TO IMPROVE ADVANCED PRACTICE EDUCATION

Basia Belza, Phyllis Christianson

RECRUITMENT STRATEGIES AND RESOURCES FOR ADVANCED PRACTICE STUDENTS

Hyeyoung Lee, Basia Belza, Phyllis Christianson

EVALUATING E-LEARNING RESOURCES FOR ADVANCED PRACTICE GERIATRIC EDUCATION

Hilaire J. Thompson, Phyllis Christianson, Janet Lenart,
Basia Belza, Huong Nguyen

DIGITAL STORYTELLING IN ADVANCED PRACTICE EDUCATION

Janet Lenart, Basia Belza, Phyllis Christianson

ACADEMIC-COMMUNITY COLLABORATION TO IMPROVE HEALTH SERVICES, TRAIN STUDENTS

Eleanor Bond, Janet Lenart, Carol McCahon, Marcia Wharton

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COLLABORATION AND INNOVATION TO IMPROVE ADVANCED PRACTICE EDUCATION

Overview: Collaboration and Innovation to Improve Advanced Practice Education

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This symposium will include highlights of several innovative initiatives of our Health Resources Services Administration (HRSA) funded training grant *Promoting Competencies of Advanced Practice Nurses in Caring for Older Adults*.

The purpose of our grant is to enhance our curriculum about geriatrics and gerontology for advance practice nurses at the University of Washington (UW) School of Nursing (SoN). Graduates are being prepared as adult-gerontology nurse practitioners and clinical nurse specialists with skills to provide care for older adults. In this symposium we provide examples of how we have addressed the following goals: 1) develop strategies and resources to enhance student recruitment and retention; 2) develop innovative educational resources; 3) locate, catalog, annotate, and publicize geriatric educational resources; and 4) expand the portfolio of clinical practicum placement and capstone project sites through innovative community partnerships.

The first presentation includes a report on student recruitment and retention initiatives. These initiatives include marketing materials, a gero-commercial to showcase opportunities for studying gerontology at our SoN, a quarterly hot topics in gerontology forum with panelists from the advance practice nursing community, a webpage on gerontological resources on the health science library website, and a training grant website.

The second presentation includes an example of an innovative teaching method we are piloting: digital storytelling. Patient experiences are an essential component of advance practice education. Stories are compelling narratives that convey emotions associated with a life experience, connect people on an emotional level, encourage collaboration around shared experiences, and can be captured digitally. We present two examples to explore the potential educational use of digital storytelling with individuals and groups.

The focus of the third presentation is on the development of an inventory of electronic learning resources for use in advanced practice geriatric nursing education. Resources have been evaluated for their educational utility based on established criteria.
The fourth presentation includes a description of the development and implementation of a self-sustaining nurse-managed health center which provides services for disadvantaged populations. This setting provides training and capstone opportunities.

Funding: Division of Nursing, Bureau of Health Professions, US DHHS #D09HP18798.

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COLLABORATION AND INNOVATION TO IMPROVE ADVANCED PRACTICE EDUCATION

Recruitment Strategies and Resources for Advanced Practice Students

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Purpose: The purpose of this presentation is to describe strategies and resources used to enhance recruitment and retention of students in an advanced practice nursing (APN) program.

Rationale/Background: Between 2000 and 2030, the population of adults aged 65 and older is projected to increase by 136% in WA, ranked 12th in the US for this change. There is an increased need for APNs to provide care to an aging population in various health care service venues; APNs must be prepared to care for older adults.

Description of the Methods: We developed, implemented, and evaluated a number of strategies. We surveyed current students to learn about needs and interests relative to gerontology. Students (n=41) wanted to learn about various clinical roles and social issues. We produced marketing materials including a laminated bookmark and pamphlets which were distributed at orientations and student forums and mailed to incoming students. We created a short commercial to showcase University of Washington (UW) School of Nursing (SoN) opportunities for studying gerontology and posted the commercial on the UW SoN homepage and YouTube. We created and offered quarterly 'Hot Topic in Gerontology' forums. Each forum highlights APNs who are working in various settings with older adults. Panel presentations are recorded and available to students. A webpage on gerontological resources was developed on UW health science library website. We utilize a Gerontology Training Grant (GTG) website on the UW SoN homepage as a repository where students can access gerontology-related resources. We also employ a student assistant from the APN program as a liaison to current and prospective students.

Project Evaluation Plan/Implications: Our student-oriented approaches in developing recruitment strategies, learning resources and support is being monitored and evaluated. We track the number of hits on the commercial, visits to the gerontology library, and attendees at the Hot Topics in Gerontology forums. We will review feedback from these resources and use the feedback for further revisions of resources.

Conclusions: We are committed to enhance curriculum and clinical experiences so students receive optimal gerontological learning experiences and are better able to care for an older population. Emphasis is placed on creating sustaining educational structures.

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COLLABORATION AND INNOVATION TO IMPROVE ADVANCED PRACTICE EDUCATION

Evaluating E-Learning Resources for Advanced Practice Geriatric Education

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The purposes of this project were to: 1) identify relevant available electronic learning resources (ELR) (e.g. web-based, CD-ROM, mobile applications) for use in enhancing geriatric advanced practice nursing education and 2) to evaluate their educational utility based on established criteria (Kleinpell et al. 2011). In order to enhance existing curricula in an efficient manner, incorporating published shared ELR resources in existing courses may be appropriate. However the challenge to nurse educators lies in identifying the most appropriate teaching tools in order to assist students in achieving competencies. We report our findings from our search to locate ELRs to assist us in enhancing our curriculum to meet Domain 5 of the new Adult-Gerontology Primary Care Nurse Practitioner Competencies, Managing and Negotiating Health Care Delivery Systems, as an exemplar. A multi-level search strategy was used. First, a literature search was performed from 2001-July 2011 using PubMed and CINAHL to identify relevant articles. Second, two available repositories POGO-e and MedEdPortal were searched. Third, websites of relevant geriatric and gerontological organizations as well as relevant advanced practice nursing organizations were searched for available ELR on their websites as well as references to ELR from other organizations. Finally, we performed a structured search using Google to identify additional sites and resources. Two independent team members reviewed the identified ELR against established criteria of authority, objectivity, authenticity, reliability, timeliness and efficiency to ensure credibility. Only resources meeting all criteria were retained as credible. Over forty resources were found that met these criteria and ranged in format including self-paced tutorials, webcasts, and interactive case studies. The topics covered ranged from health care delivery models (i.e. hospital at home) to Medicare policy and financing. The vast majority of resources were identified using strategies three and four, and not through traditional search or search of existing repositories. The resources identified have been useful to nurse educators in improving specific lecture and seminar content as well as providing students with additional self-learning resources. Within the school, a repository of identified resources is being made accessible to faculty and clinical preceptors in a searchable online format; an ongoing concern is sustainability. Efforts are underway to publicize the availability of repositories among nurse educators for the sharing of resources. This is critical for sharing of best practices among nurse educators and for sustainability of teaching and related resources.

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Digital Storytelling in Advanced Practice Education

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Purpose: The purpose of this project was to examine the potential contribution of digital storytelling to the practice of advanced practice education for care of older adults.

Rationale/Background: Patient experiences are a component of advance practice education. Listening to stories of older adults is vital for assessment and therapeutic care. Stories are compelling narratives that convey emotion associated with a life experience, connect people on an emotional level, and encourage collaboration. Stories can be captured digitally to promote affective learning and community collaboration.

Description of the Process: A two-step process was followed to give the instructor experience with creating digital stories. First, the instructor created a digital story based on the narrative of an elderly Bosnian war survivor in order to explore the potential educational use of digital storytelling with an individual interviewee. In the second step the instructor facilitated a digital storytelling experience for a board of directors of a rural Oregon clinic whose patients are primarily older adults. This step illustrated the educational opportunities created by digital storytelling when working with groups.

Outcomes: The instructor made these observations during her experience creating digital stories. During step one, due to the emotional nature of the war survivor's narrative, self-reflection was necessary. It was a challenge to listen, seeking to understand the experience and emotions of the interviewee. This is an important skill to learn. The instructor discovered her desire to learn more about the social and historical context and to hear more from the interviewee. This may reflect the tendency of affective content to engage the learner. Creating a digital story with a group revealed the following. The sense of a team was enhanced as clinic board members learned about each other's moments of pride and dreams. The optimism of 2 members was contagious. Nurse practitioners in the clinic will use digital storytelling to improve public information and fund-raising. Free software Photo Story 3 was easily learned.

Conclusions: Creating digital stories with individuals can encourage therapeutic communication skills, self-reflection, synthesis, and affective learning. Sharing digital story techniques with groups can promote team-building, enhance learning and collaboration, and improve public information and fund-raising. Digital storytelling can contribute to the practice and leadership components of advanced practice education for care of older adults. Digital stories can be used to disseminate the wisdom of older adults to enrich education. Future research on digital storytelling in advanced practice education will provide guidance on the most effective use of this approach.

Funding: Division of Nursing, Bureau of Health Professions, U.S. DHHS #D09HP18798.

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COLLABORATION AND INNOVATION TO IMPROVE ADVANCED PRACTICE EDUCATION

Academic-Community Collaboration to Improve Health Services, Train Students

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Purpose/Aims: This project, led by local health care leaders and University of Washington (UW) School of Nursing (SoN) faculty, was designed to develop and implement a self-sustaining nurse-managed health clinic (NMHC) providing: 1) interdisciplinary care services for disadvantaged populations, notably the elderly, chronically ill, and uninsured; and 2) training opportunities for nursing and other health professions students.

Rationale: Escalating care costs and diminishing Medicare/Medicaid reimbursement have spawned an environment in which providers decline to serve publically insured and uninsured patients and decline to mentor nursing students. Tooling students to address complex needs of the elderly and disadvantaged requires real-life experience. NMHCs offer potential to train students and develop and test interdisciplinary innovations.

Methods: PEHC is a nurse-managed clinic, developed and led collaboratively by local medical center (Providence) leaders and SoN faculty. It is located near low-income housing facilities who serve the elderly. Care services are provided by salaried and volunteer nurse practitioners (NPs), physicians, social workers, dentists, and lay people. PEHC has grown; currently it serves 1,200 patients monthly. The population is generally impoverished, with low levels of health literacy; 10% require translation services. Most (75%) are Medicaid- or Medicare-insured; 14% are uninsured and receive charity care. Overweight/obesity are common (50% of patients), setting the stage for chronic problems (diabetes, hypertension, reduced quality of life); mental health problems afflict more than 30% of patients. Dental health problems were unmet until PEHC leaders mobilized a network of dentists to provide care services. Mental health services are provided by primary care providers with community consultation, training, and referral support. NP students (20-30/year) complete mentored practicum rotations and undergraduate students (30-60/year) complete community nursing rotations. Nursing and public health students complete capstone and other projects. One project used the chronic care model and implemented a database (CDEMS) tracking individual and population clinical and process outcomes for diabetic patients; other capstone projects have addressed mental health prevalence, smoking cessation, and patient satisfaction. Students and staff complete cultural competence training.

Outcomes: The project has resulted in thousands of patients served, hundreds of students trained. Student and patient satisfaction is excellent. CDEMS has increased provider compliance with evidence-based care standards and improved outcomes (hemoglobin A1C) and revealed most diabetic patients do not lose weight, eat poorly, and remain sedentary. Cultural initiatives improve cultural competence. Capstones address health behaviors. PEHC is financially solvent, supported by grants, gifts, and insurance reimbursement.

Conclusions: Innovative collaborations benefit patients, faculty, and students, ultimately ensuring that students are tooled to address the challenges they will face in practice.

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COLLABORATIVE EVALUTION OF A MATERNITY SIMULATION LAB CURRICULUM

OVERVIEW: COLLABORATIVE EVALUATION OF A MATERNITY SIMULATION LAB CURRICULUM

Suzanne Sikma

UTILIZING GRADUATE STUDENTS TO ASSESS UNDERGRADUATE SIMULATION CURRICULUM

Barbara Plovie, Juvann Wolff

MATERNITY SIM LAB EVALUATION: PERCEPTIONS OF STUDENTS, FACULTY AND AGENCIES

Christine Dallenbach, Habi Diallo

MATERNITY SIM LAB EVALUATION: DEVELOPING BEST PRACTICE RECOMMENDATIONS

Jacquelyn Jinhong, Tarrah Calender, Bethany Langlais

VALIDATING GRADUATE STUDENT ASSESSMENT OF UNDERGRADUATE SIMULATION CURRICULUM

Barbara Plovie

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COLLABORATIVE EVALUTION OF A MATERNITY SIMULATION LAB CURRICULUM

Overview: Collaborative Evaluation of a Maternity Simulation Lab Curriculum

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This symposium describes approaches and outcomes of a collaborative evaluation of a BSN level maternity simulation lab curriculum. The evaluation was conducted within the context of a tri-campus university with shared CCNE accreditation. This project involved cross-campus collaboration in using graduate MN students from one campus in evaluating a pre-licensure maternity nursing simulation lab curriculum on a different campus. Graduate students involved in the process collaborated with faculty at the other campus, with community agencies and with key informant faculty from other institutions in conducting the evaluation.

The evaluation was done in the context of a graduate course on Program Planning and Evaluation as a team project. The approach to the project was an evaluation logic model (W.K. Kellogg Foundation, 2004). The purpose of the team project assignment was to create and use a logic model to evaluate a program for their client. The process involved first negotiating a charter with the client articulating project roles, goals, activities and deliverables. One of the required deliverables was a written and verbal presentation of project outcomes and recommendations to the client.

The first paper in this symposium describes the utilization of graduate students to assess an undergraduate maternity nursing simlab curriculum and is presented by the "client" in this evaluation: a maternity simulation lab faculty member. The second paper, by two MN student project team members, will focus on evaluation of the perceptions of BSN students, clinical instructors and community hospital partners related to the maternity simlab experience. The third paper, by three MN student project team members, will elaborate approaches used to develop best-practices recommendations as part of the curriculum evaluation. Finally, in the fourth paper, the simlab faculty member will describe how she further validated the student evaluation team's assessment.

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COLLABORATIVE EVALUTION OF A MATERNITY SIMULATION LAB CURRICULUM

Utilizing Graduate Students to Assess Undergraduate Simulation Curriculum

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Purpose/Aims: The purpose of this project was to optimize assessment and evaluation of an undergraduate maternity simulation curriculum. 1) Determine the quality of assessment data available, 2) Supplement assessment data as necessary, 3) Complete the assessment within the academic year, and 4) Utilize available resources.

Background: Undergraduate and graduate nursing degrees of different types are offered on three distinct campuses of a large, urban, state funded university. Each campus is administered separately and faculties do not teach on more than one campus. The simulation lab is located on the same campus where undergraduate maternity nursing is taught. The focus of this project was on the first of two 5 hour maternity labs. This lab, taught by two Teaching Assistants with faculty oversight, was conducted over the first half of the quarter. The lab was held on four Fridays, one session in morning and one session in the afternoon. The 72 students attended in groups of 8 to 10. The lab content was reflected in its title: Assessment of laboring and postpartum woman/assessment of the newborn. The students prepared for the lab by reading assigned chapters from their maternity text. At the end of the quarter, the simulation lab faculty obtained maternity simulation evaluation data. The available data included anonymous quantitative and qualitative student feedback and a one-time survey of maternity clinical faculty conducted the prior academic year. There was no process to assess the data collected.

Methods: The simulation and maternity faculty contacted the faculty on another campus and proposed that graduate students assess the maternity simulation curriculum as part of their program planning class. After the proposal was accepted, the simulation and maternity faculty met with five interested graduate students to present a project overview and requested deliverables. These deliverables included obtaining additional data from key stakeholders. The simulation and maternity faculty signed a negotiated contract of listed deliverables two weeks after the first student meeting.

Outcomes: The graduate students successfully met each project deliverable. The students conducted a complete review of the literature, evaluated the available data, and conducted interviews of key stakeholders including maternity clinical instructors, lab staff, and clinical agencies.

Conclusions and Implications: Utilizing graduate students to evaluate undergraduate simulation curriculum is a viable option on a tripartite campus. The additional data obtained from key stakeholders, data analysis, and recommendations presented by the students were not influenced by faculty directly involved in the simulation curriculum. An additional benefit included the establishment of cross campus faculty collaboration in curriculum assessment.

COLLABORATIVE EVALUTION OF A MATERNITY SIMULATION LAB CURRICULUM

Maternity Sim Lab Evaluation: Perceptions of Students, Faculty and Agencies

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Purpose/Aims: The purpose of this evaluation project was to perform a comprehensive assessment and evaluation of an undergraduate OB simulation lab curriculum. Specific aims addressed in this paper are to: 1) analyze a dataset of qualitative student feedback on the experience; 2) survey clinical instructors supervising nursing student experience in clinical agencies; 3) interview one key informant (faculty member who had been involved in both lab experience and clinical instruction); 4) interview key informants at hospital partners regarding their expectations and opinions regarding the student experience.

Background: The faculty coordinator of the OB nursing simulation lab at one campus asked the graduate students at the second campus to assess available data, gather additional data and make recommendations for improvement of the experience.

Methods: The method used was qualitative content analysis of: 1) an existing dataset of student end of quarter evaluations; 2) brief email/phone survey of clinical instructors; 3) extensive personal interview with one key faculty informant; and 4) brief telephone survey of key informants at each hospital hosting student clinical experiences.

Outcomes: Content analysis resulted in the identification of strengths and areas needing further improvement in the current OB lab simulation experience. Strengths included: a large well-equipped and staffed lab; strong, well-respected lab and clinical instructors; strong student knowledge base of maternity nursing theory; positive perceptions of the clinical sites as place to apply what was learned in the simlab; student satisfaction with the content of the lab experience. Areas needing improvement included: student/lab faculty ratios; length/composition of lab sessions; increase in amount of actual simulation time/activities; student preparation prior to lab; lack of debriefing; and continuity between theory, lab and clinical instructors.

Recommendations/Implications: Key recommendations include: addition and identification of media modules to prepare students for simulation; use of smaller group simulation of maternal and neonatal assessment skills; additional of videotaping with debriefing after simulation; integrating clinical instructors into the lab simulation experience; development of a unified skills checklist; and incorporation of hospital specific brands of equipment in the simlab so that students are familiar before entering the clinical agency. This work illustrates the importance of getting input from multiple stakeholders in the maternity clinical experience.

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COLLABORATIVE EVALUTION OF A MATERNITY SIMULATION LAB CURRICULUM

Maternity Sim Lab Evaluation: Developing Best Practice Recommendations

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Purpose/Aims: As a part of their curriculum, the majority of nursing schools require students to attend an obstetrical (OB) simulation lab. The objectives of this project were twofold: Evaluate the current OB simulation lab practices of a university nursing program; and identify the OB simulation lab practices that best prepare nursing students for clinical work. This paper addresses the second aim of the project.

Background: OB simulation labs are designed to offer structured opportunities to apply the theory that nursing students learn in lecture and develop their skills. However, survey data collected from nursing school staff, students, and clinical site personnel as a part of this project indicated dissatisfaction with current OB simulation lab practices and outcomes. For example, students had reported feeling lab time was not conducive to learning and clinical instructors verbalized students needed additional education prior to working at a clinical site.

Methods: To achieve the second aim of the project, a comprehensive literature review was conducted based on the prior survey findings, employing meta-synthesis to describe research findings regarding best practices. The search and selection process, using PubMed, CINAHL, and Medline using the terms "simulation", "simulation and education", "simulation and teaching", and "simulation and nursing students" yielded 16 studies that examined OB nursing simulation lab practices and effectiveness through data from qualitative studies that utilized mostly self-report data from students and educators. A survey was also sent to a small convenience sample of nursing schools in the region to learn about their best practices with simulation. Research findings were reviewed, evaluated, and organized across studies.

Outcomes: Meta-synthesis of the resulting literature revealed multiple best practices for OB simulation labs including: optimal frequency/duration for lab sessions with small groups; pre-lab preparation and post-lab follow-up; consistently utilizing debriefing; videotaping scenarios; and employing a variety of instructors with skill specialties. The literature documented that these best practices produce nursing students with greater comprehension and satisfaction, as well as improved clinical skills. Input from the small survey of other nursing schools confirmed that simulation was an efficient and cost-effective tool for learning in a safe clinical environment.

Conclusions and Implications: The literature identified evidence-based best practices that can be used to address the concerns identified from the analysis of qualitative survey findings participants. Based on these findings, the following best practices are recommended: adding multi-media modules in preparation for lab sessions; reducing lab group sizes; decreasing/dividing lab hours to focus on specific assessment simulations; instituting post-lab debriefings; employing clinical instructors to teach labs; and implementing a unified OB skills checklist to improve communication between simulation and clinical instructors.

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COLLABORATIVE EVALUTION OF A MATERNITY SIMULATION LAB CURRICULUM

Validating Graduate Student Assessment of Undergraduate Simulation Curriculum

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Purpose/Aims: The purpose of this project was to prospectively validate graduate student assessment of undergraduate simulation curriculum. The aims were to: 1) Analyze available assessment data, 2) Formulate evidence-based recommendations based on data analysis, 3) Compare and contrast faculty literature search and recommendations based on data analysis with those obtained by the graduate students.

Background: During winter quarter the Family and Child Nursing department chair requested an assessment of the maternity simulation curriculum with evidenced-based recommendations for change. The maternity faculty member and the simulation lab director agreed to approach the faculty on another campus and propose the assessment of the maternity simulation curriculum as a graduate student project. In addition to a literature search and analysis of available data, the students were asked to obtain additional assessment data from key stakeholders. Due to a departmental change in the project timeline, the maternity faculty member independently conducted a literature search and analysis of available data. Both the faculty member and the students had access to the CENE Clinical Specialty Lab Evaluation results, an anonymous student evaluation of maternity simulation labs, conducted the previous quarter.

Process: The maternity faculty member conducted a literature search of CINHAL, PubMed, and Medline databases and utilized the search terms: clinical competency and simulation, simulation and evaluation, simulation and nursing theory, critical thinking and simulation. The simulation faculty previously summarized the quantitative results of the CENE Clinical Specialty Lab Evaluation. The total number of respondents was unknown and the raw data was no longer available. Up to 50 student of the 72 students registered in the course responded to each of 4 open ended questions. The open ended questions were analyzed for key words and phrases and then grouped into like comments. The number of comments to each open ended question were quantified and then ranked according to frequency of use. These results were compared to the relative quantitative ranking of 13 questions measured on a six point scale. The quantitative data analysis mirrored the qualitative ranking.

Outcomes: Both the students and faculty member used the same databases for the literature search. The students and faculty member used different search terms. Each literature review varied in one key aspect due to the use of different search terms. The students cited literature which supported increased clinical competence as a result of effective simulation curriculum. The faculty and graduate student recommendations based on the available data analysis were congruent. The graduate student recommendations were more extensive having incorporated additional key stakeholder assessment data.

Conclusions: Within this project, graduate student data analysis and recommendations of undergraduate simulation curriculum were deemed valid. The literature search was enhanced by the use of different search terms. The maternity and simulation faculty concluded that graduate students from separate campuses are a valuable resource to obtain undergraduate simulation curriculum assessment.

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Danita Lee Ewing, Launa Rae Mathews, Kathie Lasater

CURRICULUM DESIGN AND INNOVATIONS

Instructional Re-Design Using a Strength-Based Strategic Planning Process

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Purpose of the Project: The purpose of this project was to strategically re-envision/re-design a Leadership and Outcomes Management course for the Baccalaureate Completion Program for RNs Virtual Campus at Oregon Health & Science University using a strength-based approach to change and improvement, Appreciative Inquiry (AI) and the SOAR Model.

Rationale and Background: The leadership and outcomes management course was based on the instructional design of a faculty committee that wrote the course descriptions, course outcomes and content of the modules. This course, when designed for online delivery, adhered to the content of those modules including mapping of learning activities to the course and program outcomes. Our program continued to expand and adapt to changes in healthcare and student enrollment. Student feedback showed that we needed a new course model and a new way of being with each other as a faculty team to support our students. Our faculty team chose the AI/SOAR process as a positive approach to course re-design. The SOAR model for strategic planning and change provides a process to discover the Strengths that we want to bring forth from the best of the past; to identify Opportunities for improvement; to co-create Aspirations that facilitate innovation; and to commit to the Results that will achieve the desired outcomes.

Description of the Undertaking: The faculty team for the leadership and outcomes management course met at a faculty colleague's home for two full day retreats, engaged in the SOAR process, and re-envisioned/re-designed the course. The faculty team reviewed the content in the course description and outcomes for relevancy. We discussed the specific content, how it was structured, the associated learning activities, the evaluation of the performance of the students, and our experiences teaching the course. We listed the course description and outcomes, and the specific scope of the content as strengths for the course and a good fit for the post licensure students. For the new vision of the course, we listed as opportunities the order of the content, the grouping of the content, the building of the content over the term, the scope of the learning activities, the evaluation of student performance, and the faculty experience of teaching online. We then moved into creation of our aspirations for the course based on these strengths and opportunities that were focused on innovation of learning activities and change in content delivery and application of new knowledge and skills. Our team deeply discussed priorities for the course re-design that lead to our commitment to the activities (e.g., content and evaluation re-design) as results needed to effect this change.

Outcomes Achieved: The new course maintains and in many ways, exceeds the original course's rigor and quality. The team re-ordered the course content to build appropriately as the course unfolds, embedded the SOAR process in the forum discussions, re-designed the learning activities and evaluation process for the students, thus changing the faculty experiences with the course and students. An additional benefit of the retreats and working with the AI/SOAR process was our team's deeper sense of trust in our collaborative processes.

Conclusions: Using the AI and the strengths-based SOAR model, the faculty team took the very best from the past course; embedded evidence based practices from the teaching/learning field, and co-created a new teaching/learning experience for faculty, and students.

Social Networking Applications in Graduate Education: Approaches and Analysis

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Purpose: The purpose of this project was to apply social media methods to a distance education program for graduate students. A graduate psychiatric nurse practitioner curriculum was developed using social media platforms, such as wiki's, blogs, social network pages and videoconferencing. The work was based on the assumption that through the use of familiar social media tools, students could obtain access to advanced practice education regardless of urban or rural location.

Rationale\Background: Social Constructivist theory proposes individual's learn through social feedback obtained during interactions. As social networks grow and evolve, members develop levels of cognitive distinctiveness and expertise within their specialty area. Social media platforms allow students to develop specialty expertise through social interactions using professional social networks regardless of location.

Methodology: The graduate psychiatric nursing program at the University of Nebraska Medical Center was transformed into a series of interactive social media based courses. All of the core courses were modified to incorporate on demand videoconferencing, face book style directories, wikis, blogs, subscription services and syndication feeds of blog postings. Face to face meetings were conducted using on demand secure web conferencing for advising, site visits, clinical sessions and clinical supervision. All internet connections were secured using HIPAA compliant and Federal Information Processing Standards 140-2 to ensure confidentiality.

The validity of the outcome data was triangulated through online surveys, web conferencing and social network analytics. The on line surveys were offered once a year, social network analytics were conducted continuously on designated courses using blogs\ wiki's and data on web videoconferencing was gathered in focus groups conducted once a semester. Data were also validated using the annual post graduation surveys. The informed consent and data collection were approved by the University IRB.

Outcomes: Survey results revealed that 53 students saved 50,560 miles of traveling and indirect costs of more than $25,786 using the modified program. Thematic analysis of the focus groups showed that access, clinical learning, and interpersonal interactions were major themes associated with satisfaction of web based videoconferencing. The themes suggest gains were due to improved instructor feedback, expanded diversity, and broadened clinical experiences. Analysis of 1093 non content related social statements from the blogs revealed two major forms of online social communications; 1. Educational Role Behavior and 2. Interpersonal Dynamics. Network path analysis using ORA indicated the educational roles (Centrality Mean = .84, sd= .282) of contributor, leader, negotiator and harmonizer were the most important forms of professional social communication. The interpersonal dynamics (Centrality Mean= .449, sd= .339) of imparting information, interactive construction of ideas and collaboration were the most dominant form of interpersonal communication. Additional outcome data indicate that 16 of the graduates (100%) have passed the national board certification exam and obtained a license as a psychiatric nurse practitioner.

Implications: The data indicates that social media can be effectively used for professional health care education regardless of the location of the participants. The outcomes suggest that best educational practices involve social medial applications for professional networking.

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Improving Rural Health Care: A Curriculum for Rural DNP Student Success

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Purpose: The Rural Health Track (RHT) option within the OHSU School of Nursing Doctor of Nursing Practice (DNP) Program focuses on improving rural healthcare delivery statewide. It is designed to prepare expert rural advanced practice nurse leaders needed to improve health and health care outcomes in rural communities. The purpose of this presentation is to demonstrate the essential components of the RHT curriculum.

Rationale/Background: Rural populations have increased incidence of chronic disease, higher percentage of elderly, and an increased need for primary care providers. The RHT option, in conjunction with the family nurse practitioner (FNP) and psychiatric mental health (PMHNP) curriculum, offers specific coursework and clinical experiences designed to develop clinicians to address the unique health needs of Oregon's rural populations.

Approach: Three courses unique to the RHT were conceptualized and developed by faculty experienced in rural health care and populations: Rural Health Care Delivery for Advanced Practice Nurses, Urgent and Emergent Rural Primary Care Management for Nurse Practitioners, and Rural Mental Health Care for the PMHNP. Subsequently, RHT students spend nine months in a rural-based Clinical Residency and complete a Clinical Inquiry Project addressing a health-related issue in a rural clinic or community.

Outcomes: Objectives in the courses engage students in understanding the implications of rurality on individual and population health and health care. The Clinical Residency provides the student with 9-months' practice in rural clinical facilities enhanced by rural mentor/providers. The Clinical Inquiry Project requires students to integrate didactic coursework with their Residency experiences to develop and carry-out a practice-based inquiry project that is applicable, meaningful, and vital to their rural community.

Conclusions: Rural practice requires special training and emphasis in addition to the generalist NP curriculum. Understanding of the needs of rural populations can be enhanced with a combination of didactic coursework, clinical experience, and scholarly project development and implementation. Improved preparation for doctoral nurse practitioners entering rural practice is expected to increase placement in rural communities, increase provider retention, and positively influence rural health care.

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A Dedicated Education Unit (DEU) with School Nursing

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Purposes/Aims: The aim of the project was to pilot the Dedicated Education Unit (DEU) clinical model in a community/population health course with school nurses.

Rationale/Background: In recent years, partnerships between universities and community clinical sites to address population health clinical learning outcomes have been more difficult to secure due to agency staffing, budget limitations and an increased student enrollment from various nursing programs in the metropolitan area. Community healthcare agency administrators and nurses often struggle to accommodate requests for clinical sites from various nursing programs. They may also have difficulty providing optimal clinical experiences that address unique clinical program learning outcomes due to working with a variety of programs.

Undertaking/Best Practice/Approach/Methods/Process: The DEU model was implemented with a local school district as an innovative clinical teaching and learning model to enhance students' learning for population health in this clinical setting. The DEU model emphasizes a collaborative approach between nursing program administrators, lead course faculty, clinical faculty coordinators and clinical faculty. To strengthen clinical learning outcomes, the agency registered nurses are hired as adjunct clinical faculty to directly teach nursing students from one nursing program and facilitate clinical experiences that address students' learning needs based on the population health course and program outcomes. This model also offers unique benefits for the agency nurses through their position as adjunct clinical faculty.

Outcomes Achieved/Documented: An overview of the initial implementation process of this DEU model in school nurse settings will be presented. Perspectives regarding the collaborative process between lead course faculty, nursing program deans, school nurse administrators and clinical school nurse faculty will be included. The transition process for the implementation of this DEU community model will also be addressed. Initial outcomes will be described based on student feedback and their perceived clinical learning outcomes, in addition to narratives by course faculty and school nurses regarding their experiences during the first semester of model implementation.

Conclusions: A summary of the implications of the pilot project and its projected influence on the clinical educational process in population and community health courses will be offered.

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Challenges and Strategies in Guiding Practice Improvement Projects in DNP Programs

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The aims of this paper are to describe challenges commonly faced by faculty and students completing Practice Improvement Projects (PIPs) in Doctor of Nursing Practice (DNP) programs and to share successful strategies for dealing with them. Challenges include differentiating the PIP from a PhD dissertation; managing the PIP while students complete clinical coursework; and mentoring students' projects from a distance. A major concern occurring across programs is distinguishing practice improvement projects from dissertation research. DNP programs are oriented toward evaluation and application of existing evidence to practice change rather than knowledge generation. Faculty prepared in a PhD curriculum may not be attuned to the distinctions and challenges encountered when implementing practice change and students mistakenly think they are conducting research rather than translating research into practice. Strategies to address differences between the PIP and the dissertation involved having faculty focus on designs emphasizing practice improvement rather than creating generalizable knowledge. Evaluating the effectiveness of the project included both process and outcome evaluation, cost, scope, feasibility and sustainability of the project. Research courses in the DNP curriculum focused on evaluation of evidence for practice, use of clinically relevant reliable and valid measures, and analyses commonly used in practice change projects.

The shorter time period that DNP students have to conceive, develop and implement the project constitutes another key difference between the PIP and the PhD dissertation. Two semesters were devoted to completion of the PIP while the students completed a 360 hour clinical residency. Multiple strategies were developed to respond to student and faculty frustration, including lengthening the time students were engaged in the PIP; finding potential projects for the students by developing resource information on agency practice needs and developing assignments in core courses that apply to potential PIP projects. Concurrent practice allows students access to populations, resources and baseline data against which to evaluate change. Faculty also coached students in time management and contingency planning as rapid paced clinical environments presented unexpected changes.

Faculty often guided student projects at a distance and in unfamiliar practice settings. Review by multiple IRB committees with differing policies and conflicting requirements often created delays. Faculty developed a standardized memorandum of understanding for students to use with agencies and assisted students to navigate the IRB process. Faculty catalogued resource information about varying IRB processes at agencies where students were implementing the projects and captured this information to guide subsequent projects. The development of DNP programs presents many important opportunities for improving practice despite the challenges faced by faculty and students. Finding ways to identify and address common problems and then sharing successful strategies with other programs is essential to manage this change in nursing education and practice.

Web-Based Modules to Teach Ethical and Culturally Sensitive Nursing Care

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Purposes/Aims: The purpose of this paper is to describe the pedagogical approach of using web-based modules to teach ethical and culturally sensitive decision making in nursing care.

Rationale/Background: Knowledge of ethical and cultural competency principles is necessary for effective nursing care. Different methods can be used in teaching these principles to nursing students including lecture, discussion, story-telling, and problem-based learning. Determining the best teaching approach is dependent on the audience. Accelerated baccalaureate and graduate entry nursing students provide unique challenges to nurse educators since they are typically very motivated with high expectations for their program and faculty. Traditional ways of teaching do not necessarily work for these students so it is important to consider innovative educational approaches for preparing these students to apply ethical principals in caring for people from different cultural backgrounds.

Undertaking/Best Practice/Approach/Methods/Process: Five web-based modules addressing culture and end-of-life care were one component in the Ethics and Legal Issues in Advanced Practice Nursing Course for accelerated baccalaureate and graduate entry nursing students at the University of Washington School of Nursing. The modules addressed 1) communication fundamentals, 2) offering truth, 3) breaking bad news, 4) communicating with family, and 5) interdisciplinary conflict. Interactive activities, videos, and posed questions were used throughout the modules to stimulate reflection of cultural competence and ethical principles. Forty-three students completed the modules in the spring quarter of 2011. Student outcomes were measured by the Cultural Competence Survey and specific questions about knowledge of ethical principles, experience and comfort level in dealing with patient situations as portrayed in the modules. Data were analyzed using descriptive statistics.

Outcomes Achieved/Documented: Preliminary findings indicate that the modules positively impacted students' knowledge regarding ethical and culturally sensitive decision making in end-of-life care. In addition, students reported the modules to be engaging and a positive learning experience.

Conclusions: Learning independently through web-based methods requires discipline and organization. These characteristics are often found in the mature learner such as accelerated baccalaureate and graduate entry nursing students. The use of Web-based modules is a successful pedagogical approach for nurse educators to consider in teaching ethical and culturally sensitive decision making to these types of students.

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Implementing AACN's Plans for Environmentally Sustainable Nursing Education

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In 2009 the American Association of Colleges of Nursing (AACN) developed an initiative addressing environmental sustainability in nursing education. This initiative culminated in the 2011 release of a report titled *Toward an Environmentally Sustainable Academic Enterprise: An AACN Guide for Nursing Education.* Washington State University's (WSU) College of Nursing subsequently developed a project to implement the recommendations and adoption of best practices throughout the College. The proposed presentation addresses three facets of this 'best practices' project: 1) providing administrative support and leadership for environmentally sustainable practices, 2) implementing changes in the undergraduate nursing education program, and 3) incorporating curricular and innovative changes at the graduate level.

Administrative Support and Leadership: Dr. Patricia Butterfield, Chair of the AACN task force and Dean of the College of Nursing at WSU, presented the AACN report to faculty in Fall 2011 to inform them about the report and to seek faculty guidance on implementation. During 2010-2011 the Dean also supported an assessment of college-wide opportunities addressing environmental health and sustainability.

Implementing Changes in the Undergraduate Program: Ms. Elizabeth Schenk, a WSU PhD Nursing student with nationally recognized experience in reducing environmental impacts in hospitals worked on implementation within the baccalaureate program. She performed a sustainability assessment on the CON campus to determine areas of strengths and opportunities, incorporating input from faculty, staff, and students. She analyzed course descriptions of all undergraduate courses and suggested insertion points for content in environmental health and sustainability.

Addressing Sustainability and Climate Change at the Graduate Level: Dr. Phyllis Eide developed her expertise in climate change when she completed the University of Washington certificate program in climate change in 2010. As the only nurse in the inaugural cohort, it became clear to Dr. Eide that WSU's graduate programs would benefit from a more definitive voice addressing climate change and the linked concepts of sustainability and environment. Dr. Eide's coordinator position for the master's program in Advanced Population Health facilitated her dialog with faculty about insertion points for this content in selected courses (e.g., N554/Epidemiological Approaches, and N532/Resource Stewardship). She developed linkages between AACN's environmental sustainability recommendations and AACN's Master's Essentials. Dr. Eide's work lead to a stronger integration of climate change and sustainability content throughout all of WSU's graduate education tracks.

Project Summary: There is an increasing awareness that health care delivery may pose long-term health risks to the public through excessive energy use, the generation of toxins, and the creation of medical waste. Since nurses are a major stakeholder in the health delivery system, it is critical to educate nursing students about the delivery of environmentally sustainable health care. This best practices project focused on a college-wide integrated approach to the enhancement of students' knowledge regarding environmentally sustainable health care.

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Integrating Simulation in the Classroom

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Aim: This presentation introduces the next step of simulation in nursing education through classroom integration. The purpose is to describe the innovative way in which faculty at the Monmouth campus of Oregon Health and Sciences University are initiating a case-based approach to student-centered learning through the use of a primary simulation and supportive activity-based stations instead of lecture.

Background: Simulation has gained an increasingly solid reputation in nursing education over the past decade. However, most schools of nursing still view simulation as a way to fill gaps when clinical sites are scarce or overloaded, as supplemental instruction, or to provide nursing students with specialized scenarios that they will not encounter in their available clinical settings. Because simulation has been largely deemed as an effective learning strategy, the next step is to integrate it more deeply into the classroom setting. The potential of replacing instructor-centered lectures and activities with the student-centered approach of simulation and supportive learning stations is that students will spend all of their time in the nursing classroom actively learning and engaged.

Process: This approach is different than current ways that simulation is being used in that it is not a supportive or replacement experience for clinical time, but a primary learning method in the classroom learning experience. The method currently being piloted in the Acute Care II course at Oregon Health and Sciences University- Monmouth campus is based on three complicated cases that span the entire ten-week course. Each week the class of 32 students is broken down into four groups of eight students. The students rotate to the simulation station, as well as four other, supportive stations of learning. The stations change each week to reflect the content of the simulation but follow a basic format of a focus on I.V. start skills, a new skills set, an evidence-based article review, and an analysis on policies. The three simulations are an oncologic emergency, a mother-baby emergency, and a multiple person motor vehicle accident trauma.

Outcomes: The second week of class, after the first simulation-station experience, the students were asked to do a survey monkey evaluation to compare and contrast integrated simulation versus the previously-used simulations that replaced a whole day of clinical. Results were recorded from 28 out of 32 students were overall enthusiastic and positive in favor of the integrated simulation.

Conclusions: The initial reports from students were so positive that the faculty is interested in moving forward with initiating a research study. Potentially, the integrated simulation learning experience will be disseminated to the other courses in the curriculum. This can be the first step in expanding an exciting idea into the answer to the need for radical transformation in nursing education identified by Patricia Benner. Integrating simulation and supportive learning stations can result in better outcomes for students in clinical judgment, critical thinking, and information management by engaging the students in an enjoyable, student-centered learning experience in both clinical and classroom settings.

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CURRICULUM DESIGN AND INNOVATIONS

Innovative Approaches to Online RN-BSN: Applying Quality Matters (QM) to Course Design

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Purpose/Aims: The purpose of this project is to describe the implications for using Quality Matters^{TM} (QM) as an innovative approach to ensuring quality in curriculum and course design in an online RN-BSN program. The implementation of the QM process at a large state university will be presented.

Rationale/Background: The need to prepare nurses with competencies to practice in today's complex and rapidly changing health environment has incited nursing programs across the country to design curriculums that incorporate national standards for nursing education. Leading the way are the Quality and Safety Education for Nurses (QSEN) competencies, the American Association of Colleges of Nursing (AACN) Essentials of Baccalaureate Education for Professional Nursing Practice and the Essentials of Baccalaureate Nursing Education for Entry Level Community/Public Health Nursing (ACHNE) standards. As these standards evolve over time, curriculum development and revision must be responsive to the changing needs of society and the changing profile of contemporary nursing students. RN-BSN programs, in particular, must create quality curriculums that effectively measure student learning outcomes in a timely and effective manner. One innovative approach to achieving this goal is using QM. QM is a faculty-centered, peer review process based on national standards of best practice, the research literature, and instructional design principles (QM, 2010). The QM rubric is used to certify the quality of online courses.

Undertaking/Best Practice/Approach/Methods/Process: In order to successfully apply QM to curriculum design, the university must have a team of committed faculty with knowledge and access to QM tools and resources, an environment driven by evidence-based principles and university support to transform curriculum change. At our institution, an Instructional Designer proficient in the QM process is assigned to the RN-BSN program, faculty involved in curriculum design are trained in QM as certified peer reviewers, and all QM tools & resources are readily available to enhance the evidence-based pedagogy.

Outcomes Achieved/Documented: Over the last year, the RN-BSN curriculum was revised using QM to ensure quality, eliminate redundancy and improve alignment of learning objectives, assignments and course outcomes. Students are provided with learning experiences necessary to achieve the desired learning outcomes. The bridge course, Professional Nursing Theory is currently undergoing QM review and results are forthcoming. All courses in the RN-BSN program will be reviewed using the QM process and rubric.

Conclusions: Quality Matters (QM) should be considered as an innovative approach to ensuring quality in curriculum and course design. Using QM to align learning outcomes to standards for nursing education can expedite the curriculum redesign process, certify that courses meet standards of best practice, and ensure the quality of the nursing program.

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Expanding Repertoires of Clinical Sites and Cultural Awareness Paths

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Purpose: The purpose of this project was to provide cultural awareness opportunities to senior baccalaureate nursing students in their capstone assignment and to extend access to an adolescent refugee population in an expanded community clinical site.

Rational/Background: The Refugee Assistance and Immigration Service Program (RAIS) has been an expanded community clinical site twice a year for senior nursing students in their capstone assignment since Spring 2005. Students work with various refugee cohorts and the RAIS staff members to offer health promotion assistance to the refugees and health education to the RAIS staff for their use with their refugee clients. In turn, through blog journaling, it has been observed that students have an increased cultural awareness of the vulnerable populations with whom they work during the project assignments.

Undertaking/Approach/Methods/Process: The author received the Selkregg Community Engagement & Service Learning Award in April 2010. The award funds were given to the RAIS program to provide foundational funding for the Refugee Youth Music Group (RYMG) for children ages seven to eighteen, which was started by a RAIS case manager in February 2010. The music group focuses on providing time and space for refugee youth to come together as a group to learn about music, play instruments, and learn how to perform music. There are no designated federal or state funds for refugee youth; therefore, the funds were needed to assist in keeping the RYMG in existence. The author was granted access to the adolescent population for two groups of senior nursing students to assess, plan, implement, and evaluate two capstone projects. Community action/service learning and the nursing process was the method used by the students for their projects.

Outcomes Achieved/Documented: Two groups of senior nursing students had successful capstone projects. The first group focused on the adolescent's need for transportation safety and hygiene teaching. The second group focused their efforts on enhancing the RYMG group cohesion through individual identity and empowerment. This endeavor resulted in the production of a banner, a documentary video of the children telling their stories, and a 'commitment ceremony'. Both groups had fund raising events for bus tokens to transport the children to the group and for a set of drums for RYMG. Blog journals consistently had evidence of increased awareness of the vulnerable population, which they were serving.

Conclusions: Partnering with a Refugee Assistance and Immigration Program is a credible community clinical placement for nursing students. Nurse educators can use this type of clinical placement for nursing students to increase their cultural awareness of vulnerable populations.

Encouraging Higher Order Thinking through Enhanced Clinical Preparation

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Purpose: The purpose of this poster is to highlight a significant change to the traditional clinical nursing education model by the addition of preclinical e-learning modules, partnered assessments, and multimedia learning activities and the benefits to students and faculty that resulted from this change.

Background: Traditional models of clinical nursing education have become obsolete and as a result student learning is compromised. Without preparation for clinical practicum in advance, students spend much of their clinical time becoming accustomed to unit routines and basic knowledge and skills and may never experience learning higher-order thinking skills or begin to experience clinical reasoning.

Brief Description: As a new model of clinical education, faculty in one school used clock hours that were previously used only for traditional hands-on care at the bedside and designed nursing specialty specific enhanced learning activities to be completed prior to hospital based clinical practica. Described here are the requirements for both the Maternal-Newborn Health and the Pediatrics clinical practica. Students were required to demonstrate readiness for practicum experiences through a variety of assessment activities.

Outcomes Achieved: Based on anecdotal evidence from students and faculty, student preparation for and comfort level in the clinical setting was astronomically higher than in previous years. Students were able to begin to apply clinical reasoning strategies because they entered the clinical setting with base knowledge about typical child development, communication strategies, and physical assessment of children and were comfortable and proficient with routine assessments, procedures, and medications in the Maternal-Newborn setting. In addition, in both Maternal-Newborn and Pediatric theory courses, class time was available for higher-level learning activities such as role playing, small group discussions of ethical issues, and case studies. Students verbalized decreased stress and increased engagement with their own learning and feelings of preparation for patient care. Student feedback of their learning and comfort level in the clinical setting will be assessed at the end of the term through standardized university course evaluations and will be reported here. Faculty feedback will be reported utilizing standardized program course evaluation.

Conclusions: Changes made to the clinical preparation requirements for the Maternal-Newborn and Pediatrics nursing practica will be evaluated through student and faculty course evaluation at the conclusion of the term.

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CURRICULUM DESIGN AND INNOVATIONS

Innovative Approaches in an Online RN-BSN Program: Moving beyond Text on a Screen

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Purposes/Aims: The purpose of this presentation is to describe two selected innovative, technology based, digital approaches that 1) enhance the effectiveness of nurse educators' facilitation of learning in the digital environment, 2) engage visual, auditory and tactile/kinesthetic learners in an accelerated 100% online RN to BSN program and 3) assist in meeting one of the Quality and Safety Education for Nurses (QSEN) competencies.

Rationale/Background: The fast pace of American society extends into online education. In a digital environment even well scripted text can easily be overlooked by students eager to meet ambitious time lines in accelerated programs. Accelerated curriculum delivery coupled with a learner centered approach and the desire to engage all learning styles in 100% online environments can pose a challenge in nursing education's transformation to online delivery. Many of today's students have grown up in the digital environment and consider it one of their "first languages." For today's nursing educators, the digital environment may be a "second language," and a language that requires continued learning and practice in new digital technologies and innovative approaches.

Undertaking/Best Practice/Approach/Methods/Process: RN-BSN faculty utilized Quality Matters Standards for online learning, adult learning principles and Quality and Safety Education for Nurses (QSEN) competencies to enhance the delivery of course content. Working with an instructional designer and available university technologies and resources, faculty created course content and reusable learning objects (RLO) designed to engage all learning styles. One innovative approach is the use of collaborative tools, such as VoiceThread ©. The collaborative tools provide for the development and honing of oral presentation skills and engage auditory learners. They also provide a vehicle for faculty and students to provide oral feedback to online classroom presenters. The second innovative approach is a structured framework designed for online group work. This framework provides a structure for presenting weekly team building concepts combining them with learning activities that culminate in the successful completion of a group project. This type of activity supports the QSEN Teamwork and Collaboration Competency.

Outcomes Achieved/Documented: To date there are end of course evaluation survey data as well as anecdotal student feedback. The process for more formal review of these approaches is in the planning stages.

Conclusions: Two innovative approaches have been implemented by faculty in an accelerated 100% online RN to BSN program with positive student responses. The value added through use of interactive and innovative digital technologies was found to outweigh the effort and time required learning the technologies. Through utilization of the presented approaches nurse educators can enrich the online learning environment, engage multiple learning styles, and facilitate QSEN competencies in a time efficient manner.

Curriculum Modification Evaluation Scale: Development and Psychometric Testing

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This study aims to develop a scale which evaluates the curriculum modification in Istanbul University Bakirkoy Health High School regarding Sexual Health/ Reproductive Health in 2006-2007 and to investigate the validity and reliability of this scale. The sample consisted of 238 nursing and midwifery students attending their first, third, and fourth year. The study included four stages: Item generation, content validity, construct validity and reliability. 23 items were generated and after the assessment of content validity in the light of expert views, four items were removed from the scale. There were 19 items left in total. We conducted an exploratory factor analysis and group comparisons to investigate the validity of the scale. the reliability of the scale was investigated with Cronbach's alpha and item total correlations. In the exploratory factor analysis, one item was removed from the scale because it took place under two different factors. The final construct yielded five factors with Eigenvalues >1. The factor loading of each item was >.40 and each item took place under one factor. In the group comparisons, the total scores of third and fourth year students were significantly higher than the scores of first year students ($p<0.05$). The Cronbach alpha values of the 18-item scale and its subscales were 0.87-0.63. The item total correlation of the scale was 0.25-0.70 and the item total correlation of the subscales was 0.41-0.74. In conclusion, it was determined that the Curriculum Modification Evaluation Scale (CMES) is a valid and reliable instrument.

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CURRICULUM DESIGN AND INNOVATIONS

Intentional Professional Formation Learning for Second Degree Students

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The recent Carnegie Report called for a radical transformation of nursing education including a critical recommended shift toward professional formation. At the same time, new programs, such as accelerated or second degree programs, have been developed to address the nursing shortage. These 12-18 month programs are proliferating in the U.S. in response to the huge demand. Students are admitted with a minimum of a baccalaureate degree in another field and successful completion of the admission prerequisites. This condensed, intense program raises concerns for professional formation when there is so much content to learn and apply and so little time to reflect.

Second degree students have been described as those with unique learning needs and styles. All students need structural supports and intentional educational strategies to maximize their formation for a smooth transition into practice. Unfortunately, little data exist about effective strategies that promote professional formation, particularly for second degree students. One university program recently introduced formation seminars-- intentional, guided discussions in the first two of five quarters in their program of study. Brief reflections collected at the end of each seminar provided qualitative data for analysis. Findings from the first term of the seminars, on such topics as Professionalism, Ethical Comportment, and Empathy, revealed that students could articulate their thinking about critical aspects of professional formation, such as a growing realization of the 24/7 role of the nurse and an explicit focus on the patient rather than themselves. Additional themes that emerged centered on the value of and communication within the healthcare team and an appreciation for the standards that guide nursing practice.

This session will focus on the outcomes from the second term's professional formation seminars, which included topics such as Professional Practice, Nurse as Teacher, and Teamwork. Early analysis revealed that students are clearly thinking and talking about aspects of professional formation and how it relates to their current practice as well as their future professional practice, suggesting that the learning activities were useful in guiding students' thinking about their practice as professional nurses.

Funding: This study was funded in part by Beta Psi Chapter, Sigma Theta Tau International (no grant number).

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CURRICULUM EVALUATION

INTEGRATED INTO INVISIBILITY: ETHICS EDUCATION IN FAMILY NURSE PRACTITIONER PROGRAMS

Megan L. Morrison

IMPLEMENTATION AND EVALUATION OF A VIRTUAL COMMUNITY IN TWO DIVERSE COURSES

Lindsay L. Kindler, Barb Braband, Karen Cameron, Pamela Potter

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EVALUATING STUDENTS’ REFLECTIVE THINKING: CRITIQUE OF MEASUREMENT TOOLS

Jen Akeroyd

CURRICULUM EVALUATION

Integrated into Invisibility: Ethics Education in Family Nurse Practitioner Programs

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Purposes/Aims: The purpose of this project was to identify how many family nurse practitioner (FNP) programs require a course that uses the word 'ethics' in the title.

Rationale/Background: Advances in genetics, pharmacotherapy, and health care technology are pushing the bounds of what is possible and what should be done in healthcare. Additionally, scope of practice and external pressures placed on nurse practitioner practice are changing.

The American Academy of Nurse Practitioners (AANP) National NP Sample Surveys (1989, 1999, 2004, & 2010) document, amongst other things, an expanding prescription pattern and a decline in direct physician oversight in practicing nurse practitioners. Within prescription authority alone, ethical pitfalls from informed consent to entering into financial relationships with pharmaceutical companies are novel challenges for experienced registered nurses entering into the nurse practitioner role.

To address these educational needs, American Association of Colleges of Nursing identifies nine essentials for graduate nursing education, the word *ethics* or an ethical principle appears in all nine essentials. But really very little is actually known about the national state of ethics education in FNP programs.

Methods/Process: This descriptive project used a master list of graduate nursing programs accredited by the Commission on Collegiate Nursing Education's (CCNE), which resulted in 397 identified programs. The website of each program was reviewed for a FNP track, 128 were excluded due to no FNP. Of the remaining 269 programs, 11 did not have curriculums available on their website and one was excluded because it was not in English. After these exclusions, 257 FNP curriculums were evaluated for a class with ethics in the title.

Outcomes Documented: Courses with no other topic besides ethics were identified as 'stand-alone'. Courses with ethics and another topic in the title were identified as 'combined'. Thirteen percent of MSN programs had an identified stand-alone ethics class, 19% had a combined ethics class, and 68% did not have a required class with ethics in the title. Sixteen percent of DNP programs had a stand-alone class, 20% had combined, and 64% had no ethics.

Conclusions: Because course titles are listed on official transcripts, they are an important indicator of what content was covered during a program of study. They convey educational attainment to potential employers, nursing boards, certification bodies, and other academic institutions. Future inquiry can identify how and if programs without titled classes integrate ethics education and how they ascertain that the content has indeed been taught.

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CURRICULUM EVALUATION

Implementation and Evaluation of a Virtual Community in Two Diverse Courses

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In recent years there has been a call for a paradigm shift in nursing education. The traditional model of teacher centered andragogy and focus on covering content has become insufficient with the continuous growth of biomedical and nursing knowledge. Nursing faculty have been encouraged to decenter content and create a place for discourse between students and faculty to foster reflection and a deeper understanding of the patient's experience. Four faculty teaching two diverse courses set out to implement and evaluate using a web based virtual community in an effort to meet the needs of the students in this changing educational environment.

The faculty chose to use The Neighborhood (developed by Jean Giddens, PhD, RN and distributed by Pearson Health Science), a virtual community that features a wide range of health and psychosocial issues experienced by individual characters, families, and the community as a whole. Unfolding cases allow for discourse between students and faculty regarding the students' clinical judgment for assessment and intervention, along with higher level considerations such as the meaning of illness and how health impacts a person's family and community. This virtual community gives the students experience in relationship based care and understanding the patient within the context of his/her situation.

The virtual community was adopted in two nursing courses: Advanced Physiological Nursing and Population Health Promotion in a Multicultural Context. The former course challenged students to follow subtle changes in the characters' symptoms to develop a longitudinal view of the patients' health and experience. This allowed students to use their clinical judgment in identifying assessments and interventions at various points in the illness trajectory. With a focus on population health promotion and cultural competence in diverse and vulnerable populations, the latter course used the virtual community to explore the needs, resources, and potential areas for intervention at a community level.

Outcome evaluation will focus on investigating this program's impact on student learning and whether this pedagogical strategy enhanced student engagement with the material. Students will complete a survey using previously validated questions developed by the Teaching, Learning, and Technology group. These questions will assess student outcomes and satisfaction associated with the use of technology enhanced andragogy. Focus group interviews will elicit student perceptions of their engagement with the material, the influence of the virtual community on clinical reasoning skills, and how The Neighborhood impacted their comfort in the clinical environment. It is our hope that using a virtual community will promote student engagement and foster the development of clinical judgment using an innovative, learner-centered approach.

Funding: This work was supported by a University of Portland Academic Technology Innovation Grant.

CURRICULUM EVALUATION

Evaluating Students' Reflective Thinking: Critique of Measurement Tools

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Purpose: To systematically review and evaluate reflective thinking measurement tools found in the health care education literature.

Rationale: Reflective thinking is an integral part of many nursing education programs. It is thought to help narrow the theory-practice gap and solve novel situations (Schon, 1983), integrate different ways of knowing (Johns, 1995), and transform a perspective (Mezirow, 1991). Health care education researchers have developed and tested tools to measure students' reflective thinking. To date, no published study has examined the utility of these tools.

Methods: CINAHL, ERIC, Medline and PsycINFO were searched using the keywords: reflective thinking or reflective practice together with assessment or evaluation or measurement. The search was limited to English language, peer-reviewed articles, health care professional students as subjects and articles presenting an original measurement method. Two-hundred and forty-eight articles were retrieved. Abstracts were reviewed. Of the relevant articles, references were hand searched for articles missed in the electronic search. Each tool was evaluated against four criteria: reliability; validity; responsiveness to change; and, efficiency and practicality of implementation. Tools were deemed as having more utility if they fulfilled more rather than less of the criteria.

Results: Fourteen unique reflective thinking evaluation tools were identified. Only two tools achieved three of the four criteria: the Groningen Reflection Ability Scale (GRAS) and a tool developed by Wallman, Lindblad, Hall, Lundmark and Ring (2008). Most authors failed to test their tool's responsiveness to change.

Implications: The value of these tools is evaluating whether reflective thinking curricula is succeeding in developing reflective practitioners. However, currently there is no standard method for evaluating students' reflective thinking skills. There is a need for tools that are reliable, valid, responsive to change and efficient. Without, determining the effectiveness of reflective curricula for developing students' reflective thinking is limited.

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HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

A COMPREHENSIVE FRAILTY FRAMEWORK AMONG VULNERABLE POPULATIONS

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LEADING THE WAY: LATINO DAY LABORER HEALTH PROMOTERS

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Peter Andrew Guarnero

APPALACHIAN CERVICAL CANCER KNOWLEDGE, BEHAVIORS AND BELIEFS

Mary Vance

A Comprehensive Frailty Framework among Vulnerable Populations

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Purpose: To propose a theoretical model, the Comprehensive Frailty Framework for Vulnerable Populations (CFFVP) which will illuminate the unique predictors and adverse outcomes of frailty among homeless populations.

Description of Theory: The CFFVP model (Salem, 2011) was developed from a multidisciplinary review of empirical research of vulnerable populations from among the fields of nursing, gerontology, geriatrics, medicine, and public health. Based on six decades of literature, frailty will be defined as a multidimensional syndrome, characterized by biological, cognitive, physical, psychological and social antecedents, which often lead to adverse outcomes such as disabilities, falls, hospitalization, and premature death.

Internal Consistency of the CFFVP Model: Empirical research has demonstrated several factors which uniquely impact frailty and subsequent adverse events. These include situational factors, psychological and health-related behavioral factors, and biological and environmental factors. Equally important, varying degrees of resilience and social support may mitigate these relationships. The assessment of frailty by means of a multidimensional model strengthens the identification of populations at risk for poor heath outcomes.

Logic Linking Theory and Practice: While estimates vary, 16% of the homeless population may be considered frail when compared to7% of community dwelling adults aged 65 and older. While poorly understood, frailty may also be especially significant to certain vulnerable populations at an even younger age, namely homeless adults as young as 40 years of age due to a panoply of issues related to socio-demographic inequities, chronic health conditions, depression, and disabilities. As trusted healthcare clinicians, nurses are the vanguard that will continue to care for homeless adults and experience the complexity of the population shift commensurate with a greater burden of disease.

Conclusion: The CFFVP model highlights antecedents and mediators which place homeless populations at greater risk for frailty and adverse outcomes and adds a critical discussion to the nexus of frailty among vulnerable populations. The significance to nursing in understanding the predictors of frailty among homeless populations is unparalleled; to date, there is a paucity of data which pertains to younger homeless adults and assessment of frailty. This can be particularly attributed to the fact that investigators who work with homeless communities, oftentimes focus on communicable and infectious diseases without taking into account specific health needs of our chronically homeless population. For nursing, untangling the concepts of frailty and associated comorbidities are imperative in order to create and sustain targeted clinical interventions for the US-based burgeoning homeless population.

Funding: NIH/NINR T32 NR007077 Health Disparities and Vulnerable Populations Research Training Program.

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Culturally Competent Educational Interventions for Latinos with Type 2 DM

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Purpose: The purpose of this project is to implement a culturally modified diabetes education program to improve self-management and clinical outcomes of Latinos with Type 2 Diabetes.
Background: Latinos, the fastest growing minority in the United States, are among the most affected populations by the diabetes epidemic. Disease intervention strategies need to focus on the unique factors of lifestyle, cultural beliefs, socioeconomic status and access to health care, while presenting information in a manner congruent with the Latino culture. Chronic disease self-management is key in determining improving disease outcomes and there is strong evidence in the literature supporting the benefits of culturally competent interventions to improve disease outcomes and self-management within Latino populations.
Methods: A pre and post study design utilizing the RE-AIM framework will be used to obtain comparison data regarding outcomes of culturally competent interventions of Latino adults with Type 2 Diabetes, who are age 18 through 64 years, can read and understand Spanish, and have a baseline glycosylated hemoglobin of 8.0% or higher. Participants will be recruited from a community health clinic in urban Phoenix that exclusively provides care for the uninsured. The Stanford Model for the Spanish Diabetes Self-management Program has been adopted in Arizona by the Department of Health and Human Services, and will be used for the educational intervention. Six weekly sessions, 2.5 hours each in length, are facilitated by 2 Community Health Workers (CHWs), one or both of whom have diabetes themselves. The CHWs attend 4.5 days of training to conduct educational sessions from a scripted format. All sessions are presented in Spanish without translators, and are highly interactive. Participants are encouraged to bring a family member or friend. Chart review will be performed by the project leader to collect pre and post intervention HbA1c and medication data. In addition, height and weight will be measured and BMI calculated during the first and last education sessions, by the project leader. Questionnaires will be administered by the CHWs pre and post intervention, and will include a participant survey, a participant feedback survey, and a demographic questionnaire. The surveys include questions related to perceived control over disease management, and overall satisfaction with the program. The demographic questionnaire asks questions related to age, gender, age at diagnosis, and educational level. Participants return 6 weeks post intervention for a diabetes health visit with their provider to assess their disease status.
Conclusions: There is strong evidence to support improvement in self-management skills of Latino Type 2 Diabetics through the use of culturally modified educational strategies, as demonstrated by consistent decrease in HbA1c. Advanced Practice Nurses can utilize this educational intervention to improve diabetic patient outcomes in the Latino community.

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Nursing: A Force for Change in Palestine and in the U.S.

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Purpose: This presentation will highlight the challenges and rewards of teaching in and supporting development of a new baccalaureate nursing program in the West Bank through a Fulbright traditional scholar award. In addition, education and public health challenges in Palestine will be explored, and lessons learned will be applied to nursing and health care in the United States.

Background: Current public health challenges faced by Palestinians include lack of access to education and healthcare, poor health of Palestinian women and children, an emerging relationship between violence experienced in everyday life and intimate partner violence, and dietary risks for Palestinian adolescents. Those challenges require a highly educated nursing workforce that is supported by the international community.

Undertaking: Thanks to a generous grant from the Fulbright Commission, the presenter was able to spend five months at Birzeit University in the West Bank teaching students, mentoring new nursing and health science faculty, and presenting research on families of children with special needs at invited conferences.

Outcomes Achieved: Student feedback from the three courses taught by the Fulbright Scholar was very positive, and mentoring by the scholar was partly responsible for acceptance of one Palestinian nursing faculty member into a European doctoral program. In addition, Palestinian faculty and student interviews revealed a number of ongoing educational challenges that were partly ameliorated by grant-writing and program development and evaluation that was completed during the Fulbright experience. The reciprocal relationship between the U.S. and Palestine continues, and I remain an integral part of the Palestinian faculty.

Conclusions: I learned more than I could ever teach, and I was able to bring some of the lessons learned to my practice and teaching in the U.S. This unique cross cultural experience enhanced my understanding of the need for samud (the Arabic work for steadfastness), inter-professional cooperation, and creativity as we negotiate healthcare and educational challenges during times of economic stress.

Funding: This project was funded by a traditional scholar award to the presenter from the Fulbright Commission of the United States Department of State.

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HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

Social Support, Maternal Health Literacy and Health Care Outcomes in Latino Children

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Purposes/Aims: The purpose of this study is to examine the role that social support plays in mitigating the influence of low maternal health literacy on health outcomes among low-income, Latino children.

Rationale/Conceptual Basis/Background: Substantial evidence indicates that low health literacy (HL) is associated with poor health outcomes, including inappropriate and inefficient use of health services in adult populations. Several recent studies also link low parental HL to suboptimal pediatric health outcomes. Importantly however, other evidence indicates no relationship between caregiver health literacy and child health outcomes suggesting that our understanding of the impact of parental HL on child health is incomplete.

One possible explanation for these equivocal findings may result from the social support offered to parents of young children from grandparents, siblings, babysitters, and teachers. Adequate HL in one or more of these individuals may be "protective" and mitigate negative outcomes associated with low parental HL. The impact of low parental or caregiver HL on pediatric health may be best evaluated when social support and other resources are considered.

Social support, such as a familial role model, may be especially important for low-income mothers with low HL. Social networks may improve their ability to acquire and understand medical information and navigate the health care system. Thus, social support may mediate or moderate the effects of low maternal HL and may account for some of the conflicting data in the pediatric HL studies.

Methods: Low-income English- and Spanish-speaking Latina mothers / female primary caregivers of children aged three months to four years, who had utilized health care services within the prior six months, were recruited from WIC sites in Southern California (n= 126) to participate in this cross-sectional, correlational study. Demographic data included maternal/ caregiver education level, acculturation status and preferred language, child health insurance status, and whether the child received care from a regular place and regular provider. Maternal HL was measured using the *Newest Vital Sign* and the *Single Item Literacy Screener*. Presence of social support was measured using the *Family Support Scale*. Perception of pediatric ambulatory care received was evaluated using the *Promoting Health Development Survey*.

Results: Data analysis will include descriptive and correlation statistics to describe demographic characteristics associated with level of maternal HL. Associations between maternal HL, maternal education level, maternal level of acculturation, primary maternal language used, child insurance status and access to regular source of care and presence of social support will be analyzed. Moreover, the relationship between maternal HL, social support and specific outcomes of pediatric ambulatory care will be examined. Specifically, data will be examined using Pearson product-moment correlation coefficient, one-way independent Analysis of Variance, and multiple regression.

Implications: Limited maternal HL may substantially disrupt access to pediatric health care, impede informed maternal decision-making and exacerbate pediatric health disparities. The findings from this study will assist health care providers in understanding the role that social support plays in mitigating negative impacts of low maternal HL. Moreover, these results may stimulate further investigation into methods of maximizing social support for this population.

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HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

Health Literacy, Self-Efficacy, and Interpersonal Communication in Latina Mothers

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Purposes/Aims: This study examines the associations between maternal health literacy (HL), self-efficacy for communication, and maternal-provider interpersonal communication to better understand how low maternal HL influences parental management of child health or illness.

Rationale/Conceptual Basis/Background: During any health care encounter, patients are expected to provide information, respond to questions, and make inquiries associated with their health and illness related concerns. Accordingly, effective interpersonal communication skills, including self-efficacy for communication, are essential for successful patient-provider interactions. Research indicates that individuals with low health literacy (HL) experience challenges in communicating with providers and demonstrate poor comprehension of provider instructions, ask few questions within a clinical encounter and often report poor satisfaction with patient-provider communication. Moreover, low-income populations, specifically at risk for low HL, report dissatisfaction with patient-provider communication.

Limited research has considered self-efficacy and interpersonal communication skills within the context of HL. Even fewer studies examine these constructs within the context of the pediatric setting. Substantial research indicates that effective parent-provider communication is generally associated with parental satisfaction with child health care, adherence to treatment recommendations, the building of trust in the therapeutic relationship, and improved discussion of psychosocial concerns, an integral component of pediatric ambulatory health care. Poor communication, especially among low-income populations, or foreign-born or non-native English-speaking parents, contributes to poor child health outcomes and exacerbates pediatric health disparities.

Methods: Low-income English- and Spanish-speaking Latina mothers / female primary caregivers of children aged three months to four years, who had utilized health care services within the prior six months, were recruited from WIC sites in Southern California to participate in this cross-sectional, correlational study (n= 126). Demographic data included maternal/caregiver education level, acculturation status and preferred language, access to social support, child health insurance status, and whether the child received care from a regular place and regular provider. Maternal HL was measured using the *Newest Vital Sign* and the *Single Item Literacy Screener*. Self-efficacy in communication was assessed using the *Perceived Efficacy in Patient-Physician Interactions* while perception of interpersonal interactions was measured using the *Interpersonal Processes of Care in Diverse Populations* survey.

Results: Data analysis will include descriptive and correlation statistics to describe demographic characteristics associated with level of maternal HL. Associations between maternal HL, maternal education level, maternal level of acculturation, primary maternal language used, access to social support, child insurance status and access to regular source of care will be examined. Moreover, the relationships between maternal HL, self-efficacy, and specific dimensions of maternal-provider interpersonal interactions will be examined. Specifically, data will be examined using Pearson product-moment correlation coefficient, one-way independent analysis of variance, and multiple regression.

Implications: Limited maternal HL may disrupt access to pediatric health care, impede informed maternal decision-making and exacerbate pediatric health disparities. Identifying factors that influence effective interpersonal communication skills, including low HL and self-efficacy, can assist health care providers in supporting the efforts of low-income Latina mothers to communicate, obtain and understand information necessary for the promotion of health in young children in this vulnerable population.

HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

Evolving Health Race Consciousness in Hypertensive African American Men

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Purposes/Aims: The purpose of this poster is to illustrate an evolving utility for the Public Health Critical Race (PHCR) framework as a methodology to enhance the understanding of psychosocial stressors as determinants of hypertension among African American men.

Background: In light of the Department of Health and Human Services' Initiative to Eliminate Racial and Ethnic Disparities in Health by the Year 2010, it is important to be able to examine the potential effects of racism in causing race-associated differences in health outcomes. This current initiative is to be lauded as the first explicit commitment by the United States government to achieve equity in health outcomes. Political recognition of systemic health disparities provides support and credence to the significance of addressing these public health concerns. A recent literature search of "racism and health" retrieved 11,215 articles demonstrating considerable associations currently under study. Race-associated differences in health outcomes are routinely documented in this country, yet for the most part, they remain poorly explained. For this reason, some investigators now hypothesize that race-associated differences in health outcomes are in fact due to the effects of racism. Specifically, racism-associated hypertension studies of African American men have brought to light empirical evidence of the perilous effects of discrimination and negative health outcomes in hypertension and cardiovascular disease.

Methods/Process: Critical Race Theorists (CRT) have emphasized the need for interdisciplinary studies to expand the boundaries of qualitative research to provide a "voice" to the silent, as well as the need for qualitative research to provide new histories, narratives, and counter-myths to challenge the pervasive hegemony of the dominant voice. Derived from CRT, Ford & Airhihenbuwa (2010), have proposed the PHCR methodology which aims to facilitate health equity research that includes four focused research processes. These authors include Contemporary Patterns of Racial Relations (Focus 1), Knowledge Production (Focus 2), Conceptualization and Measurement (Focus 3), and Action (Focus 4) as constructs of their model. They refer to followers as "healthcrits," who are persons who systematically work through each focus by drawing on the affiliated principles. This working through process requires a devoted energy addressing each focus' purpose. All CRT endeavors begin with the question, "How does racialization contribute to the problem at hand?"

Outcomes Linking the Theory or Concept to Nursing Practice or Research Problem: Questions consider whether or not the research findings advance scientific knowledge that will promote racial equality. Healthcrits view racial phenomenon as racialization which describes how socially constructed racial and ethnic categories are used to order groups socially.

Conclusions/Implications for Nursing Practice or Research: PHCR praxis, informs all aspects of the research process; from the formulation of research questions to the nursing interventions based on the findings.

Funding: Funding from the following sources is gratefully acknowledged: The UCLA School of Nursing T32 Health Disparities and Vulnerable Populations Research Training Program NIH/NINR T32 NR007077.

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HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

A Case Study of Midwifery in Manitoba

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Background: In 2000, midwifery was regulated in the Canadian province of Manitoba. Since the inception of the midwifery program, little research has been done to analyze the utilization of regulated midwifery services. Currently, many women are denied access to midwifery care due to the shortage of midwives in Manitoba. Key components of the original implementation plan for midwifery have not met projected targets, including a lower than projected number of midwives and midwifery births. Furthermore, a lack of successful educational programs and lack of funded positions have contributed to the shortage of midwives.

Purpose: The purpose of this study is (1) To describe the utilization of midwifery health care services in Manitoba from 2000/2001 to 2009/2010 and; (2) To explore factors influencing the utilization of regulated midwifery services in Manitoba.

Conceptual Model: The Behavioral Model of Health Services will be used to conceptualize factors that impact the utilization of midwifery services in Manitoba. The goal of this framework is to demonstrate how predisposing, enabling, and need factors are interrelated in regards to health care utilization. A feminist framework will be applied in this study to draw on the insights and struggles of the midwifery profession in Manitoba. The relevance of a feminist framework in midwifery is to examine the issues and practices of a situation in relation to how they influence women's lives and experiences.

Methods: This study will use a case study design. The unit for analysis or the single case to be studied is regulated midwifery services in Manitoba. Both qualitative and quantitative methods of data collection will be used. The case study evidence will be derived from three sources; documents, administrative data and interviews. The quantitative analysis will be done using population-based administrative data from the Manitoba Centre for Health Policy, to study the utilization of midwifery care in Manitoba between 2001/02 to 2009/10 (e.g., trends in number of midwives, proportion of births attended by midwives, geographic distribution of midwifery services). Document analysis (e.g., reports, minutes, archived documents) and the long interview method with key informants will be used to gather the qualitative data in this case study. Interviews will be audiotaped and transcribed; content analysis will be used to identify themes arising from the data.

Implications: In spite of scientific evidence that supports the midwifery model of care, there remains an inherent struggle to justify and sustain the profession globally. Although Canada has implemented a direct entry midwifery model, other areas of the world including the U.S. also have a nurse midwifery model. The findings will have implications for maternal/child health professionals to work at improving collaborative efforts to facilitate access to midwifery services for women who would like the choice of midwifery care.

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HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

Leading the Way: Latino Day Laborer Health Promoters

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Purpose: This study builds on previous Community-Based Participatory Research (CBPR) by this researcher with Latino day laborer families to explore implementation and evaluation of community identified action strategies. The purpose of this study was to 1) explore the health concerns of Latino day laborer men including resources accessed and barriers encountered in seeking healthcare and 2) implement community identified change strategy of day laborer health navigators/promoters, specifically Latino male health promoters, and 3) evaluate the perceived effectiveness of Latino day laborer health promoters.

Background: Latinos immigrants are the largest, fastest growing group of immigrants in the U.S., estimated to be 15% of the population. Health disparities are evident for Latino immigrant families as they are less likely to have access to healthcare. Sub-populations of Latino families working in low wage jobs, such as day laborers, may be particularly vulnerable through the experience of economic difficulty and unstable living conditions related to the nature of their work. Previous CBPR by this researcher with Latino day laborer parents revealed difficulty accessing care and strategies for change including use of lay health promoters. Lay health promoters have been demonstrated to be effective in the Latino community. Most lay health promoters are women. Minimal evidence can be found regarding the use of male health promoters for health navigation and access to care.

Methods: This research partnered with two community organizations, a day laborer center and a community clinic, to gather a baseline assessment of health access and health needs for Latino day laborer men, implement health promoter training, and evaluate post implementation. A focus group of day laborer men (N= 16) was conducted and a brief survey of current health status, current health care access, health care insurance and demographic information was completed. Participants interested in health promoter training (N=3) were identified by site personal and enrolled in an onsite health promoter training course of 10 one hour sessions. Following completion of health promotion training and implementation of health promoter role at the site, a focus group will be conducted to evaluate the day laborer community perception of the health promoter role and activities. Interviews will be conducted with the health promoters regarding training and effectiveness of their role.

Results: Analysis of focus group data and baseline survey data reveals limited use of healthcare by Latino day laborers. In response to personal illness, the Latino day laborers participants most commonly reported that they "aguantarlo" or endure the problem. Themes identified included 1) use and distrust of non-licensed health providers, 2) difficulty with healthcare access,3) concern for family members, and 4)support from peers. Health promoter training is in progress and data post implementation will be analyzed on completion.

Implications: This study informs the understanding of strategies to improve health of day laborer families, specifically through the use of male health promoters. Improving the health of the Latino day laborer men benefits the families of the day laborers through decreased loss of work days, increased economic potential and increase in quality of life for the family.

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Using Community Based Research to Assess Medical Vulnerability in the Homeless

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Purpose: The aim of this study is to assess the level of medical vulnerability of the chronically homeless in a Seattle neighborhood to determine the need for additional and/or enhanced health care and social services.

Background: People who are in chronically poor health are considered to be medically vulnerable and as such, frequently suffer from a decline in quality of life and access to adequate health care services (Knickman & Hunt, 2003). Because of their living arrangements and lack of access to health care services, a larger proportion of homeless people are typically medically vulnerable as compared to the general population. In addition, people who are homeless have a higher mortality rate when compared to other low socioeconomic groups with the same medical diagnosis (Hwang et al, 1998). It has been the research team's observation that the homeless population residing in the target neighborhood tends to be older and thus may have higher levels of chronic illness and associated morbidity. In order to design relevant health care services for this community, an assessment of demographics and medical vulnerability is being performed with the local homeless population.

Methods: The Vulnerability Index (VI) survey (Hwang et al, 1998) is used to rank the community's most medically vulnerable homeless individuals' by identifying their health and social status and risk factors. The survey has been used extensively with homeless populations throughout the United States. The VI takes approximately 20 minutes to administer and asks questions such as "What is the total length of time you have lived on the streets or shelters?" and "Where do you usually go for healthcare or when you're not feeling well?" This community based participatory research project builds upon collaborative relationships between the Seattle Mennonite Church, Seattle University College of Nursing, and the Neighborhood Taskforce on Homelessness, who represent multiple stakeholders from throughout community. In keeping with the principals of community based participatory research, graduate research assistants are paired with members of the community who are formerly homeless, to conduct the surveys. The teams will interview approximately thirty chronically homeless men and women residing within the neighborhood.

Results: Data collection and concurrent data analysis are in progress.

Implications: The data from this study will be used to design sustainable medical and nursing services that meet the needs of the homeless people and other stakeholders in the community.

References:

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African American Women and Sexual Assault: Incidence, Health Risks, and Help Seeking

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Purpose: The purpose of this literature synthesis is to describe the incidence of sexual assault in African American women, their post traumatic stress disorder (PTSD) symptoms associated with sexual assault, and their help seeking behaviors after sexual assault.
Background: Sexual assault affects between 6% and 78% of women in their lifetimes (Basile et al, 2007, Temple, et al, 2007). Sexual assault has significant effects on health, including increased incidences of depression, PTSD unplanned pregnancies and sexually transmitted infections and pelvic inflammatory diseases (Miner, et al, 2006, Seng, et al, 2005, Holmes, et al, 1997, Champion, et al, 2004). Evidence has shown an increased incidence of sexual assault against African American women (Temple et al, 2007). In addition, African American women may respond differently than white women to sexual assault due to their different socio-political context (Bryant-Davis, et al, 200. A synthesis of literature of African American women's sexual assault will inform both clinical practice and inspire further research to improve the health of African American women after sexual assault.
Method: The author conducted a search in the following databases: CINAHL, PsychInfo, PubMed, and Cochrane for research findings published between 2001 and 2011. The search terms utilized were: Black women, African American women, sexual assault, sexual abuse, and rape. Research studies were included in this synthesis if they were (1) primary research, (2) targeting African American women age 14 years and older, (3) conducted in North America, and (4) focusing on adult sexual assault issues. Seventeen articles were excluded because they did not meet full eligibility criteria. Both qualitative and quantitative research methods are included. The search yielded forty articles, including two dissertations. Seven additional articles were obtained through cross-references**.** A total of thirty articles were included in this synthesis.
Results: Between 2.3% and 67.2% African American women reported being sexually assaulted in their lifetimes (Ackard, et al, 2002, Temple, et al, 2007) While some researchers found that substantially more African American women are assaulted than white women (McFarlane, et al, 2005) . Other researchers suggested the opposite (Temple, et al, 2007). Furthermore, 25% to 28.2% of African American women experiencing sexual assault have reported PTSD symptoms (Yoshihama, et al, 2005, Seng et al, 2005). Regarding help seeking behaviors after sexual assault, African American women are much less likely than White women (74% vs. 86%) to disclose the sexual assault to someone (Neville, et al, 2004). African American women also follow up less with counseling following sexual assault than white women (Alvidrez, et al, 2001). The disparities in help seeking behavior may be caused by different sociopolitical contexts (Bryant-Davis & Ocampo, 2005).
Conclusion: African American women are vulnerable to sexual assault, and may develop serious mental health problems, such as PTSD after the assault. They are also less likely to seek for professional assistance following sexual assault. It is important for health care providers to be aware of the sociopolitical context in which African American women are assaulted in order to provide optimum care.

References: Available upon request.

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Latino Adults' Understanding of the Health Promoting Lifestyle Profile II

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Purpose: To uncover the meanings of responses to the Health Promoting Lifestyle Profile II (HPLP II) for Latino adults with or at risk for type 2 diabetes in two faith communities in southwest Idaho.

Background: The HPLP II Spanish version of the HPLP developed by Walker (1997) was used to ascertain the health promoting behaviors of Latino adults. The instrument is a 52-item rating scale measuring the frequency of self-reported health behaviors on six subscales, 1) health promoting lifestyle responsibility, 2) physical activity, 3) nutrition, 4) spiritual growth, 5) interpersonal relations, and 6) stress management. The responses are recorded on a 4 point descriptive likert scale. Results are summed and averaged to obtain a score for the subscales and the overall HPLP II. Higher scores reflect greater participation in health promoting behavior. The Spanish language version of the instrument was developed using a translation and back translation method. However, there was no method used to determine cultural equivalence. It is not known how Latino adults interpreted the HPLP survey items which were developed using a Eurocentric framework.

Methods: The research question for this study is: What does health promotion mean for Latino adults who are at risk for type 2 diabetes? Members of the Latino community recruited participants via telephone to participate in focus groups. The first two focus groups were conducted in English and Spanish to uncover the cultural understanding of questionnaire items. Recordings were transcribed and translated for cultural meaning and equivalence. Data analysis included repeated reading to gain a sense of the entirety of the transcript, note taking of content areas, grouping of content and developing categories. The categories will be revised as new information is obtained through subsequent focus groups.

Results: Preliminary results show participants understanding of health is inextricably meshed to their view of the future and belief that dreams can be achieved. Thus, for this population health is conceptualized to include activities aimed at reaching success. Healthy behaviors were expanded to include communication patterns between family members and the immediate community. Two additional focus groups will be conducted to ensure a breadth and depth of data has been obtained.

Implications: The HPLP II results along with the clarification of this population's interpretation of the survey items will be used to develop a culturally appropriate health promotion intervention. It is incumbent upon researchers to carefully examine standardized instruments for cultural relevance before implementing interventions designed to improve health promoting lifestyles.

Funding: Research supported by grant funding from: Boise State University School of Nursing Momentum Grant.

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Stigma in Women Living with HIV/AIDS in Indonesia

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Background: With continued high rates of incidence, Indonesia is now ranked as the fastest growing HIV epidemic in Asia. There is an estimated 333,200 people living with HIV in Indonesia of which 25% are women. While the numbers of men living with HIV are greater than that of women, the social impacts faced by women are far worse due to gender inequity. Few studies have examined HIV-related stigma in women living with HIV (WLWH) in Indonesia.

Purpose: To understand the lived experiences of stigma among women living with HIV in Indonesia.

Method: Data was collected from 20 WLWH at the Pelita Ilmu Foundation office using semi-structured in-depth interviews. The first interviews were conducted over 60 – 90 minutes and 30 minutes for a second interview with 6 selected participants from the original twenty. Interviews were recorded using a digital audio recorder and transcribed verbatim. Thematic analysis was used to assess the lived experiences of stigma among the participants.

Results: Most of the participants were infected by their husband and despite this fact they are continuously faced with being associated with prostitution and free sex. Many women experienced stigma from their own family as they were the first people to whom they disclosed their HIV status. Avoidance, ostracism, and verbal insults were frequently experienced by WLWH. They also experienced enacted stigma from the community and health care providers. Fear of HIV infection and a lack of knowledge about the way HIV is transmitted are common instigators of enacted stigma.

Implication: These results highlight the importance of health education about HIV targeted not only for families of WLWH, but also community members and health care providers. Future research should address effective interventions to reduce HIV-related stigma in WLWH.

Funding: This work was supported by GO Health Fellowship from the Department of Global Health University of Washington.

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HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

Psychological and Behavioral Risk Factors for Diabetes among Korean Immigrants

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Aims: The aims of this project are to: 1) assess the risk of type 2 diabetes (DM) among Korean immigrants through health behaviors; 2) describe their psychological environment; and 3) examine the relationship between psychological environment and DM risk behaviors.

Background: Korean immigrants are the 4th largest group of Asian Americans in the United States and suffer one of the highest rates of DM among Asians and have two to three times the likelihood of DM relative to Caucasians. However, information on behavioral and psychological risk factors for DM in this population is scarce.

Methods: A cross-sectional descriptive study design was used. Data were collected from 145 Korean immigrant men and women between the ages of 21-79 who have never been diagnosed with DM but are at risk for DM. "At risk" was defined by 1) positive family history of DM in first degree relatives; 2) BMI>23; or 3) history of gestational diabetes (women). Participants completed questionnaires in English or Korean. Psychological environment was assessed by five indicators (feeling nervous, hopeless, restless, anxious, and stressed) and the frequency of experiencing these symptoms.

Results: In terms of health behaviors, more than half (56%) reported eating one serving or less of fruit and 89% reported eating one serving or less of vegetables per day over the past week. On a positive note, however, 74% reported engaging in moderate physical activity, and 50% reported engaging in vigorous physical activity at least one day in the past week. In terms of psychological environment, about 30 % reported feeling nervous, 13% hopelessness, 37% restless, 51% anxious, and 65% stressed at least some of the time during the past 30 days. The summary score across the 5 psychological symptoms was significantly related to whether or not individuals reported doing any moderate exercise. Higher mean score (higher frequency) across the 5 psychological symptoms was related to a decreased likelihood to report doing at least 10 minutes of moderate exercise in the past week ($r = -.183$, $p = .027$).

Implications: Findings indicate high prevalence of anxiety and stress among Korean immigrants at risk for DM. Considering the link between emotional distress and increased risk for obesity and diabetes, this study's findings add to the concern for this population at risk. Assessment of psychological environment should be incorporated in designing and implementing preventive measures for DM such as promoting physical activity to prevent further growth of diabetes prevalence among Korean immigrants.

Funding: This project was supported by Grant Number UL1 RR031985 from the National Center for Research Resources (NCRR), a component of the National Institutes of Health (NIH) and the NIH Roadmap for Medical Research.

HEALTH AND ILLNESS IN CULTURALLY DIVERSE POPULATIONS

Latino/Hispanic Young Men and Health Beliefs, Acculturation and Emerging Adulthood

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Purposes/Aims: The purpose of the study was to identify factors that influenced health promotion behaviors in Latino/Hispanic men's health including their experiences and health concerns. The specific aims of the study were 1) explore and describe the influence of emerging adulthood and acculturation processes on the meaning of health for young Latino/Hispanic men, 2) identify the consequences of emerging adulthood and acculturation processes in terms of health beliefs and behaviors as perceived by young Latino/Hispanic men and 3) generate hypotheses that can be used to develop and test culturally appropriate measurement and intervention strategies to promote and improve the health of young Latino/Hispanic men.

Rationale/Conceptual Basis/Background: Limited educational and economic opportunity impacts their ability to obtain a job and health insurance. The lack of health insurance forces many young men to forgo health screening and treatment. Young men in general and Latino/Hispanic young men in particular are in many instances socialized into concealing their pain or injuries. Emerging adulthood is a developmental juncture when individuals are no longer adolescents but are not considered by themselves or their parents to be full adult (Arnett, 2000; 2004; Nelson, et al., 2007). In addition to the demands of love, work, developing a worldview and mature identity, emerging adulthood is also a period of instability during which relationships are fluid, that is, they are short term. Acculturation is a multi-dimensional process (Abraido-Lanza, Armbrister, Florez & Aguirre, 2006) that encompasses social cognition, cultural competence, social identity, social dominance and social stigma. The study used a modified ecological conceptual framework as a guide to understanding the experiences of young Latino/Hispanic men. Acculturation, emerging adulthood and health were the three key ecological variables used in the study.

Methods: The study consisted of two data collection sessions. Session one consisted of a semi-structured individual interview and completion of a demographic questionnaire, two acculturation scales, a health promoting lifestyle scale, and visual analog scales for overall health perceptions and quality of life. Session two consisted of focus where young men were asked to clarify and amplify findings from session one. The participants were asked to elaborate on the key health promotion issues that impacted their day to day lives. The sample consisted of 16 Latino/Hispanic young men who were students at a Hispanic-serving university in the Southwestern United States. All were between the ages of 18 and 25.

Results: The majority (56.3%) of the young men self-identified as Mexican and 18.8% self-identified as Mexican American ethnicity. Three-quarters of the sample (12/16) self-identified as heterosexual while 18.8% (3/16) self-identified as questioning. The qualitative results indicated that participants struggled with issues of relationships, work and love. Participants believed that any health promotion program must use the internet to deliver a culturally competent message.

Implications: Any future work with young Latino/Hispanic men must take into consideration how ethnicity influences health promotion choices. In addition, any health promotion must engage the Latino/Hispanic family and community.

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Understanding Health Promotion Behaviors among Young Men of Color

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Purposes/Aims: The purpose of this proposed study is to build on formative research I conducted while pursuing a Master's of Science in Clinical Research at the University of New Mexico, School of Medicine. The goal of this research is to engage a group of Latino men between the ages of 18 and 25 in identifying critical information needed to create a culturally and contextually relevant sexual and reproductive health promotion program, which will then be piloted in the next phase of this developing program of research. A community based advisory board of 18-25 year old Latino men will be convened to identify the areas of sexual and reproductive health relevant to this group of men and be the focus of education efforts. The members of the advisory board will be invited to participate in a series of focus groups to elicit their perceptions of what is the major sexual and reproductive health issues young Latino men face.

Rationale/Conceptual Basis/Background: A major obstacle to developing an effective sexual and reproductive health promotion program for this population is our lack of understanding of how young Latino men view their sexual and reproductive health needs. My preliminary work with young Latino men 18-25 years old indicates that they have a need to develop a more in-depth knowledge about sexual behavior, sexually transmitted diseases, pregnancy, and risk behaviors. Historically the focus of sexual and reproductive health has been women. However, in recent years there has been a call for a more balanced approach to the delivery of sexual and reproductive health services that include men. Community-based participatory research is an alternative research paradigm that seeks to involve a community in development of research projects (Minkler & Wallerstein, 2008).

Methods: A community based advisory board of 18-25 year old Latino men will be convened to identify the areas of sexual and reproductive health relevant to this group of men and be the focus of educational efforts. Subsequently, the members of the advisory board will be invited to participate in a series of focus groups to elicit their perceptions of the major sexual and reproductive health issues young Latino men face. Focus groups will be audio taped and transcribed for analysis.

Results: The results from this study will be used to create a culturally and contextually relevant sexual and reproductive health promotion program.

Implications: Findings from this pilot study will be used to apply for extramural funding.

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Appalachian Cervical Cancer Knowledge, Behaviors and Beliefs

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Background: Rates of cervical cancer are higher in Appalachia when compared to other regions in the United States despite availability of free Pap smear testing and the HPV vaccine. While socioeconomics and cultural factors have been implicated as possible reasons, these relationships have not been clearly described.

Purpose: The aim of this study was to develop a data collection instrument, the Appalachian Cervical Cancer Knowledge, Behavior and Belief survey to assess knowledge behaviors and beliefs about cervical cancer in Appalachian women.

Sample: A total of 237 women participated in the study. Of these twenty women participated in the pilot study to provide an initial examination of the instrument. Inclusion criteria consisted of age 21-64; English speaking; willingness to participate in the study; intact uterus; and residence in Appalachia.

Methods: An initial 53 item instrument was developed after a comprehensive literature review and using the researcher's clinical background in Public Health and Nursing. Six experts with medical, nursing, public health and research backgrounds were selected to evaluate content validity of the 53 item instrument. The revised 40 item instrument was subsequently pilot tested with 20 women residing in Avery County, NC to evaluate the instrument for feasibility for administration; identify procedural problems; provide feedback regarding each item for retention or deletion; and identify any issues with the instrument. The resultant 32 item instrument was evaluated by three experts from Public Health and Nursing to evaluate the instrument for content validity of each item and the entire instrument. The revised instrument was then administered to a sample of 217 women.

Results: A 32 item scale was the final product. Three experts from Public Health and Nursing found a favorable Item and Scale Content Index with no scores below 100% and no recommendations for additions or deletions to the 32 item survey. The instrument was then administered to 3 distinct groups of women within Appalachia. Exploratory factor analysis findings include a four factor solution, resulting in potential retention of 24 of 32 original items.

Discussion: The instrument demonstrated validity to evaluate Appalachian knowledge, behaviors and beliefs of cervical cancer. Exploratory factor analysis revealed a four factor solution with exploratory factor analysis and potential retention of 24 of the 32 items. Further testing is needed to strengthen the generalizability of the instrument and to address areas of improvement. Implications for nursing include use of research findings to provide focused interventions to reduce cervical cancer rates in this region.

HEALTH SYSTEMS AND RELATED RESEARCH

NURSE MANAGER TRANSFORMATIONAL LEADERSHIP PRACTICES AND PATIENT OUTCOMES

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EXPLORING ABSENTEEISM AMONG NURSES IN A TERTIARY MEDICAL CENTER IN LEBANON

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Nurse Manager Transformational Leadership Practices and Patient Outcomes

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Purpose/Aim: The purpose of this research is to examine the relationships among nurse manager transformational leadership practices, patient outcomes and hospital types (Magnet versus non-Magnet). This study will identify the relationship of existing self-assessed transformational leadership practices and patient outcomes; differences in leadership behaviors of nurse managers working in Magnet and non-Magnet hospitals; relationship of transformational leadership practices and education, experience, ethnicity, and age.

Significance/Background: In 2004 the Institute Of Medicine called for healthcare leaders to embrace and adopt transformational leadership practices to promote quality of care and favorable patient outcomes. The healthcare environment continues to struggle with complex patients, decreased reimbursements, and poor team collaboration. Nurse managers are accountable for 24-hour operations of their departments and should explore their transformational leadership behaviors and influence on patient outcomes. There is also literature that supports hospitals achieving Magnet designation have better patient outcomes. Each of these constructs, Magnet-designation, patient outcomes, and nurse manager transformational leadership practices, are being explored to help determine if there are significant correlations to support changes in our healthcare environments.

Design: A correlational study will examine relationships between self-reported transformational leadership practices of ACNL member nurse managers and CALNOC reported patient outcomes by hospital types (Magnet and Non-Magnet Designated).

Methods: The study will be conducted using a purposive sample from the Association of California Nurse Leaders (ACNL) database. ACNL nurse manager members working at Magnet and Non-Magnet hospitals in California will be included as participants. The participants will include California nurse managers, defined as those with 24-hour accountability for one or more departments. The independent variables of the study will include hospital type (Magnet vs. non-Magnet), transformational leadership practices: modeling, inspiring, enabling, encouraging, and challenging; Magnet-designation. The measurement tools utilized for this study will include the Leadership Practices Inventory (LPI) and a demographic questionnaire. The nurse manager will complete the LPI-self assessment and the demographic questionnaire using a paper and pencil format. The data collection will be completed in two phases. During the first phase the LPI and demographic information from the participants will identify the type of hospital and department. During the second phase, the participant hospital and departments will be submitted to CALNOC (Collaborative Alliance for Nursing Outcomes) for patient data matching. Appropriate protocol will be followed, including USD IRB approval and proposal submission to CALNOC. CALNOC will obtain appropriate hospital authorization to release data, and prepare data for purposes of statistical data analysis for research purposes.

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Competency Levels and Work Environments in Military and Civilian Perioperative Nurses

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Recent research has explored the correlation between the nursing work environment and patient outcomes. Attributes of the nursing work environment also influence the clinical learning of registered nurses and the resulting competency levels. This competency level, which is increasingly being scrutinized by regulatory agencies and others, also influences patient outcomes but this relationship has not been as extensively explored.

The Nurse Competence Scale (NCS) was used to assess competency levels and the Practice Environment Scale – Nursing Work Index (PES-NWI) was used to assess the nursing work environment. Demographic characteristics including years of experience, educational level and type of sub-specialty training were gathered and comparisons were made between the groups.

Patricia Benner's Novice to Expert Theory served as the theoretical framework. The influence of the unique perioperative nursing work environment upon the competence level of nurses was a focus of the study.

Methods: A cross-sectional non-equivalent comparison group design was used. Bivariate and multivariate statistical methods were used to determine which of the Independent Variables predicted perioperative nursing competency.

Results: Statistically significant differences were found in the demographic characteristics as well as the competency scores and work environments between the groups. The Navy subjects had higher competency and work environment scores.

Implications: The NCS and PES-NWI show promise for further research in perioperative nurses. The potential exists to alter the nursing work environment and training methods for this sub-specialty and thus effect nursing competency and then patient and nurse outcomes. The influence of the nurse manager upon the competency of perioperative nurses merits further study.

A Combination of Nursing Theories to Guide a Professional Practice Model

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Purpose/Aims: The purpose of this project was twofold. The first aim was to identify a nursing theory symbiotic with the organizational culture to establish as the framework to support the nursing professional practice model, specific to a Veteran healthcare facility. The second aim was to develop a presentation of the model that was understandable and appealing to nurses at all levels within the organization.

Background: The Magnet Steering Committee at one facility collaborated with staff to revise and update the nursing shared governance model. The committee assessed a need to establish a nursing theoretical framework to support professional practice. A professional practice model defines the components of nursing practice in a way that brings meaning to nurses' daily work and unifies nursing practice throughout a healthcare system.

Approach: The Magnet Steering Committee deferred the nursing theory selection to the Professional Practice Committee (PPC) whose membership is comprised of a variety of nursing staff. Each member reviewed nursing theories and selected his/her preferred top three. Two theories/models favored by the majority were Watson's Theory of Caring and Pender's Health Promotion Model. The PPC recommended exploring a combination of both into one framework. A sub-committee comprised of 2 PPC members and 3 nurses who recently completed their MSN degrees, was created. One nurse is also a Veteran. A second Veteran, non-nurse, staff individual was invited to participate in a consultation role. The subcommittee developed the philosophical approach as a strategic battle plan utilizing Watson's carative factors along with health promotion tactics resulting in health outcomes as the mission accomplished. Nursing philosophy, logo, and presentations were developed to share with staff nurses. Nurse stories exemplifying the practice model were solicited from staff for development of a video that will be used for Nurses' Week, orientation, and public relations.

Outcomes Achieved: A professional practice model based on nursing theories was developed and made understandable in a format that could be related to by both nursing staff and Veteran patients.

Conclusion: Nursing theory can provide a solid framework for professional practice models. The nursing staff must be able to identify and understand so the framework supports a cohesive practice environment.

Calling in at Work: Nursing Cell Phone Policies in Acute Care

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Purpose/Aim: The purpose of this research study was to explore nursing policy related to cell phone use in California acute care settings. Understanding how agencies are handling nurse cell phone use at work is a first step in the process of determining how to best integrate communication technology in health care settings.

Rationale/Conceptual Basis/Background: The use of cell phones and other wireless devices is prevalent in today's society, especially among the younger generation. Since the 2000 IOM report, the use of electronic communication within the healthcare setting has grown rapidly. There are informal reports that cell phone use by nursing staff is an issue in acute care settings, yet there is very little literature on the development of any policies on this issue, and nursing cell phone use in acute settings has not been formally studied.

Methods: A 12-item online survey asking about nursing cell phone use in California acute care settings was e-mailed to 963 Association of California Nurse Leaders participants through the North Central Association of California Nurse Leaders chapter. The survey collected information on the respondents' general demographics, the category of institution in which they work, and the institutions' policies on cell phone use by nurses within that institution. The participants had the opportunity to add any comments they wished to the survey. The survey questions included multiple choice and open ended responses related to respondent/institution demographics, cell phone policy, enforcement, and challenges.

Results: The response rate was 23 percent (N=217). Most of the responses came from southern California. Responders were primarily Department Directors or Chief Nursing Officers in inpatient hospitals. The primary categories of concern identified were "distraction," "making personal calls from patient rooms," and confidentiality issues. In the text accompanying those responses, the primary themes were "professionalism" and "confidentiality." Almost three-fourths of hospitals surveyed had policies, but these policies were variably enforced. Many participants acknowledged the utility of cell phones in clinical practice for such things as looking up medication information, lab information, and disease information.

Implications: This survey highlights the concern of nurse managers about the impact of cell phone use by nursing personnel. These concerns center on professionalism and confidentiality. Policies, however, are varied and enforcement is difficult. The challenge highlighted in this study is to devise policies that allow professional and intelligent use of technologies such as cell phones while protecting nursing's professional image and the rights of patients to confidentiality. This is an achievable goal. Future studies can use this background to explore ways to achieve that balance.

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Collaborative Visioning: Establishing an Organizational Culture of Empowerment

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Rationale/Background: The Oregon Health & Science University's Monmouth campus (OHSU-Monmouth) has been in operation for just over three years, graduating its first student cohort in June 2011. In this short time, OHSU-Monmouth has increased enrollment to capacity, developed strong relationships with clinical and community partners, recruited a strong core of nursing faculty, and has experienced overwhelming demand from qualified student applicants. With this groundwork in place, OHSU-Monmouth faculty, staff, and students expressed motivation to establish an organizational culture of empowerment. Establishing a preferred organizational culture begins with identifying a clear vision, through which the shared values, desired characteristics, and motivations of the organization are expressed. Accomplishing such a vision requires a collaborative visioning process involving students, staff, and faculty.

Method: A group of three faculty and one staff were convened with the task of developing a visioning process that would incorporate input from faculty, staff, and students. The result of was a visioning process using a "planting flowers" metaphor as its framework. A territorial landscape scene was created and mounted on the wall of a high-traffic area within the nursing building. Flower bulbs were cut out of colorful paper and made available next to the landscape. Students, staff, and faculty were asked to consider the qualities and characteristics that would describe the ideal OHSU-Monmouth campus, write these words and phrases on the flower bulbs, and "plant" these bulbs within the landscape. After four weeks, all of the contributions will be collated and combined into "shoots" that will "grow" into the ideal campus that we have visualized.

Results: Preliminary observations indicate that many campus members have begun to engage in more open dialogue about their personal hopes and dreams for the OHSU-Monmouth campus. These conversations suggest that students, faculty, and staff feel this process provides a safe space to express themselves to each other and engage authentically in the visioning process.

Implications: Our experience to this point suggests significant value can be realized through a relatively simple collaborative visioning process. Identifying the shared aspirations of staff, students, and faculty will help us work together more effectively and maintain a healthy perspective when differences arise. Having a shared vision will provide OHSU-Monmouth with a framework for future decision-making, prioritizing, and goal-setting. This will be crucial to our success as we take the next steps toward establishing an organizational culture of empowerment.

A Community Physical Activity Program: Linkage with Medicare Claims for Cost Analyses

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Economic evaluation of community-based healthy aging interventions is more important than ever with the Patient Protection and Affordable Care Act. EnhanceFitness (EF), a nationally disseminated, evidence-based group physical activity program is a model exemplar of such community programs in that it has systematically collected prospective data on all participants since 2001. We previously found significant reductions in health expenditures with EF participation in members of a Medicare Advantage plan. The aim of this retrospective matched cohort case-control study was to link data from EF with Medicare claims and to explore differences in all-cause hospitalizations between EF participants and matched controls. The sample included individuals who participated in EF from 2001-2004 and were enrolled in fee-for-service Medicare for at least 24 months after the index EF enrollment date. Exact matching of records was performed based on gender, date of birth, and zipcode data obtained from the national EF database with Medicare denominator files. Up to three Medicare beneficiaries who never participated in EF and matched on age, gender and zipcode were randomly selected based on bytes 6-9 of the Health Insurance Claim identifier to serve as non-participant controls for each EF participant. Data linkage was successful for 85% of the records. Preliminary analyses showed that all-cause hospitalizations between EF participants and controls were not significantly different at 1 and 2 years post EF enrollment. In summary, it is feasible to link participation data from a community-based physical activity program with Medicare claims data using limited identifying information—providing a potential model for large scale economic evaluations of other community wellness programs as part of health care reform efforts.

Implementing Clinical Research in the High Acuity Setting of the Emergency Department

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Purpose/Aims: The aim of the parent study is to examine the influence of gender on symptom characteristics during acute coronary syndromes (ACS).

Rationale/Conceptual Basis/Background: Emergency department (ED) visits are on the rise in the U.S., with 117 million visits in 2007. Eight million of those visits were for chest pain, and those numbers are increasing. Current standards call for rapid evaluation of chest pain patients, with several procedures required within the initial 5-10 minutes. Conducting research in this setting is challenging.

Methods: Symptoms are recorded prospectively in the ED as they are occurring. The target is 630 patients admitted to the ED with symptoms suggestive of ACS: 522 patients with confirmed ACS and 108 patients ruled out for ACS. Patients are being enrolled in 4 urban EDs in California, Oregon, and Illinois with annual visits in excess of 200,000. The purpose of this report is to describe facilitators and barriers to implementing research in the highly acute ED setting.

Results: The interdisciplinary research team is comprised of nurse scientists, emergency medicine physicians, statisticians, clinical research personnel, and students. Collaboration and communication have been critical to the successful launch of the study. Key facilitators to the success of enrollment to date are monthly interdisciplinary meetings, a strong infrastructure of research within the EDs, frequent communications among the team at all levels, acknowledgement that patient care always takes precedence over research, and identification of high risk patients for enrollment. Barriers to the study launch were differing cultures in each ED, lack of engagement from some staff, and role confusion.

Implications: Several important lessons can aid other investigators conducting research in high acuity settings: 1) unit champions in nursing and medicine were identified and recruited; 2) specific written expectations, roles, research protocols, and algorithms were critical; 3) minor modifications that did not change study aims but could improve enrollment goals and maintain fidelity to protocols were made based on clinician input; 4) successes were shared between sites via e-mail, phone calls, and regularly scheduled meetings and; 5) being gracious and rewarding cooperation and success was key to overcoming barriers. Initiating rigorous clinical studies in the ED setting presents unique challenges but can be overcome through development of clear study algorithms and communication.

Funding: This study is funded by NINR (1R01NR012012-01).

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Validation of the Indicator RN Concern as a Predictor of Patient Decline

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Purpose: To determine if the subjective indicator of being concerned, *(Concern)* that RNs use as a reason to call the rapid response team, is an independent predictor of patient decline that captures a unique and valuable aspect of risk assessment for hospitalized patients. A secondary purpose is to investigate the relationship between the surveillance capacity of RNs and the use of Concern to initiate an RRT call.

Background: Patient safety is a critical priority in health care organizations (IOM, 2001). Complications that develop during hospitalization and lead to mortality or failure to rescue are seen as a primary cause of preventable deaths (Kremsdorf, 2005). Signs and symptoms of clinical decline and impending code arrest are present six to eight hours prior (Hillman et al, 2001; Kause et al., 2004; Franklin & Mathew, 2004) indicating these signs could be detected early and managed to prevent adverse events from occurring. The rapid response team (RRT) is a system that supports the bedside registered nurse (RN) by providing consultation and resources to the RN at the bedside (IOM, 2004) to reduce preventable deaths (Leach et al, 2010). Physiologic changes are often the reason RNs call the RRT. They also call the RRT when they have a subjective feeling of concern or are worried *(Concer*n). An understanding of the importance of this indicator as a predictor of decline in relation to the outcomes of the RRT call is needed.

Methodology: This study is a descriptive, correlational design using mixed methods to determine the salient indicators of patients at risk for decline. The setting is a large community hospital in California that was an early adopter of the RRT. A random sample of 717 patients that had an RRT achieves 90% power at a 0.05 significance level to detect a change in probability of intervention from the baseline value of 0.50 to 0.666. A cohort sample of 108 RNs who used Concern to call the RRT will be surveyed. Purposive sampling will be used to select 10 to 15 RNs as key informants for interview about their use of the indicator Concern and experience detecting patient decline. Analysis involves descriptive statistics, Pearson's r correlation, and logistic regression to determine predictor variables. Multilevel analysis will address RNs involved in more than one RRT. Narrative data from RN interviews about their use of the indicator Concern and experience detecting patient decline will be analyzed using open coding and constant comparative technique.

Results: Data analysis will be completed by February 2012**.** Findings will be presented.

Implications: Validating the indicators associated with RRT interventions can improve systematic assessment and recognition of patients with impending decline. Taking action when an RN identifies concerns may prevent deterioration or the development of complications. Determining if *Concern* is a warning that should not be ignored or minimized and validating the salient indicators of risk among hospitalized patients can help RNs with early detection and prevent delay in treatment, which may in turn, prevent code arrests and save patient lives.

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Leadership Development: Pedagogical Practices in Magnet and Non-Magnet Hospitals

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Purpose: This national study examined pedagogical practices used to facilitate leadership development for nurse managers and compared practices in Magnet and non-Magnet hospitals.

Background: Effective nursing leadership among nurse managers is critical to affordable, accessible, and high-quality healthcare. Nursing leadership improves patient safety, staff productivity, satisfaction, and organizational commitment. Nursing leadership also reduces patient mortality and staff nurse absenteeism. The American Nurses Credentialing Center sets standards of excellence for nursing leadership through its Magnet recognition program. The Institute of Medicine also emphasizes the essential role of nursing leadership in its most recent recommendations for the future of nursing. Despite this critical need, little is known regarding the pedagogical practices being used to facilitate leadership development for nurse managers.

Methods: A stratified random sampling method was used to select participating Magnet hospitals (n=118, response rate 80%). A matched sampling method, using bed size, geographic location, governance structure, and status as a teaching hospital as criteria, was used in the selection of participating non-Magnet hospitals (n=46, response rate 44%). Using the Dillman Total Design Method, data was collected via electronic survey from the individual overseeing or facilitating the leadership development program for nurse managers in each participating hospital. The survey design was based on an evidence-based leadership development model, which identifies Assessment, Challenge, and Support as the three critical elements of effective leadership development programs. Survey items were clustered into these three subscales. Participants used a Likert-type scale to indicate how frequently each item was incorporated into their respective programs (1=Never or Rarely, 2=Sometimes, 3=Usually, and 4=Frequently or Always). Descriptive statistics were used to examine the pedagogical practices used, and the independent samples t-test was used to compare practices in Magnet and non-Magnet hospitals.

Results: The overall Pedagogical Practices score for Magnet hospitals was 3.07 (SD=0.60), with mean subscale scores of 2.69 (SD=0.64) for Assessment, 3.06 (SD=0.75) for Challenge, and 3.19 (SD, 0.71) for Support. The overall Pedagogical Practices score for non-Magnet hospitals was 2.54 (SD=0.70), with mean subscale scores of 2.67 (SD=0.71) for Assessment, 2.74 (SD=0.82) for Challenge, and 2.81 (SD=0.83) for Support. Differences between Magnet hospitals and non-Magnet hospitals were statistically significant in the overall Pedagogical Practices scale (t= -2.73, df=71.96, p<0.01), the Assessment subscale (t= -2.56, df=73.15, p<0.01), and the Challenge subscale (t= -2.82, df=73.15, p<0.01). Differences between Magnet and non-Magnet hospital were not statistically significant in the Support subscale (t= -1.73, df=71.61, p<0.09).

Implications: Results suggest opportunities exist for improving pedagogical design in leadership development programs, particularly in non-Magnet hospitals. Longitudinal case-study research, including both qualitative and quantitative methods, may provide a deeper, more detailed understanding of the implementation and effectiveness of current leadership development practices in selected hospital settings. Experimental and quasi-experimental research is needed to determine the relative effectiveness of various pedagogical models for leadership development.

The Examination of Wage Premiums for Unionized and Travel Nurses

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Background: The health care industry has witnessed two trends over the last decade: 1). A resurgence in union activity in the hospital setting; and 2). The use of travel nurses to supplement nursing staff in the hospital setting during times of shortage. While union participation and travel nursing have both been associated with higher wages, we do not know the extent to which wages differ among unionized and non-unionized nurses and travel and facility employed nurses.

Purpose: This study estimates wage equations for nurses focusing on the attributes, knowledge, and abilities possessed by nurses that may increase their wage. In particular, we examine wage differences for unionized and non-unionized nurses and travel and facility employed nurses.

Methods: Data from the National Sample Survey of Registered Nurses, 2008 public use file were used to model RN wages and examine union and non-unionized and travel-facility employed wage differentials. We restricted our sample to those nurses who were employed in nursing in the USA in 2008. The final RN sample was 28,158 (4,290 unionized nurses, 23,868 non-unionized nurses, 560 travel nurses, and 25, 802 facility employed nurses).

Feasible generalized least squares regression was used to estimate the RN wage equation and to estimate wage equations for unionized, non-unionized, travel, and facility employed nurses. The wage differential for unionized and non-unionized nurses and for travel and facility employed nurses were analyzed using a decomposition technique developed by Oaxaca (1973) and refined by Holtzmann and Idson (1993). STATA 12 was used for all analyses.

Outcomes: The results of the full wage model show that unionized wages were 7.3% higher than non-unionized nurses. Also nurses who were travelers earned 10% more than facility employed nurses. Nurses prepared with the associate degree or diploma degree as their highest nursing degree earned wages 3.6% less than nurses with a baccalaureate degree. Additionally, male nurses wages were 9.1% higher than female nurses and nurses who were non-white earned 3.9% more than white nurses. Finally years of experience, working in the hospital, and working in the Pacific region all had a positive effect on wage.

The wage decomposition results show that unionized wages were approximately 13.8% more than non-unionized nurse, while travel nurse wages were approximately 12.5% more than facility employed nurse wages. Further, 44.7% of the total wage difference for unionized nurses can be attributed to wage-generating attributes, while 55.3% can be attributed to coefficient effects that represent an unexplained premium. Similarly, 15.7% of the total wage difference for travelers can be attributed to wage generating attributes, while the remaining 84.3% can be viewed as a premium.

Conclusions: Are the wage premiums experienced by unionized nurses enough to sustain the resurgence of union activity seen in the hospital setting? Further, are the wage premiums experienced by travel nurses sufficient to overcome the lack of benefits they forgo by not being facility employed? These and other issues will be discussed during our presentation.

Funding: Robert Wood Johnson Foundation Nurse Faculty Scholar Program.

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Exploring Absenteeism among Nurses in a Tertiary Medical Center in Lebanon

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Absences of healthcare workers pose a significant cost, financial and non-financial, on healthcare organizations. Absenteeism among nurses, in particular, has a profound impact on patients' care and organizational costs. There are no studies in the Middle East region that address the crucial issue of absenteeism among nurses. As such the aims of this study are to examine sickness absences among registered nurses in a tertiary referral center in Lebanon in terms of prevalence, reasons, trends, frequency, and impact on services provided in order to recommend and administer appropriate interventions for effective absence management.

Method: This is an exploratory study encompassing three data collection methods. The first method includes a review of the health records of registered nurses characteristics of sick absence during the past year including absence rates, and duration; place of work/unit of the absent RN; and healthcare services received. The second method is qualitative explorative inquiry where in-depth interviews were conducted with 10 RNs who reported sick absence due to work related causes to explore in-depth the work-related conditions that led to sickness absence. The third method, which is qualitative descriptive, included interviews with all the nurse managers [N=24] of the medical center to explore their perceptions of sickness absence in their work areas. Institutional review board approval was granted prior to data collection.

Results: Health record reviews of RNS revealed that females tend to have higher frequencies of sick leaves [83%]. Younger nurses [age less than 30] tend to get more sick leaves [45.3%] than the older ones; nurses above 40 years old tend to get least sick leaves [23.6%].Infections were the most frequent reasons for sick leaves [52.9%] followed by musculoskeletal injuries [22.7%]. Nurses working in the operating rooms have significantly more sick leaves [p=0.000] than the rest of the units/services. Second highest incidents of sick leaves came from critical care areas. The qualitative analysis yielded the following themes: attribution of sickness absence to work life conditions [physical and mental exhaustion], family conditions, social conditions, or physical conditions, having another job, and the "system" encouraging nurses to get sick leaves; consequences of sickness absence related to burden on the unit nurse manger, staff and patients.

Conclusion: Some of the factors leading to sickness absence in this study are similar to the west. Nonetheless, the majority of the factors showed to be context specific and uncovered the overlooked, underlying factors that are specific to Lebanon.

Implications: Nurse Administrators as well as employee health services need to design effective absence management to improve healthcare outcomes and decrease cost, by reducing work-related illness and subsequently improving employee productivity.

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INTERNATIONAL HEALTH CONCERNS AND PRACTICES

THE LIVED EXPERIENCE OF SEEKING HEALTH CARE THROUGH INTERNATIONAL MEDICAL TOURISM

Lee Ann Eissler, John Casken

COMMUNITY BASED HEALTH CARE AND SOCIAL CAPITAL IN PAPUA NEW GUINEA

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PAIN, DEPRESSION, & QOL IN ADULTS WITH POSTHERPETIC NEURALGIA WHO MEDITATE

Robin Meize-Grochowski, Cristina Murray-Krezan, Ron Schrader,
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The Lived Experience of Seeking Health Care through International Medical Tourism

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Purposes/Aims: Medical tourism is a growing industry with a large number of people from many countries traveling internationally to obtain medical care. The purpose of this study was twofold: (a) to explore the experiences of international travel for the purpose of medical or dental care from the perspective of patients from Alaska and (b) to develop insight and understanding of the essence of this phenomenon.

Rationale/Conceptual Basis/Background: Despite the increasing popularity of medical tourism, there are few studies in scholarly literature exploring the perspective of patients seeking to improve their health status in the international health care market. Health seeking behavior is used as the conceptual foundation for this study. Medical tourism has become a modern global health care option for people seeking to improve or enhance their health.

Methods: Using a qualitative, interpretive phenomenological design, a purposive sample of fifteen Alaskan medical tourists who have experienced international travel for the objective of medical or dental care were individually interviewed. The data was analyzed using a hermeneutic process of inquiry to uncover the essential meaning of the experience.

Results: Through hermeneutic analysis of the participants' narrative accounts, the themes of *Motivation, Research, Obtaining Care, Follow-up, Advice, and Future Health Care* emerged. Sub-themes are used to further categorize data for increased understanding. The thematic analysis provides insight into the essential structure of the lived experience of the medical tourism phenomenon as well as further information about a modern approach to health seeking behavior. The conceptual definition and health seeking behavior model are updated.

Implications: Improved understanding of the medical tourism experience provides further information about a modern approach to health seeking behavior. Health care professionals will benefit by being better able to advocate for patients' choices in health seeking behavior, counsel regarding medical tourism options, provide follow-up health care after medical tourism, and actively participate in global health policy discussions. Further study of medical tourism from the patient perspective is needed in the global health care arena.

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Community Based Health Care and Social Capital in Papua New Guinea

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Purpose: The purpose of this poster is to describe an ethnographic study that will explore how components of social capital and cultural health beliefs influence the adoption and sustainability of community based health care programs in rural Papua New Guinea (PNG).

Rationale: Improving health determinants in developing countries requires an awareness of the cultural context of the community and empowering communities to identify and address health disparities. One aspect to empowering a community involves identification and utilization of the components of social capital (trust, reciprocity, social engagement) in the capacity building process. Social capital has been defined as the possession of benefits associated with group membership. In PNG social capital is associated with kinship ties and traditional practices of reciprocity obligations termed the 'wantok system'.

Background: Despite a focus on the prevention and management of infectious diseases and improvement of maternal/infant mortality rates, health indicators in PNG have continued to decline over the past two decades. Issues of inadequate health services in rural areas are magnified by a widespread lack of awareness in the population regarding risk related behaviors and limited involvement by local communities in health promotion programs. Infectious diseases are endemic in rural village settings and account for approximately 50% of overall mortality. Community based health care projects have been promoted as a means of improving the health of rural villagers in PNG. Unfortunately not all community-based projects have been successful primarily due to inadequate resources, communication problems, and limited community participation.

Method: This study proposes to use a descriptive, ethnographic approach to explore the influence of cultural health beliefs and social capital on the adoption of community health promotion activities. The primary site for the study will be select rural villages in PNG that have participated in the community based health care program for a minimum of one year. A purposeful sampling strategy will be used to achieve representativeness of the setting by the inclusion of both men and women from the village, health committee members, community health volunteers, and local health workers. In-depth interviews using open ended questions will be the primary data collection method. Questions will focus on personal beliefs about health and illness, reciprocity obligations, community resources, group decision-making, and participation in village activities. Field notes gathered during observation of group meetings, transcription of semi-structured interviews and detailed description of settings will be included.

Significance: Developing a method to evaluate the effectiveness of the community-based health care program is an important element in determining the positive and negative components of social capital's influence on individual and group health. This study will add to our understanding of traditional health beliefs in rural PNG and the influence of social capital on the adoption and sustainability of community based health care programs.

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A Pilot Study of Expressed Emotion and Depression in Dementia Caregivers in Taiwan

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Purpose: The purpose of this study is to explore the feasibility of two of the measurements scaling caregiver EE and patient cognitive status, and to guide the design of a larger study by exploring relationships between caregiver EE to patient and caregiver characteristics in Taiwan. The specific aims are to: 1) test the validity and reliability of the Chinese version of Level of Expressed Emotion (LEE) and Functional Assessment Staging (FAST) scales; 2) describe the distribution of EE in family caregivers of dementia patients and explore the possibility of suitable cut-off point for LEE scale; 3) explore the association between caregiver EE and caregiver demographic characteristics, level of depression, burden, and perception of health among caregivers of dementia patients; and 4) explore the association between caregiver EE and patient cognition and functional status among dementia patients.

Problem Statement: Family caregivers of dementia patients face considerable negative effects such as burden, depression, and poor quality of life. Expressed emotion (EE) is defined as the amount of intrusiveness, emotional response, negative attitude towards the illness, and tolerance/expectations conveyed by caregivers toward their patients. EE has been a useful construct for understanding the relationship between family interactions and caregivers' depression in patients with psychiatric disorders. Reviews of literature yielded very little research investigating the relationship between EE and depression in dementia caregivers in Chinese-speaking populations. In-depth examinations of the relationship between EE and depression in Taiwan are therefore urgently needed. A set of measurements is suggested to establish a concrete base for future Taiwan-based research of this field.

Methods: Multiple methods will be used to ensure measures of LEE and FAST translation process will yield a linguistic and cultural equivalent of the original, including: forward translation, backward translation, committee meeting, expert consulting, focus groups, and psychometric testing. Participants (n=25) in the Pingtung region of Taiwan will be recruited to complete the Chinese version of seven scales. All of the participants will complete LEE and FAST scales a second time within one week to test for reliability. Bivariate, multivariate, and multivariate logistic regression will be carried out to address the specific aims.

Implications: This study will provide preliminary knowledge about the validity and reliability of testing scales as well as the relationship between EE and health consequences of the targeted sample population. This information will help to establish a foundation for future research with this specific population and provide family caregivers with information about the types of support that are most relevant to them.

Analysis of an Intervention to Improve Breast Health Literacy in Some Somali Refugees

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Purpose: An educational curriculum on breast health was created for Somali refugee women based on priorities identified in a community needs assessment which explored their experiences and utilization of preventive health services. The goals were: to develop community capacity by initiating a "train-the-trainer program; increase health literacy in the Somali community regarding breast health; and to become a model of using community-based participatory research (CBPR) engagement with Somali refugee communities.

Data Source: The Maricopa Health Foundation Susan G. Komen breast cancer educational outreach program for Somali refugee women.

Analysis Method: This educational outreach program was conducted at three community organizations: The Somali Bantu Community Development Center (SBCDC), which comprised Somali Bantu women; the Somali American United Council (SAUC), and the Area Agency on Aging (AAA), both of whom comprised ethnic Somali women. Training materials were developed in partnership with these organizations and consisted of an educational video on breast health in the Somali language, breast models, and a power point slide presentation containing key facts on breast health and cancer surveillance. A pre- and post- survey was orally administered during educational sessions using an automated audience response system to facilitate data collection in communities with low literacy. Training and recruitment goals were achieved with ongoing direct trainer support/reinforcement, repetition of educational content, and hands-on coaching which resulted in demonstrated improved self-efficacy by the trainers over time. Descriptive statistics were to summarize the data.

Results: Preliminary results of 72 participants revealed that Somali Bantus possessed lower educational attainment than ethnic Somalis. Ethnic Somalis were more likely to have heard of breast cancer than Somali Bantu women as 90% and 75% of participants at the SAUC and the AAA respectively, had heard of breast cancer compared to only 39% among Somali Bantus. As a result of the program, more participants recognized breast cancer as one of the most common causes of death among women in the U.S., with the most noticeable increases among the younger (age 18-25 and 26-35 years) respondents and respondents at SAUC. The most positive result of the program appears to be the increase in participants' comfort getting a mammogram in the 18 – 25 age group (increase from 60% pretest to 87% posttest), while overall participant comfort doing a breast self-exam actually decreased. Overall 92% of participants would recommend the session to other women, 85% would share their knowledge gained with other women in their community, and 82% found the sessions helpful. Further analyses will be completed and presented at the WIN annual conference.

Conclusion: This train-the-trainer program illustrates the strength of community capacity-building to improve health literacy as a critical component towards enhancing preventive health services utilization among Somali refugee women. Future insights gleaned will inform the tailored adaptability of learning tools to varied literacy levels within ethnic sub-groups. Key lessons learned can inform the development of breast cancer interventional programs for other newly arrived refugee communities with low health literacy using CBPR engagement.

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The Lived Experience of Menarche in Nepalese Adolescents

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Purpose: The purpose of this study was to explore the lived experiences of adolescents from a Nepalese culture, residing in Northern California, between the ages of 13 to 16 years, regarding cultural practices related to their menarche and menstrual cycles. These participants had knowledge of what the menarche experience was like for girls in Nepal and for girls recently emigrated from Nepal who live in a traditional house hold.

Background: Puberty is a transitional period between childhood and adulthood, during which a growth spurt occurs, secondary sexual characteristics appear, fertility is achieved, and profound psychological changes take place. Girls entering puberty where traditional Nepalese culture is practiced have extraordinary challenges.

Method: The phenomenological study design was used to explore the lived experiences of cultural practice during menarche and menstrual cycles in adolescents. Unstructured interviews took place in each girl's home. Institutional review was granted. Both parental consent and participant assent was obtained.

Findings: The themes revealed from this study were the following: 1) emotional roller coaster about first menstrual period; 2) dealing with negativity while trying to be true to cultural values; 3) trying to balance the differences between traditional and modern customs; 4) cultural confusion: mixed messages from friends/family/elders 5) rationale behind cultural taboos does not help lessen the confusion or pain 6) information mismatch between Nepal and the US, and 7) looking forward: challenging the older way.

Implications: This study provides guidance for nurses and other health care personnel to have a more clear understanding of the experience of menarche within context of traditional Nepalese culture. Health care professionals can use the data from this study to provide more culturally sensitive care and to be aware of potentially harmful practices such as re-using menstrual cloths without properly washing and drying. The cultural practices in Nepal could be improved through encouraging females to keep clean, to take daily baths and change their underclothes frequently when soiled. The school curriculum in Nepal would benefit from having a requirement for classes on puberty and sex education. Education for the parents, grand-parents, teachers, adolescents and community is necessary regarding normal menstrual cycle and proper care during menstrual cycle.

Buddhism, Chronic Illness and Ethnography: A Way of Knowing in Nursing

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This poster portrays an ethnographic research design that aims to explore the role of Buddhist spiritual practice in the chronically ill. Chronic illness has gained vast territory and adapting to a chronic condition has become a reality for many. Several conceptual frameworks, based on the coping theory of Lazarus and Folkman (1984), have guided understanding spiritual coping processes in illness. The concept of spirituality or religion has emerged recurrently in the research in the context of a meaning-making process to cope with illness. The majority of such spirituality research, however, has concentrated on issues related to the Judeo-Christian God, the savior of man. Buddhism places emphasis on conditioning the human mind. The Buddha, the originator of Buddhism was born human, lived as a man, and passed away as a man. The portrayal of Buddhism in spirituality literature is incomplete and far-off from the spiritual practices in Buddhist countries. Thus, this study contributes to filling a gap in spirituality literature by focusing on Buddhist spiritual practices and narrows its scope to explore the chronic illness experience of 30 Sri Lankan Buddhist nuns.

It is understood that the healthcare of a chronically ill Sri Lankan Buddhist nun is not an everyday urgent responsibility of the Western nurse. However, nursing scholarship revolves around the factors of person, health, environment, and nursing care. Nursing has a strong focus on the understanding and relief of human suffering and the philosophical basis of Buddhism is also to attain freedom from suffering by understanding what suffering is, its causes, and how to eliminate it. As such, a glimpse at the mental and socio cultural environment of a Buddhist woman whose pain may or may not correspond to relief by an analgesic because of her beliefs and convictions may make us, as health care providers, want to cross national and religious boundaries to learn caring for the person within her reality. Paying attention to other possible ways of knowing through Eastern philosophy can potentially enrich nursing, considering that prevailing Western approaches have not been consistent with the needs and practices of nursing. In this sense, this ethnography that gives insight into social and cultural processes of these women's illness experience can inform theory and model development in nursing.

The choice of ethnography as a method to study the phenomenon of Buddhist spiritual practice and chronic illness in Sri Lankan Buddhist nuns is to strike a balance between creating a product that promotes "a way of knowing" for Nursing, and also to provide usable information to other stakeholders whose interests intersect research, practice and policy. In order to ground my findings in the representations of socio-cultural life of Buddhist nuns, I use the recursive and iterative research style of the ethnographer James Spradley (1979, 1980), which includes participant observation, domain, taxonomic, and component analyses to discover cultural themes. In order to evaluate, and disseminate the findings clearly to an inquiring audience, I supplement my analysis with two visual templates of Matrix Analysis as introduced by Miles and Huberman (1994).

Pain, Depression, & QOL in Adults with Postherpetic Neuralgia Who Meditate

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Purpose: Participants assigned to the usual care group in a comparative study on mindfulness meditation in community dwelling older adults with postherpetic neuralgia were given an opportunity to complete the treatment protocol. Changes in pain, depression, and quality of life were examined.

Background: Postherpetic neuralgia (PHN), a severe, life altering condition that afflicts approximately 20-30% of individuals who have had shingles, has no known cure and may persist for months or even years. The primary cause of morbidity in PHN is pain; PHN is reportedly one of the most intractable neuropathic pain disorders.

More than 50% of cases of shingles occur in individuals aged 50 or older, with risk of PHN increasing with age. The pain and stress of PHN has been associated with decreased quality of life, affecting ability to perform activities of daily living. The original pilot study determined that older adults were interested in mindfulness meditation as a way to help manage PHN, and positive trends were identified in the outcomes examined.

Methods: The original study used a mixed method, randomized pre-test/post-test repeated measures design to examine the effects of mindfulness meditation in community dwelling older adults with PHN. Data were collected at entry to the study (Time 1), at two weeks (Time 2), and at eight weeks (Time 3). After Time 2 testing, participants were randomly assigned to usual care or usual care plus meditation. Twelve of 14 eligible participants initially assigned to the usual care group chose to complete the treatment protocol after Time 3 testing. They followed the meditation protocol for six weeks, with final data collection (including interviews) at fourteen weeks (Time 4).

Results: Mean age of the 12 participants was 75.6 years. Nine (75%) participants were female, and 3 (25%) were male. Eight (67%) participants were white, 3 (25%) were Hispanic, and 1 (8%) was American Indian. At entry to the original study, 10 (83%) of these 12 participants had moderate or greater pain due to PHN at least 5 days per week, with 7 (58%) of the 12 participants describing their pain as severe or greater.

Data Analysis: At completion of the treatment protocol (week 14) for the 12 study participants, significant differences for time effect (showing improvement) were found in the Physical Health Component score of the Medical Outcomes Study Short Form-36 (MOS SF-36) ($p=.02$), Bodily Pain subscale of the MOS SF-36 ($p=.02$), and the Total Pain score of the McGill Pain Questionnaire Short Form-2 (MPQ SF-2) ($p=.02$), using repeated measures analysis of variance (ANOVA). Although not statistically significant, scores on the Center for Epidemiological Studies-Depression scale (CES-D) improved over time.

Implications: The majority of participants initially randomized to usual care were interested in learning the meditation protocol of the original pilot study. They were willing to complete the treatment protocol, meditate daily and record pain and fatigue levels in daily diaries. A larger study is planned, and will include individuals with additional persistent pain conditions.

Funding: In part by the CTSC, UNM Health Sciences Center, #1UL1RR031977-01.

INTERVENTION FOCUSED RESEARCH IN HEALTH CONDITIONS

A PILOT COMPARISON OF TWO MASSAGE TECHNIQUES IN FIBROMYALGIA

Anna C. Arzt, Ginevra L. Liptan, Scott D. Mist, Cheryl L. Wright, Kim D. Jones

A PROGRAM EVALUATION OF SEA MAR'S CHRONIC CARE PROGRAM FOR PATIENTS WITH TYPE 2 DIABETES

Gail E. Bond, Laurie Rechholtz, Christine Bosa,
Celine Impert, Sara Barker

EFFECT OF TELEPHONE INTERVENTION ON HEART FAILURE SELF CARE: RANDOMIZED CLINICAL TRIAL

Peggy Kalowes, Cindy Peters, Kevin Catipon, Darice Hawkins,
Patricia Long, Emily Tin, Bernadette Wayne, Brenda Lamond,
Sojin Jeong, Alaine Schauer, Helen Nguyen

PAIN OF OSTEOARTHRITIS IN WOMEN: ENVIRONMENT RESEARCH (PHASE I)

Grace A. Kline, Barbara B. Cochrane, Lynne C. Manzo

IMPROVING ADHERENCE TO COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA IN BREAST CANCER

Ellyn E. Matthews, Sarah J. Schmiege, Paul Cook,
Michaela McCarthy, Ann M. Berger, Mark S. Aloia

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INTERVENTION FOCUSED RESEARCH IN HEALTH CONDITIONS

A Pilot Comparison of Two Massage Techniques in Fibromyalgia

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People with fibromyalgia (FM) have persistent widespread pain, axial pain, and tenderness. As an adjunct to drug therapies, nurses often recommend bodywork such as massage to reduce symptoms and optimize physical function. Light Swedish-type massage is most commonly selected as FM patients also experience tenderness to touch. Recently, however, the pain generating role of the fascia in maintaining FM symptoms has been demonstrated. Additionally, two randomized controlled trials of myofascial release therapy compared to sham ultrasound or disconnected magnotherapy resulted in superiority of MFR in the control of most FM symptoms (Castro-Sánchez et al., 2011a; Castro-Sánchez et al., 2011b). The purpose of this study was to test the feasibility and acceptability of deep myofascial release versus an active massage condition- light Swedish massage- in women with FM. Eight subjects received either myofasical release while four subjects received Swedish massage for 90 minutes weekly x four weeks. On average, the subjects were 34.5 years of age (SD=5.5), with FM for 2.6 years (SD=0.9), with no baseline differences between groups. The Aickin separation test (2004) indicated that primary outcome, Fibromyalgia Impact Questionnaire-Revised Total Change Score for the myofascial group trended (mean = 10.14, SD = 16.2) in the hypothesized and positive direction compared to the Swedish massage group (mean = 0.33, SD = 4.93) (Aickin, 2004). Nordic Musculoskeletal Questionnaire-Revised scored pain at 7 bodily regions, with most improvement in neck/shoulder pain. Additionally qualitative interviews with the massage therapist will be conducted to further determine the tolerability of the interventions. There were no adverse events or early discontinuations by subjects indicating that both interventions were feasible and acceptable to patients despite tenderness to touch (baseline myalgic score 31.9 (SD=7.7) and 36.3 (SD=3.1) in the myofascial and Swedish massage groups respectively. Larger randomized controlled trials are supported by the separation test.

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INTERVENTION FOCUSED RESEARCH IN HEALTH CONDITIONS

A Program Evaluation of Sea Mar's Chronic Care Program for Patients with Type 2 Diabetes

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Purpose: The purpose of this pilot study is to evaluate the chronic care coordinator (CCC) role within the chronic care model (CCM) at Sea Mar, a community healthcare organization in western Washington. Sea Mar implemented the CCM in 2002 and augmented it in 2009 with the addition of CCCs, similar to case managers in other health care organizations. There has been no evaluation of the model to date.

Background/Rationale: Sea Mar began implementing the CCM in 2000 in Seattle, and expanded to network wide implementation by the summer of 2008. The primary mission of Sea Mar is to improve the quality of care delivered to diverse, underserved populations, while decreasing the negative outcomes associated with chronic illnesses such as diabetes, hypertension, asthma, and heart disease. Sea Mar implemented the care coordinator role to help providers and staff better meet the needs of chronically ill patients.

Methods: Qualitative data was collected from care coordinators (n=3) and English and Spanish speaking patients (n=16). Interviews were guided by open-ended questions using a descriptive phenomenological approach. Data was examined for themes to reveal satisfaction, perceived quality of care, and strengths and barriers to success of the care model.

Results: Patients and care coordinators report the chronic care coordinator implementation has improved patient care. Perceived strengths include improved effectiveness in patient education and support, increased access to resources and effective productivity standards. Barriers to implementation include insufficient support from providers and staff, scarce "private" space within clinics, inadequate in-depth diabetes training and a new electronic health record. Major themes among patient interviews include knowledge, mindset and relationships, each of which influences self-management of diabetes (the fourth theme). Differences between the two patient groups, Caucasian vs. Latino, are depth and breadth of knowledge, locus of control, affinity for the CCC and personal accountability versus blame for circumstances.

Implications: The CCC role appears to be highly relevant to patients and, according to CCCs, the role is well integrated into the model of care. However, future research with larger samples is needed to further explore themes among staff and patients.

Funding: This work was supported in part by grants from the Sinegal Foundation, and the National Institute of Health NCRR grant UL1RR025014.

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INTERVENTION FOCUSED RESEARCH IN HEALTH CONDITIONS

Effect of Telephone Intervention on Heart Failure Self Care: Randomized Clinical Trial

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Background: Heart failure (HF) is a progressive disease characterized by declining function and quality of life (QoL), punctuated by acute exacerbations and frequent hospital admissions. Despite the considerable advances in HF treatment, this condition remains a growing health problem leading to astronomical costs as well as high morbidity and mortality.

One third of HF patients are readmitted within 90 days for recurrent decompensation. National HF readmissions rate within 30-days is at 24%, ours is around 22%. Risk of readmission is often due to preventable factors, like non-adherence to drugs and diet, inadequate social support, and failure to seek prompt medical attention when symptoms worsen. To prevent readmissions, early HF symptom recognition & treatment is needed, thus home Tele-Monitoring may be an effective way to do this.

Study Aim(s): Primary aim of this multi-site randomized, controlled trial (RCT) is to determine the impact of a post-discharge, telephone intervention to recently hospitalized HF patients, regarding self-care/adherence, reduces the incidence of all cause mortality or hospital readmissions (30-day /overall) compared to the "usual care" group receiving outpatient care by their primary care physician.

A secondary aim is to assess the impact of the intervention on patient self-care/adherence by examining the effect on QoL and the role of multiple variables (socioeconomic, HC setting/system related, condition related, treatment and patient related).

Theoretical Framework: Roy's Adaptation Model helped frame the relationships among study variables using the concepts of Adaptation (Improved knowledge /Self-Care Maintenance / Management and improved QoL).

Design: A sample of 525 eligible, HF patients hospitalized at a large teaching and community-based hospital, are randomized in 1:1 ratio into a "usual care" control group or assigned to receive six months of a telephone intervention plus usual care.

Measures: Baseline demographic data is collected from all subjects. They also complete the Minnesota Living with Heart Failure Questionnaire (MLHFQ) to measure QoL; Patient Self-Assigned New York Heart Association (SA-NYHA) Class; the European Heart Failure Self-Care Behavior Scale (EHFScBS-9), and the Atlantic Heart Failure Knowledge Test. Intervention data points are ─study enrollment, seven days post discharge, one month, three and six months. The cohort is given the MLHFQ, Atlantic HF Knowledge Test and the EHFScBS-9 at 180 days.

Nurses Knowledge of Heart Failure: We also hypothesized in the RCT that nurses' knowledge and understanding about HF and self-care principles may vary significantly thus influencing the education they provide patients at discharge. A sample of 157 nurses completed the *Nurses Knowledge of Heart Failure Survey*, preceding the start of the trial. Results will be used to address the knowledge gap regarding HF management and will serve as a baseline for a future education intervention.

Study Results Pending: This clinical trial is on-going. Intent-to-treat analysis will serve as primary analysis for all objectives. Descriptive statistics will be used to describe the study sample. Categorical data will be compared by using $\chi 2$ analysis, and continuous variables analyzed using Student *t* test. Statistical significance was a *P* value < .05 for all tests, with 95% confidence intervals reported for all proportions.

INTERVENTION FOCUSED RESEARCH IN HEALTH CONDITIONS

Pain of Osteoarthritis in Women: Environment Research (Phase I)

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Aim: The aim of this study is to describe pain symptom experiences of women with osteoarthritis (OA) in outdoor environments.

Rationale: Symptom Management Theory (SMT; originally called the Symptom Management Model; Dodd et al., 2001), includes the physical environment as a factor that may influence pain. Outdoor environments may contribute to pain management through multiple mechanisms, including distraction by means of engaging and fascinating multisensory stimuli of nature.

Methods: This cross-sectional descriptive study uses qualitative interviews with a convenience sample of 16 women, 65 years and older, with OA pain. Participants live in independent apartments at one of four retirement community sites. These sites were selected, from among 13 sites evaluated, for specific outdoor environment characteristics. Each site has two outdoor spaces (e.g., a courtyard) with different levels (one higher and one lower) of multi-sensory nature, measured objectively using the Access to Nature Outdoor Environment Tool-Revised. In-depth individual interviews were held with women about their pain experiences and how they respond in these particular outdoor spaces. The interviews are being transcribed verbatim, with person and place de-identified, and transcripts are verified for accuracy. Transcripts will be analyzed through directed content analysis, using SMT concepts and looking for patterns in ways the outdoor spaces with different levels of multi-sensory nature might affect OA pain. Two methodological experts in content analysis, from nursing and environmental psychology, will provide consensual validation of the coding and assure trustworthiness of the qualitative data.

Results: Field notes and methodological memos are informing the content analysis. The 16 women interviewed range in age from 70 to 92. All of the women reported OA pain during the previous week, ranging from 3 to 10 (on a scale of 0 to 10). Fourteen of the women reported experiencing pain on most days in the previous week. The women discussed their OA pain, pain management, and their pain experiences when outdoors generally and in the identified spaces.

Implications: The findings will be used in the development of a SMT model relevant for older women with OA in regard to pain symptom experiences and outdoor environments. Increased understanding of how older women with OA pain use and experience different outdoor environments will provide important insights about the influence of environment on pain. This information provides a foundation for future research on the influence of multi-sensory nature in outdoor environments on OA pain.

Funding: This work is funded under NCRR Grant TL1 RR 025016 and supported by the Hester McLaws Nursing Scholarship Award.

Reference:

Dodd, M., Janson, S., Facione, N., Faucett, J., Froelicher, E. S., Humphreys, J., ...Taylor, D. (2001). Advancing the science of symptom management. *Journal of Advanced Nursing, 33*(5), 668-676.

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INTERVENTION FOCUSED RESEARCH IN HEALTH CONDITIONS

Improving Adherence to Cognitive Behavioral Therapy for Insomnia in Breast Cancer

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Rationale/Background: Chronic insomnia is a prevalent and distressing symptom in women with breast cancer. Cognitive behavioral therapy for insomnia (CBTI) is an established behavioral treatment that is safe and effective in improving sleep and other health outcomes, however; adherence to CBTI is not optimal in breast cancer survivors. Lack of adherence can negatively affect insomnia treatment outcomes.

Purpose/Aims: This presentation will discuss the feasibility of adding motivational enhancement therapy to CBTI (MET+CBTI) in breast cancer survivors. Preliminary results will be presented relative to the impact of MET+CBTI compared to CBTI alone to improve adherence and outcomes (sleep, mood, quality of life and daily functioning).

Methods: Women aged 21-65, between 1-36 months following primary breast cancer treatment who meet the criteria for chronic insomnia, were recruited from two Western U.S. Cancer Centers and community support groups. Sleep parameters, mood, and cognitive functioning, among other characteristics were assessed prior to CBTI or MET+CBTI. Participants completed self-report instruments with established reliability in cancer populations including the Insomnia Severity Index (ISI), European organization for research and treatment of cancer (EORTC) quality of life questionnaire C30 (QLQ-C30), Hospital Anxiety and Depression Scale (HADS) and Attentional Function Index (AFI). The 7-item ISI using a 0-4 Likert scale, provides a quantitative evaluation of insomnia perception by targeting the symptoms and consequences of insomnia as well as the degree of concern and distress experienced by the respondent. ISI scores range from 0-28 with higher scores representing more severe insomnia. The QLQ-C30 is a cancer-specific measure of QOL and is composed of five multi-item functional scales that evaluate physical, role, emotional, cognitive, and social function and one global health status/QOL scale. The HADS measures anxiety and depression via 7- items subscales. The AFI assesses perceived effectiveness of cognitive functioning in daily life. Respondents rate themselves on 14 items anchored with polar opposite phrases ranging from 0 (not at all) to 100 (extremely well) in response to how well they were functioning in key cognitive activities.

Results: Women ranged in age from 35-65 (M = 52.4 years, SD = 6.9). The overall average score of the ISI was > 17 which implies clinical insomnia of moderate severity. Recruitment, withdrawal rate, sleep intervention attendance suggest MET+CBTI is a feasible sleep intervention in breast cancer survivors. Participants interviewed at the conclusion of 6 weeks of MET+CBTI suggested that this intervention is well tolerated, acceptable, and helpful. Comments included: "Since sleep was not a problem before breast cancer, I didn't know how to deal with it, and this treatment really helped me feel confident…a lot of it [treatment] was a joint effort…seeing [sleep] improvements boosted my confidence." Our preliminary data suggests a trend toward greater subjective adherence. Thus, MET+CBTI may be effective in maximizing adherence, but a larger, longitudinal trial is needed.

Implications: Insomnia has a significant impact on the daily lives of women with breast cancer. MET+CBTI has the potential to improve adherence and outcomes. Additional findings and implications will be discussed in greater detail during the presentation.

MENTAL HEALTH AND ILLNESS-RELATED RESEARCH

PROTECTIVE FACTORS: COMPONENTS OF NATIVE AMERICAN RESILIENCE

Michelle Kahn-John

SUICIDE RISK ASSESSMENT AMONG VETERANS RECEIVING OUTPATIENT PRIMARY CARE SERVICES

Shannon Cohen

HEALING PATHWAYS: A PROGRAM FOR WOMEN WITH PHYSICAL DISABILITIES AND DEPRESSION

Dena Hassouneh

CIP: T2DM & DEPRESSION

Christine R. Ernst, Cheryl Wright, Deborah Messecar

THE EFFECT OF WALKING ON HEALTH OUTCOMES IN SERIOUS MENTAL ILLNESS

Christina Jolley, Heeyoung Lee, Karen G. Schepp

PREVALENCE AND CORRELATES OF SUICIDE IDEATION IN PATIENTS WITH COPD

Sara Fleehart, Huong Q. Nguyen, Vince Fan, Soo Borson,
Ruth Kohen, Jerry Herting, Gustavo Matute-Bello

CORRELATES AMONG HEADACHE FREQUENCY AND DISABILITY AND MENTAL HEALTH IN ADOLESCENTS

Carolyn E. Hickman, Bernadette Melnyk, Diana Jacobson

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FAMILIES OF ADOLESCENTS WITH SCHIZOPHRENIA: A MULTIPLE CASE STUDY

Hyun Jung Kim, Karen G. Schepp

STIGMA, DEPRESSION, QOL AND ALCOHOL USE AMONG AMERICAN INDIANS WITH HEPATITIS C

Dale Todicheeney-Mannes

Protective Factors: Components of Native American Resilience

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Native American (NA) people have indigenous wisdom that should be explored by researchers to validate existing health promotion knowledge within NA communities. Through a literature review process, this paper presents NA protective factors that may support the development of physical and psychological resilience. A Native American Protection Shield is presented as a model depicting the identified NA protective factors.

Protective Factors: Components of Native American Resilience: Native American (NA) people have indigenous wisdom that should be explored by researchers to validate existing health promotion knowledge within NA communities. Those strengths and protective factors will be explored and highlighted in this paper.

Purpose/Aims: A gap exists in current literature on the topic of NA protective factors and NA resilience. The purpose of this paper was critical review and synthesis of the current literature describing NA protective factors that contribute to resilience.

Description of Theory: Native American Protection Shield Model: The NA Protection Shield Model is a culturally appropriate model that depicts the three categories of NA protective factors (honored relations, sacred loyalties and, gifts of self). The model also illustrates the interdependent and interrelated nature of the NA protective factors that enhance physical and psychological resilience. Optimal functioning between the protective factor processes enhances individual self worth and optimal resilience.

Internal Consistency: NA protective factors were categorized using both Gunnestad's (2006) Model of Development of Resilience alongside findings from the literature review.

Logic Linking Theory to Practice: Existing literature on NA protective factors has previously been introduced in behavioral, social, and health science research however, introduction to these concepts has been cursory and is not enough to implement evidence based strategies to address the existing health disparities. This literature review of NA protective factors provides a brief introduction to the complex interaction between protective factors and resilience and opens our eyes to new possibilities for future exploration.

Recognizing that differences exist between cultures and implementing culturally congruent health care strategies will greatly improve health outcomes. As a discipline, nursing needs to implement culturally relevant and congruent health interventions. The implementation of culturally congruent healthcare by nurses will not only equip nurses with knowledge of appropriate and effective interventions but, may positively impact the health disparities experienced by NAs.

Conclusion: The historical and present day exploration of protective factors and resilience helps us understand the existence of external, internal, and existential resources that enhance optimal health. Social, health, and behavioral sciences are less focused on a problem oriented approaches to healthcare challenges of the world and are now moving toward more positive strength based and solution focused approaches, resulting in a more holistic and balanced knowledge base from which we will evolve, heal, grow, and develop.

NAs have existing foundations of strength, protective factors, and resilience. The NA Protection Shield Model is one example of a culturally compatible health promotion model and has the potential to enhance healthcare delivery and health outcomes in NA communities.

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Suicide Risk Assessment among Veterans Receiving Outpatient Primary Care Services

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Background: Veterans have multiple risk factors for suicide with a prevalence rate of completed suicide twice that of nonveterans. The rising number of combat Veterans is of particular concern to primary care providers as they are frequently the first contact for men and women seeking care at the Department of Veterans Affairs Medical Center.

Purpose: Assess the construct validity of the depression screening tool used with Veterans receiving primary care services, examine the demographic characteristics of Veterans at risk for suicide, and study the prevalence of depression and suicide risk among this population.

Sample and Methods: Retrospective study utilizing secondary data from 5,000 Veterans encompassing a two year time frame (2008-2010) reviewing de-identified Veteran outpatient care data through electronic data extraction. Descriptive analysis will be performed to find the frequency, means, standard deviation, and percentages of suicide risk factors in addition to examining the demographic characteristics of the entire sample population. Poisson regression will be used to determine the validity of the depression screening tool used with this sample.

Results: Data analysis is in progress and will be completed by the conference date.

Implications: This study will assess the validity of the depression screening tool used to evaluate suicide risk. Results of this study will be used in the mental health and primary care collaborative treatment of Veterans.

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Healing Pathways: A Program for Women with Physical Disabilities and Depression

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Purposes/Aims: The purpose of this research was to develop the Healing Pathways program and to test its efficacy. We tested the following two hypotheses:
H1: Women with physical disabilities (WPD) receiving Healing Pathways will demonstrate a greater improvement in depressive symptom scores than WPD in the wait-list control group.
H2: WPD receiving Healing Pathways will demonstrate a greater improvement in coping, health behavior, global self-esteem, body and sexual self-esteem, and loneliness compared to WPD in the wait-list control group.

Rationale/Background: Depression in WPD is associated with increased risk of subsequent physical illness, premature mortality, and decreased physical functioning. Up to 50% of WPD experience clinically significant depressive symptoms. To help address this problem and expand treatment access we developed and tested a successful peer-implemented group therapy program named Healing Pathways (HP). HP draws on strengths-based and cognitive behavioral therapy approaches to treatment and is grounded in Independent Living philosophy.

Methods: Healing Pathways was developed and tested across two community-based participatory research studies using mixed methods. The first study provided support for initial development of the HP program and allowed us to test the feasibility of the study design. The second study was an efficacy trial. WPD requiring some form of accommodation who also reported significant depressive symptoms as measured by the Center for Epidemiologic Depression Scale were the target population for both studies (n= 88 and 90). Efficacy trial participants were randomized to an initial intervention group or a wait-list group. Data were collected over 7 time points. We conducted both per protocol (PP) and intent-to-treat (ITT) analyses on the first four time points. Analysis of data from the remaining three time points is still in progress.

Results: We found support for H1 based on both PP and ITT analyses. Depressive symptom scores significantly improved for WPD in the treatment compared to the control group $F(3,192)=6.70$, $p<.001$, partial $\eta^2=.10$. We found partial support for H2 based on both PP and ITT. Global self-esteem $F(2.80,179.47)=10.08$, $p<.001$, partial $\eta^2=.14$ and positive health behavior $F(2.79,178.35)=4.61$, $p<.01$, partial $\eta^2=.07$ scores both significantly improved for the treatment compared to the control group. Based on PP analysis we also found support for improvement in loneliness scores $F(3,192)=7.89$, $p<.001$, partial $\eta^2=.11$ for the treatment compared to the control group. Finally using either PP or ITT we found significant improvements in scores for four coping sub-scales measured by the brief COPE. No significant improvement in body and sexual-self esteem scores was found. All results were sustained over three month follow-up.

Implications: HP has demonstrated efficacy in treating depressive symptoms in WPD. This efficacious program offers WPD a meaningful treatment option outside of the mainstream health care system that is low cost, accessible, and culturally appropriate.

Funding: This research was funded by the National Institute of Disability and Rehabilitation Research H133G060135 and the National Institute of Mental Health 1R01MH079818-1A.

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CIP: T2DM & Depression

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Purpose: (1) To determine the prevalence of depression among adult type II diabetics and (2) assess if a relationship exists between glycemic control and depressive symptoms.

Background: Type II diabetes mellitus is a serious chronic illness that, when poorly controlled, can have significant lifelong effects. Depression often occurs as a comorbid condition. Despite uncertain causality, studies have shown that screening and detecting depression among diabetics may lead to improved health outcomes.

Methods: A convenience sample of adult type II diabetics from one primary care clinic were screened for depression using the patient health questionnaire-9 (PHQ-9). Scores greater than nine were considered positive screenings to determine prevalence. A multiple linear regression equation was used to assess a relationship between hemoglobin A1c scores in the last 6 months with PHQ-9 scores, controlling for demographic and patient data.

Outcomes: Study is in progress.

Conclusion: Data analysis will be conducted March 2012.

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The Effect of Walking on Health Outcomes in Serious Mental Illness

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Purpose: The purpose of this study is to determine the effect of walking on health outcomes in individuals with Serious Mental Illness (SMI).

Background: Individuals with SMI are experiencing an epidemic of obesity with rates higher than those in the general population. Comorbid conditions resulting from obesity are widespread in individuals with SMI; sedentary lifestyles and the use of antipsychotic medications increase the risk of diabetes and cardiovascular diseases, shortening life span and reducing quality of life. Walking has been lauded as an effective form of physical activity (PA) for individuals with SMI as it is safe, effective, and feasible for this population. PA has been shown to exert positive effects on health outcomes of weight, Body Mass Index (BMI), blood pressure, glucose, and lipids, reducing the risk of complications resulting from comorbid conditions.

Methods: This is a pilot study of a pedometer-based exercise program for patients with SMI. A randomized, two-group, experimental design with repeated measures was used. Subjects in the treatment group were educated to walk at least 30 minutes a day and received a weekly phone call. Subjects in the control group received written material on walking. Data was collected at baseline, 8 weeks, and 12 weeks. We analyzed 17 subjects' health outcomes including weight, BMI, waist circumference, blood pressure, lipid panel, and fasting blood glucose measured at baseline and 8 weeks. Descriptive statistics, Wilcoxon Signed Rank test, and Mann-Whitney test were used in data analysis.

Results: Among the 17 subjects, 58.8% were male (n=10) and 41.2% were female (n=7). The mean age was 44.35 years (SD=7.77) and 11 (64.7%) were African American. 9 subjects were assigned to the pedometer-based exercise group and 8 subjects were assigned to a control group. Six subjects dropped out of the study. Although there was no statistical significance in health outcomes between groups (Ps>0.05) and between baseline and 8 weeks (Ps>0.05), subjects in the treatment group had a numeric decrease in systolic (7%) and diastolic blood pressure (8%) between baseline and 8 weeks. Subjects in the control group also had a decrease in systolic (4.5%) and diastolic (6%) blood pressure.

Implications: The results indicate subjects with SMI may benefit from PA even though the study did not display a statistically significant decrease in health outcomes. This pilot study was perhaps not long enough to showcase the decrease in weight that can result from an exercise program, and the small sample size and large drop out rate could also be factors.

Blood pressure exerts positive effects on cardiovascular functioning and so it is important to note the decrease in blood pressure for the groups resultant of the sensitivity of the measurement method. The effects of improved health outcomes through walking in individuals with SMI as well as effects on length and quality of life are well documented, and the importance of further study in this area is great.

Funding: University of Pittsburgh, Central Research Development Fund (CRDF).

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MENTAL HEALTH AND ILLNESS-RELATED RESEARCH

Prevalence and Correlates of Suicide Ideation in Patients with COPD

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Background: Depression in patients with chronic obstructive pulmonary disease (COPD) is associated with worse clinical and functional outcomes. However, very little research has been done on suicide ideation (SI) and its correlates in this population. The aim of this analysis is to examine the prevalence of SI and its correlates in patients with stable moderate to very severe COPD.

Methods: This is an exploratory analysis from an ongoing longitudinal observational study of the biological causes and functional consequences of depression in patients with COPD. We measured depression and SI using the Personal Health Questionnaire (PHQ-9) at study entry. Correlates included demographic characteristics, disease severity, time since COPD diagnosis, scores on the Hospital Anxiety and Depression Questionnaire (HADS), history of depression, current treatments for depression and anxiety, smoking status, alcohol use, and performance on a six minute walk test. Independent t-tests and chi-square tests were used to compare differences between patients endorsing SI versus not.

Results: The characteristics of the 117 participants were: mean age of 68 ± 9; 22% females, and forced expiratory volume in 1 second (FEV1) % predicted of 41.5 ± 15%. The prevalence of SI was 10%. Patients who endorsed SI were significantly more likely to be females, have better lung function (FEV1 % predicted of 40 vs. 49%, $p=.07$), lived with COPD for a longer time, have a household income less than 20K/year, have a history of depression prior to being diagnosed with COPD ($p=.09$), have higher PHQ-9 and HADS scores, be on an antidepressant, and received mental health counseling (all $p<.05$ unless otherwise noted); however, they were no more likely to have a history of heavy drinking, be current smokers or taking anxiolytics, and were of similar age and physical functioning compared to patients who did not endorse SI.

Implications: We found that the prevalence of SI in patients with stable moderate to severe COPD falls within the wide range of SI prevalence estimated from population-based surveys across 9 countries, 2-19% (Weissman et al, Psych Med, 1999, 29(1):9-17). Patients who endorse SI experience severe depression and anxiety that may be due to the burden of COPD and economic hardship, and may need better treatment optimization. A major limitation of this analysis is the use of a convenience, non-representative sample.

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Correlates among Headache Frequency and Disability and Mental Health in Adolescents

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Purpose/Aims: The aim of this study was to describe the relationship between headache frequency, disability, and comorbid conditions such as depressive symptoms, anxiety, anger, self-concept, and disruptive behaviors in high school students, and correlate with lifestyle beliefs and demographic factors.

Background and Significance: Chronic daily headaches (CDH) cause significant morbidity (increased suicide risk and depressive and anxiety disorders) and occur in 2.4% of the adolescent population. There are limited studies that have examined correlates among headache frequency, headache disability, depressive symptoms, anxiety, anger, self-concept, disruptive behavior, and lifestyle beliefs in adolescents with chronic headaches.

Method: A descriptive correlation study was conducted with 493 high school teens. Key variables measured included depressive symptoms, anxiety, anger, self-concept, disruptive behavior, headache frequency and disability, and lifestyle beliefs. Students were recruited from high schools in the Southwest United States.

Results: Significant positive correlations were found among headache frequency, headache disability, depressive symptoms, anxiety, anger, and disruptive behavior. A significant negative correlation existed among these variables and self-concept and beliefs. Beliefs were positively correlated with self-concept. This study demonstrated that as cognitive beliefs about healthy lifestyles increase so does the adolescents' self-concept, while the level of anxiety, anger, depressive symptoms, and disruptive behavior decreases. Finally, as headache frequency and disability increases, so does the level of depressive symptoms, anxiety, anger, and disruptive behavior. The adolescents' self-concept decreases with increase frequency and disability of headaches and headache disability increases with increased headache frequency.

Implications: The findings from this study support the use of strategies to strengthen teens' beliefs about their ability to manage their headaches. It is vital that clinicians working with teens with headaches learn cognitive behavioral skills building strategies to include problem solving skills, relaxation techniques, positive self-talk, goal setting, and recognition of behavioral cues of ineffective coping in order to teach teens how to regulate their responses to everyday stressor and promote problem-focused behaviors. By incorporating healthy headache lifestyle behaviors into their teaching, clinicians can help adolescents see how their thoughts about their headaches are impacted by their emotions and beliefs. In addition, findings from this study will inform a doctoral study that will examine the feasibility, acceptability, and preliminary effects of implementing a cognitive skills building intervention for teens with chronic daily headaches. The results from this dissertation study may provide evidence to fill a much-needed gap for theory-based interventions that are effective for teens with chronic headaches.

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MENTAL HEALTH AND ILLNESS-RELATED RESEARCH

Families of Adolescents with Schizophrenia: A Multiple Case Study

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Purpose: The purpose of this presentation is to present findings of a multiple case study of five families with adolescents with schizophrenia, specifically during the first fifteen months after the onset and to understand who these families are.

Background: Schizophrenia is most commonly experienced among young people in their late teens through early 20's. Early, gradual onset and pervasive, unpredictable symptoms often create confusion within a family. Numerous studies have addressed the needs and experiences of patients with schizophrenia and their families under different names. Despite existing literature, it is relatively less studied what impact the first couple of years after the onset of the illness in the family member has on the life of the family as a unit, not limited to certain concepts or aspects of life nor restricted to certain family members.

Methods: This research study used a multiple-case study method based on secondary data analysis from a two-group longitudinal RCT. Five families with adolescents with schizophrenia ages between 15 and 19 were selected from the parent study intervention group. To examine the family's life in-depth, multiple sources of data were analyzed. Qualitative data from videotapes of 12 2-hour intervention sessions from the RCT for family, parent, teen, and sibling groups were analyzed to identify common themes amongst family members. Quantitative data were obtained from interviews and self-administered questionnaires including structured diagnostic instruments, outcomes measures of coping, family functioning, symptom management, and early signs of symptoms. These data were submitted by family members at 4 different time points and compared for similarities and discrepancies between members and with qualitative data.

Results: Families had different structures and composition in terms of parent-child relationship, involvement of relatives and siblings. Parents involved in the study were highly educated and mostly Caucasian except one minority family. Five adolescents experienced the first psychotic break between 15 and 18 years. Two girls with positive family psychiatric history exhibited a bit earlier onset and diagnostic complexity. While three boys displayed levels of functioning similar to the mean of the whole adolescent group, two girls' scores were distinguishable from the group. Five adolescents experienced prodromal phase and sought professional help within a month after the onset of psychotic symptoms. Three families identified additional stressors within a family, not related to the youth's illness.

Implications: The five families were screened into the parent study because they met the inclusion criteria. The adolescents were in the similar age range and diagnosed with a schizophrenia-spectrum diagnosis. They lived at home with the families at the time of screening and were on regular treatment. At least one adult member participated in the study. Over time, each family grew apart and showed that they were unique in terms of who they were and in the way they experienced schizophrenia. The findings of the study emphasized the importance of recognizing the uniqueness of adolescents with schizophrenia and their families and meeting them where they are to provide effective and individualized care for the families.

Funding: NIMH R01-MH56580.

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Stigma, Depression, QOL and Alcohol Use among American Indians with Hepatitis C

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Objectives: The specific research study aims are: (a) to characterize coping, stigma, depression, quality of life (QOL), and alcohol consumption among a sample of rural Southern California American Indians (AIs) living with the Hepatitis C Virus (HCV); (b) to examine the relationship among the variables of coping, stigma, depression, QOL, and alcohol consumption among a sample of rural Southern California AIs living with HCV; and (c) to identify factors that explain the greatest amount of variance in QOL among a sample of rural Southern California AIs living with HCV.

Background: Hepatitis C Virus is considered to be a global public health threat because seventy-five percent of infected persons have no symptoms and are unaware of their infection. It is significant to note that AIs and Alaska Natives (ANs) commonly contend with issues that prevent them from receiving or seeking medical care. These issues include cultural barriers, geographic isolation, educational level, and low income. In 2007, AIs were twice as likely to develop a case of Hepatitis C, as compared to the White population. The HCV infection is one of the most important causes of chronic liver disease in the United States. It accounts for about 15 percent of acute viral hepatitis, 60 to 70 percent of chronic hepatitis, and up to 50 percent of cirrhosis, end-stage liver disease, and liver cancer.

Design: A descriptive, cross-sectional, correlational design with purposive sampling will be used for this study. Self-administered survey data will be collected from AI adult persons with HCV receiving care at a Southern California clinic.

Method: The Ways of Coping Questionnaire (WCQ) is a 66-item instrument designed to assess the coping style used by individuals when dealing with stressful encounters. The HCV Stigma Scale (modified) is a 40-item scale measuring and assessing the stigma perceived by persons with HCV. The Center for Epidemiological Studies Depression Scale (CES-D) Questionnaire is an instrument used to assess depression risks and consists of 20-items measuring six components: depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. The MOS SF-12v2 questionnaire is a 12-item instrument designed to assess QOL and views about a person's health. Alcohol Use Disorders Identification Test (AUDIT) is a 10-item screening instrument designed to assess patterns of alcohol consumption.

Implications: The identification of factors that influence QOL in HCV patients has the potential to give direction to the development of nursing interventions or culturally-based care that may improve life quality in AI persons living with HCV. This study will help to determine the level of coping, stigma, depression, QOL, and alcohol consumption among AI persons living with HCV. Additionally, the study will determine the relationship between coping, stigma, depression, and alcohol consumption to QOL in AI persons living with HCV. The research findings may have important implications for HCV education, treatment, AI/AN health care policy and practice improvements.

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Invincibility: A Concept Analysis as Applied to Adolescents and Risk Behaviors

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Purpose: The purpose of this concept analysis is to clarify and explore the topic of invincibility in relationship to adolescent involvement in risk behaviors.
Description of Concept: The perception of invulnerability or invincibility is associated with a propensity for young people to engage in risk behavior. Young people who engage in risk behaviors often have a perception of invulnerability or invincibility (Duncan et al., 2002; Killgore, Kelley, & Balkin, 2010). Research relates the illusion of unique invincibility to decreased perceived risk and increased involvement in risk behaviors (Casey, Getz, & Galvan, 2008; Monneuse, Nathens, Woods, Mauceri, Canzien, et al., 2008). While studies support vulnerability, an opposing concept to invincibility, as a key construct in explaining the process of behavior change, few studies examine the psychosocial process of overcoming invincibility (Brooks, Lee, Stover, & Barkley, 2009; Joseph, Flores, Parsons, & Purcell 2010; Roberts & Kennedy, 2006; Singleton, 2008). Further exploration of the concept of invincibility is a necessary first step in understanding how teens can best be approached in targeting the reduction of risk behavior involvement.
Concept Analysis Approach: The Walker and Avant process for concept analysis (2005) was employed to provide a robust representation of the concept invincibility. A review of the literature in health and social science databases was performed to determine the defining attributes of invincibility. Definitions of the concept of invincibility are presented along with related terms. Attributes, antecedents, and consequences are discussed. Model, borderline, related, and contrary cases are presented to provide a full representation of the concept and empirical referents of invincibility are defined.
Link to Nursing Practice: Nurses play a key role in screening adolescents for risk behaviors and discussing health promoting choices (Wang, Hsu, & Lin, 2010). Further exploration of the concept of invincibility is an important first step in being able to identify teens with a propensity towards invincible thinking in risky situations and in helping teens develop a more realistic appraisal of risk outcomes. Nurses who interact with an adolescent population are in a key position to identify high risk teens and influence adolescent involvement in risk behaviors through targeted health promotion strategies.
Conclusion: Understanding the adolescent's perception of invincibility can help nurses select appropriate approaches and intervention strategies designed to reduce risk behaviors and promote adolescent health.

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Intellectual Curiosity: A Principle Based Concept Analysis

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Purpose: The purpose of the principle-based concept analysis was to analyze intellectual curiosity (IC) across disciplines to explicate the current state of the science. The analysis was used to identify conceptual components and interrelationships between them. The findings have been integrated into a theoretical definition of IC to provide a beginning point for concept development of IC.

Theoretical Definition of Intellectual Curiosity: Intellectual curiosity is a dynamic process with constant interaction of pre-conditions, attributes, and consequences. Intellectual curiosity is a motivational state of cognitive stimulation resulting in exploratory behavior to acquire new knowledge or seek clarity in understanding. The motivational state is influenced by both internal and external variables. The degree of cognitive stimulation and the extent to which exploratory behavior is manifested is influenced by the individual's desire to acquire new knowledge or gain understanding and this is influenced by how much the knowledge or understanding gained is valued by the individual. The resulting new knowledge or clarity in understanding should serve as motivation to pique IC again ensuing in an iterative, cyclical process.

Internal Consistency of Intellectual Curiosity: Across disciplines, IC is addressed as a component important to foster and holds significant implications for teaching and learning. As a concept, IC is described as relational, descriptive, or resultant. IC is related to motivation and other cognitive process such as critical thinking and intrinsic motivation. IC is considered to hold a positive descriptive connotation when used to characterize various individuals or describe effective components. It can be viewed as a product of interaction with methods of pedagogy believed to stimulate and encourage intellectual curiosity. IC shows correspondence with the terms cognitive stimulation, desire or motivation, exploration, and knowledge acquisition. Factors were identified that suggested pre-conditions, attributes, and consequences of intellectual curiosity.

Logic Linking Intellectual Curiosity to Practice: The findings are relevant to nursing education and hold significant implications for creating teaching-learning environments which optimize or enhance pre-conditions, attributes, and consequences of IC. Student and faculty perspectives on the meaning of IC need to be explored. Teaching and learning strategies designed specifically to target stimulation of IC need to be identified. Some of the literature clearly indicates various types of pedagogies better stimulate IC than others. But without consistent use of the concept, the efforts would lack an evidence based approach.

Conclusions and Utility of Intellectual Curiosity: The analysis revealed the scientific literature on IC relies largely on implied or comparative meaning. There is strong evidence to suggest IC holds pragmatic utility (pragmatic principle) for nursing education but meaning needs more precision. A lack of explicit definition (epistemological principle) surrounding IC provides rationale for the diverse use and inconsistency of meaning (linguistic principle) and lack of theoretical integration (logical principle). The concept of IC needs development. For this to occur, IC needs clearer delineation from other cognitive processes. Examination of the placement of intellectual curiosity in relation to other dimensions of curiosity would be another essential aspect of concept development.

Sustainability in Science: What Is It and How to Measure It?

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Sustainability is a key concept as less federal funds are put into research interventions and more emphasis is placed on developing interventions that are made to last. However, the focus on sustainability as a research measurement is relatively new. It is often confused with related concepts like institutionalization, systematization, and routinization. Sustainability, although it has many elements, focuses on long-term viability. It relates most closely to the final stages in the diffusion process. In nursing to date, sustainability is more frequently described as a theoretical concept than as a way to measure long-term innovation use.

Purpose: The purpose of this presentation is to present ways to understand and measure sustainability.

Methods: A systematic 10 year literature review was conducted using the key words “measuring” and “sustainability”. Search databases included PubMed (N=82), PsychINFO (n=2), and Web of Science (n=3,282).

Analysis: Semi-structured interviews, checklists, and questionnaires were found that measured sustainability. Most works focused on program sustainability, more often specifically on program activities. Measuring continuous outcomes for individuals, families or communities were less a focus. Instrumentation ranged from the assessment of organizational infrastructure for sustainability to ranking the degree of individual leader support. Strengths and weaknesses of measurement methods will be discussed.

Conclusions: Interventions that are not sustained can result in wasted human and economic resources. Measuring sustainability elements while in a project and months later can help researchers learn which elements of sustainability really matter. Much can be gained by investing in research to measure sustainability.

Validating a Measure for Obesity Risk Knowledge in Adolescents

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Specific Aims of the Study: The purpose of this research is to revise a previously utilized tool for measuring obesity risk knowledge in adolescents. This investigator's previous research with the Obesity Risk Knowledge-10 (ORK10) did not demonstrate an acceptable Chronbach's alpha. Original design for this tool was completed in 2005 in Great Britain with adult participants (Swift et al, 2005). This investigator believes the reading level of the instrument and the inclusion of several questions that were not culturally sensitive needed to be examined and the instrument revised to be age appropriate as well as culturally sensitive in the population included in the study.

Background for the Study: Despite comprehensive campaigns geared toward the individual, family and community concerning the risks of obesity, the number of adolescents and adults who meet the criteria for obesity continues to rise. Knowledge of risks continues to be an area that is important to examine when studying health behaviors. Multiple studies found in the literature demonstrate that lack of knowledge concerning obesity risks does indeed exist even at a time when public campaigns dedicated to education on this topic are extensive and inclusive.

Research Methodology: The current study was initiated in January, 2010 and was completed in May, 2011. There are four phases to the study. Mixed methods were included. Phase one: A focus group was conducted with 20 adolescents as a means of "translating" the instrument (ORK-10) into language easily comprehended by 12-15 year olds. Phase two: (Pilot study) ORK-10R data collected from students (N = 110) attending 2 southern California middle schools. Phase three: Content experts reviewed responses and instrument reworded to reflect age-appropriate verbiage. Phase four: ORK-10R completed by focus group of 33 adolescents.

Results: Statistical analysis was completed in Phase four to determine reliability/validity level of this measure including stability among subjects with resulting Chronbach's alpha = .70.

Implications to Nursing: The plan is to place this tool in primary healthcare settings to be used by family nurse practitioners, pediatric nurse practitioners, family practice physicians, pediatricians, pediatric endocrinologists, etc. as a means of establishing a baseline of knowledge regarding the patient and the parent's level of obesity risk knowledge. This will, in turn, will assist the practitioner in establishing a plan of care addressing the issues of overweight and obesity.

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Measuring Relational Health in Young Women in Treatment for Substance Abuse

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Measurement of components of relational health for young women in treatment for substance abuse may be useful to assess treatment needs and progress. Such an instrument was used in this multi-method study that focused on relational health in adolescent women in in-patient chemical dependency treatment. The importance of relationships and "connectedness" as protective for aberrant behavior has been validated extensively in the literature of several disciplines over the past decade. Less well described are the components and qualities of connectedness or relational engagement among adolescents involved in substance abuse treatment. *How* relationships affect SU treatment success remains unclear. This multi-method exploratory study analyzed the nature of relational health among 16-17 year old girls enrolled in an inpatient substance abuse treatment program compared with a group of 16-17 year old girls attending high school in the same community as the treatment center. Aims included: 1) Assess the usefulness of the Relational Health Indices (RHI) in measuring differences between groups in three dimensions (engagement, authenticity, empowerment/zest) and three domains (mentor, friend, community) of supportive relationships; 2) Determine common patterns and meanings of relational experiences of 16-17 year old girls in SU treatment, from in-depth hermeneutic interviews; and 3) Generate a comprehensive analysis of the dimensions, domains, patterns and meanings of supportive relationships among 16-17 year old girls in SU treatment, comparing selected findings. Multiple analytic methods corroborated and enriched our findings. The purpose for THIS presentation is to discuss the results of the comparative analyses of dimensions and domains using the RHI (Aim #1). Differences between treatment and community groups were significant in several areas, including family structure, number and quality of mentoring relationships, and quality of peer relationships, implying the need for focused attention in these areas. The RHI also pointed to differences in aspects of relational health between admission and discharge from the treatment facility, emphasizing the need for establishing strong mentor and peer relationships during treatment that can be extended post discharge. The RHI tool, originally developed and modified by Liang and colleagues (2002) provided information that can inform interventions targeted to specific dimensions and domains of relational health for young women in chemical dependency treatment. Challenges to using the RHI in community treatment programs will be discussed, as well as ways in which survey instruments used in multi-method designs can add to comprehensive understandings.

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Developing an Instrument to Measure Quality of Nursing Care: Feasibility Test

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Purpose: The purpose of this presentation is to report findings from a feasibility test of a newly developed instrument that was designed to measure quality of nursing care from the perspective of hospitalized patients with advanced illness.

Background: Despite increasing interest and need to improve quality of nursing care provided in hospitals, valid instruments that directly measure patients' perspectives of the quality of nursing care are scarce. The Quality of Nursing Care Index for Patients with Advanced Illness (QNCI-PAI©) was recently developed to meet this need and is in the preliminary stage of psychometric assessment of its attributes. Developing a psychometrically sound instrument is a lengthy process with many steps. This paper reports the findings of a feasibility study that was implemented to validate the process that will be used to evaluate the psychometric properties of the QNCI-PAI.

Methods: The QNCI-PAI consists of 32 items that query patients regarding how often their nurses demonstrated the behaviors described in the item statements during their hospitalization. Survey instructions asked them to select one response on the 5-point Likert scale [1. not at all; 2. rarely; 3. sometimes; 4. often; 5. always]. In addition, three other response options were included on the survey to sort out potentially problematic items [6. not applicable; 7. don't know; 8. does not matter]. In this feasibility study, patients received the QNCI-PAI as a mailed survey after hospital discharge. Participants were recruited from among patients who were≥21 years old, had more than two hospital admissions during the last 12 months, and stayed in the hospital ≥2 days. The participating hospital's quality improvement department mailed the QNCI-PAI to eligible participants. IRB approvals were obtained from the researchers' institution and the participating hospital.

Results: The response rate from the one time mailing was 19 per cent. Respondents consisted of 14 males and 5 females, 95% were white, and the mean age was 70.2 years old. Higher QNCI-PAI total score indicated higher perceived quality of nursing care, and mean total score was 136.00 (SD±21.32). The QNCI-PAI did not show ceiling effects commonly seen in patient satisfaction surveys. There were no items with more than 10% of data missing (N/A, don't know, or does not matter) except item 6 "The nurses modified the routine care to suite my needs" which has 3 respondents indicating they "don't know". It suggested that all items except item 6 were reasonable to respond for patients and they were able to distinguish how often their nurses demonstrated behaviors considered as quality care. The non-normality of one of the subscale scores may be due to the small sample size. The low response rate (10-30%) was expected for the survey with this type of population.

Implications: The feasibility test demonstrated that the form of mail survey and the recruitment method were appropriate to test the QNCI-PAI use. The QNCI-PAI was able to obtain responses intended to collect. Pilot study for further psychometric analysis with a larger sample size is currently ongoing with participants being recruited from a different hospital.

Funding: This study was partially supported by NINR grant (F32NR010644-01) and Sigma Theta Tau International Small Grant.

METHODOLOGY AND MEASUREMENT ISSUES

Development of a Tool to Measure Member Satisfaction with a Psych-Social Club

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Purpose: This poster focuses on the development of the *Benefits & Satisfaction Tool for Members of a Psych-social Club (B&ST-MPC)*. The specific aims of the tool are three-fold: 1) exploration of what brought members to the club, 2) determination of ways the program benefits its members and 3) determination of what other services can be provided by the club. This poster addresses the second aim.

Background: The mental health service (MHS) continuum is dependent on regional centres and community services. One such service model is the psych-social club which potentially reduces the utilization of costly in-patient services. However, validation by persons with serious mental illness regarding the benefits of and satisfaction with attending a club is needed. Qualitative analysis of data from an earlier mixed methods study with psych-social club members supported the discovery of six healthy benefits. These were crafted into 18 items measuring perceived benefits of attending a psych-social club; possible responses to each item were “yes, sometimes, and no.-

Methods: Following a pilot of the tool with 24 psych-social club members, it was tested with 92 members from three psych-social clubs. The instrument was administered by an experienced mental health worker after an introductory 3-5 day period of interacting with them to reduce any fear/discomfort related to the researcher’s presence. Mental illness diagnosis was self-reported.

Results: The sample consisted of 53.3% males with an age range of 23 to 80 and a mean age of 45.5. The B&ST-MPC scores ranged from 20 to 72 (mean = 61.7); satisfaction scores ranged from 2 to 10 (mean = 8.4). Coefficient alpha for the B&ST-MPC scale was .92. B&ST-MPC scores and satisfaction were significantly correlated (r. = .243, p. = .032). An unweighted least squares factor analysis with a Varimax rotation yielded three factors: 1) comfortable productive social interaction, 2) belonging/building self-esteem, and 3) learning to stay well. Factors 1 and 2 were significantly correlated with satisfaction (r= .331, p = .012 and r = .279, p = .036, respectively). Factor 3 was correlated with satisfaction in the expected direction but the relationship was not statistically significant.

Implications: The findings suggest high levels of satisfaction with psych-social club benefits; this seems to be primarily related to perceived relationships/interactions within one’s environment and a sense of belonging. Further testing of the tools in different settings and with larger, more diverse populations is recommended. With this knowledge, providers can build best practice models that support maintenance of seriously mentally ill persons in the community.

Implementation of an Internet Database in a Mitochondrial Medicine Disease Center

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Background: No comprehensive database currently exists for a mitochondrial medicine disease center in a teaching hospital in Southern California. Without a comprehensive database the opportunity for facilitation and implementation of evidence-based practice is hampered.

Aim/Purpose of the Project: To demonstrate the use of REDCap (Research Electronic Data Capture), a web-based database, for development/implementation of evidence-based practice guidelines for autistic patients with a high likelihood of mitochondrial disease. Since no evidence-based guidelines exist for the mitochondrial disease or autism populations, the utility of this database will enhance the provision of evidence-based care for both neurology and mitochondrial patients served through a teaching hospital in Southern California.

Patients and Methods: Data on 10 affected patients and 10 age and sex-matched controls enrolled in a research study funded by Autism Speaks have been entered into a REDCap database. Analyses for the presence of laboratory tests for diagnosing mitochondrial disease will be conducted and correlations between variables pertinent to autism and mitochondrial disease will be examined and statistically analyzed for significance.

Results: In progress.

Implications: Conducting a pilot trial of REDCap, a comprehensive internet database, will enable researchers and clinicians in mitochondrial medicine to consider utilizing this database to guide the development of practice guidelines and the conduct of research for all patients within the mitochondrial medicine disease center. Because this database is used by over 70 subscribers world-wide and is free and accessible anywhere, it provides a unique platform for data sharing with collaborators involved in autism and mitochondrial care and research world-wide.

Funding: The REDCap software system provided by the UCSD Clinical and Translational Research Center is supported by Award Number UL1RR031980 from the National Center for Research Resources.

A Life Stories Research Project

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Purpose/Aims: To document the life stories of ten California welfare recipients participating in Wellness WORKs!, a welfare-to-wellness-to-work program focused on holistic self-care.

Background: The Temporary Assistance to Needy Families program changed the focus of welfare in the United States from social welfare promotion to facilitating employment. Welfare recipients have a time limit of 60 months to receive federal income support. After required employment training, welfare recipients have 24 months to enter the workforce. Wellness WORKs! is one of these training agencies. The program focus is self-care with the goal of developing knowledge and skills to live healthy lifestyles that influence social and economic environments and ultimately success in the workplace. Alarmingly, state and federal social service resources have fallen behind as public demand continues to increase due to the current economic environment. Inclusion of life stories allows those working in social service agencies to see the impact of an effective implementation of a program.

Method: Using an interview format this research will document and describe the life stories of 10 welfare recipients participating in a welfare-to-wellness-to work program. Participants are asked to tell about their lives including: a) area(s) in which they lived; b) how they view their life, c) significant turning points and times of transition, d) high and low points, and e) how they think society looks upon welfare participation and what the consequences have been for them. Participants are asked open-ended questions to assist in telling "the story of his/her life" in their own words. The interview begins with the participants' early childhood and proceeds chronologically to the present and anticipated future. Each interview is three to four hours.

Results: A qualitative analysis elicited common similarities and differences in the life stories. A living picture is captured of the participants' ways of life, struggles, and successes. The stories provide a window into this distinct social world and documents diverse matters, from stories of family life, childhood, parenthood, birth, and death to pain, loss, triumph, luck, desire, and evil. These stories give a holistic view of how people and actions interact and offer hope and understanding to welfare providers and participants. Additionally, these stories provide a narrative of how the implementation of services that offer holistic assistance, beyond acquiring employment, can lead to greater personal and professional success.

Implications: Results of the interviews assist multidisciplinary providers with understanding the role welfare plays in the lives of these participants. Exposing agencies and communities to participants' stories create a deeper understanding and help dissolve prejudices regarding the welfare system. Knowledge about social support recipients' participation in a successful, community-based, wellness-to-work program can assist service providers, administrators, and policymakers who work with the welfare population; offering them a tool for increased success within their every increasing client pool.

Funding: Supported by funds from California State University, Stanislaus.

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Concordance between the MSU Rurality Index and Self-Report of Rurality

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Purpose: The purpose of this paper is to describe the concordance between the Montana State University (MSU) Rurality Index and family self-report of rurality.

Rationale: The classification of rurality has an influence on allocation of health resources. It also is believed to influence the costs of health care for those with chronic illnesses.

Methods: Families of children with chronic pulmonary illnesses were given a structured interview focused on gaps in resources and out of pocket expenses. The interview asked for information about place of residence (rural, suburban, or urban) and the costs associated with caring for their children.

Results: 150 families of children completed the interview; 93 self-identified as urban/suburban and 57 self-identified as rural. Rurality related data were sent to the MSU Center for Rural Health and the MSU Rurality Index was calculated. There was a lack of concordance for 35 (23%) of the families when compared to self-report. 8/35 (22%) families reported rural but were classified as urban by the MSU Rurality Index and 27/35 (77%) families reported urban, but classified as rural by the MSU Rurality Index. When families reported they lived in a rural environment, 40% of out of pocket costs were accounted for by transportation. However, when the MSU Rurality Index was used only 32.7% of the out of pocket costs were accounted for by transportation. Loss of wages as a percentage of out of pocket costs did not change between the two methods of indicating rurality, however the actual loss of wages were estimated at $11,247 for families when they self-identified as living in a rural environment compared to $17,203 for families identified as rural according to the MSU Rurality Index.

Implications: There are multiple definitions and classifications of rural, suburban or urban. These classifications are used to set policies that affect funding for health, education, and infrastructure, as well as other federal programs. Because the MSU Rurality Index relies heavily on distance to emergency care some individuals are classified as living in a more urban environment when emergency care is available, however, the emergency care is limited to such an extent that it is basically transport to the state trauma center. There is a need for further understanding of rurality and the impact on families with children with chronic illnesses.

Funding: A grant from the Robert Wood Johnson Center for Health Policy at the University of New Mexico.

METHODOLOGY AND MEASUREMENT ISSUES

My Family Medical History and Me: Feasibility Results

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Purpose/Aims: The purpose of this study is to examine the feasibility of a theory-based, nurse-delivered intervention aimed at increasing perceived cardiovascular disease (CVD) risk and intentions to engage in health-promoting behavior in asymptomatic young adults with a family history of CVD. The specific aim is to examine the feasibility of recruitment, study design adherence, study participants' ability to gather family medical history information, and their willingness to provide blood samples for biological testing and genetic testing.

Rationale/Background: It is known that a family history of CVD increases the risk of developing CVD. Research has definitively shown that the risk associated with a family history of CVD can be reduced though health-promoting behaviors. However, very little research has examined whether personalized risk information about a family history of CVD influences or changes health-related behavior. Furthermore, no published research has examined the use of personalized risk information in a young, asymptomatic, presumed healthy population. If the study is feasible, a larger study with a randomized control design will be conducted.

Methods: The study utilizes a pre-post test design and all aspects of recruitment and the study designs are being examined. This includes the number of persons who were approached but declined, the numbers of individuals who refused to provide a blood sample for CVD biomarkers and/or genotyping, canceled/rescheduled appointments, and the drop out rates at all junctures of the study design. Additionally, the average length of time to complete the measures (subject burden), the length of time for each session, and the completeness of all self-reported measures and family medical history questionnaires will be examined. Finally, data from seven open-ended questions will be used to assess the "helpfulness" of the intervention and to determine ways to improve the intervention, if needed.

Results: Data collection is currently underway. Results will be available by the conference.

Implications: The study will advance our knowledge about the willingness of healthy young adults to participant in family medical history focused studies, as well as the feasibility of obtaining complete and accurate family history information and blood for biomarkers and genetic testing from this population. An intervention that successfully increases perceived risk and intention to engage in health-promoting behaviors may reduce the morbidity and mortality associated with CVD.

Funding: NIH/NINR, T32 Training Grant, Biobehavioral Nursing Research Training Program, 5T32NR007106-12.

Taking Time for Social Risk Assessment: A Content Analysis of Blogs about Incontinence

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Purpose: The purpose of this study is to explore the text of women's social-networking blogs for insight into factors that may facilitate care-seeking and early intervention for urinary incontinence.

Rationale: Urinary incontinence (UI) affects from 29-51% of mid-life women. Disclosure rates of UI concerns are relatively poor. Estimates of care-seeking for UI (in many cases, after years of living with symptoms) range from only 10-60% of affected women. Information-seeking, rather than pursuing surgical treatment, has been identified as a primary reason for midlife women's incontinence-related visits to health care providers. Following the framework of Mishel's Uncertainty in Illness Theory (RUIT), an exploration of the factors involved in moving from *Danger* to *Opportunity* when deciding to seek care will offer insight into effective nurse-patient relationships in the ambulatory setting. Prior content analyses of interviews, open-ended questionnaire responses, and focus groups with women living with UI revealed *fears*, *feelings* and *activities* as predominant themes. Social/emotional risk assessment has been identified as an antecedent to disclosure. The theme *taking time* has emerged as a means to create moral space in decision-making. Relationships among the concepts of *social risk assessment*, *time as a means of creating decisional space*, and *exploring treatment options* as factors influencing care seeking behavior by women who experience incontinence have not yet been explored, and may provide insight into reasons for delay in disclosing incontinence concerns or care-seeking behavior. Content analysis of social blogs written by women experiencing these issues will provide a rich and unique perspective on factors that may facilitate disclosure of UI.

Methods: Content analysis will be used to explore content patterns present in publicly available, de-identified internet blogs written by women experiencing incontinence (n = 23). These data will be coded for *social risk assessment*, *time as a means of creating decisional space*, and *exploring treatment options* concepts derived from application of the RUIT theoretical, prior research as described above, and literature review of content and thematic analysis of women's experiences living with UI.

Results: Text from women's blogs about incontinence will be purposively sampled and content analyzed (Neuendorf, 2002). Software programs General Inquirer, Yoshikoder, Linguistic Inquiry and Word Count (LIWC), and CATPAC II will be used to construct and apply the coding scheme for latent themes (*social risk assessment, exploring treatment options,* and *time as a means to create decisional space*). Descriptive statistical analysis will identify trends in textual content related to these latent themes. Relationships among latent themes will be explored by cluster analysis. The identification of content patterns in the blog text, as well as other less common but notable themes, will inform nursing practice in facilitating disclosure of incontinence.

Implications: Content analysis of public, social blogs offers useful insight into the process of personal healthcare decision-making and care-seeking by women living with UI. The goal is to identify crucial factors that, when incorporated into nursing practice, will facilitate early disclosure of pelvic floor health concerns among mid-life women.

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Quality of Randomized Controlled Trials and Journal Abstracts in Cancer Nursing Research

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Purpose: The main aim was to assess the quality of randomized controlled trial (RCT) abstracts in published journal articles in cancer nursing research. The secondary aim was to determine whether the quality of journals and the quality of the full length RCT articles were associated with the quality of RCT abstracts.

Background: In 2009, 66% of cancer patients survived at least 5 years beyond diagnosis. Nurses, playing a key role in managing patients' symptoms, health, and quality of life, want to effectively deliver evidence-based practice (EBP) to cancer patients. Published journal articles are a major source of evidence, and an RCT is typically considered the highest level of evidence. A journal article abstract presents the summary of the study. Readers often rely on abstracts to decide whether to access full-length articles. However, little is known about the quality of RCT abstracts in cancer nursing research.

Method: Journal articles involving RCTs in cancer nursing research were retrieved from MEDLINE and CINAHL in September 2010. Inclusion criteria were: nursing research, English language, RCT design, and full-text article was available online. Articles were excluded if they were duplicate reports of the same study, or were secondary analysis of RCT data. The Consolidated Standards of Reporting Trials (CONSORT) checklist for reporting RCTs in journal and conference abstracts was used to assess the quality of the abstract. Abstracts were scored as checklist item present in the abstract (adherence to the CONSORT item) or checklist item absent (non-adherence). The Jadad scale (Oxford quality scoring system) was used to assess full length journal articles. Journal impact factor (IF) was used as the measure of journal quality.

Results: 114 articles published between 1989 and 2010 were analyzed. This included 48 journals, with IF between .59 and 33.63. The inter-rater agreement Cohen's kappa was .95 overall. Out of 17 items on the CONSORT abstract checklist, 7 items had > 80% adherence (the item was found in more than 80% of abstracts), and 7 items had < 10% adherence, including one, "Trial status", with 0% adherence. Four items (allocation concealment, blinding, and intent to treat analysis) had adherence rate between 1.8% and 28.1%. Adherence to the CONSORT checklist was significantly associated with both IF (Spearman's rho=.23, *p*=.03) and the Jadad score (Spearman's rho=.30, *p*=.001).

Conclusions: This study suggests that the quality of reporting RCTs in cancer nursing can be improved. It is recommended that nursing studies adopt standards such as the CONSORT guideline to evaluate and improve reporting quality. The use of the CONSORT guideline may need to be disseminated to nursing researchers.

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Measuring the Content Validity of GutCheck Using an E-Delphi

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Purposes/Aims: The purpose of this study was to determine the level of agreement among experts about Necrotizing Enterocolitis (NEC) risk among premature infants and to measure the content validity of GutCheck, a neonatal NEC risk index.

Rationale/Conceptual Basis/Background: NEC is a deadly gastrointestinal disease that arises suddenly and requires extensive treatment in premature infants. Costing an additional $100 000/case, it accounts for nearly 1/5 of Neonatal Intensive Care Unit costs in the US annually. NEC survivors frequently experience long-term neurodevelopmental impairment, short gut syndrome, intestinal failure, catheter-associated sepsis and are among the most likely to stay in the NICU beyond 6 months. Prematurity, low birthweight and aggressive formula feeding are the only risk factors consistently shown to independently predict NEC. Recent cohort studies have shown many risk factors contribute to the disease. What is unknown is if combined risk increases the likelihood of NEC. Consensus among neonatal clinicians and researchers about the validity of NEC risk is unclear.

Methods: The E-Delphi (a consensus method consisting of multiple survey rounds using a study website, online survey, structured feedback and email) was used to determine agreement among experts. Clinical and research experts were recruited using a purposive snowball sampling technique. Experts rated the relevance of NEC risk factors on a 1-4 scale (1=not relevant, 2= unable to determine relevance without revision, 3= relevant with minor revision and 4= relevant without revision). Recommended revisions were incorporated into round 2. Items with a mean response ≥ 3 or a percent-agreement of $\geq 70\%$ were retained. Items with a mean response ≤ 2 or a percent-agreement of $\leq 70\%$ were deleted. Stability, a change in mean response of $\leq 15\%$, was calculated when consensus was not met.

Results: Individual item content validity was calculated as the percentage of agreement among experts that rated the item a 3 or 4. Individual CVI for retained items ranged from .63-.94. In Round 1, 23 items were retained of 42 possible (CVI=.58 scale and .81 retained items). In Round 2, 18 items were retained of 43 possible (CVI=.61 scale and .72 retained items). After two rounds, the total CVI for retained items in GutCheck was 0.77.

Implications: Understanding NEC risk is imperative to improve NEC outcomes. Although they did not initially agree, experts rated 41 risk factors for NEC as relevant after two rounds. More research is needed to reduce these to the most clinically useful and predictive to assist clinicians to make decisions in the best interest of infants at risk for NEC.

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RESEARCH ON CHILDHOOD ILLNESS

PARENTS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS: EXPERIENCES WITH SCHOOLS

Donna S. Freeborn, Carol Loucks, Barbara Mandleco, Susanne Roper, Tina Dyches

ADDRESSING THE NEEDS OF PARENTS RAISING CHILDREN WITH DIABETES

Christina M. Yazzie, Donna S. Freeborn, Barbara Mandleco, Susanne Roper

SYMPTOMS AND DEPENDENT CARE DURING CANCER TREATMENTS OF CHILDREN AND ADOLESCENTS

Carol Dobos, Phoebe Williams, Annemarie Slaven, Ubolrat Piamjariyakul,
Anne Geiseking, Renee Connor, Arthur R. Williams

THE MEANING OF COMFORT FOR THE HOSPITALIZED CHILD: AN INTERPRETIVE DESCRIPTION

Susan M. Wechter

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Parents of Children with Type 1 Diabetes Mellitus: Experiences with Schools

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Purpose: The purpose of this qualitative descriptive study was to discover parental perceptions of and experiences with the school setting when raising a child/adolescent with type 1 diabetes (T1DM).

Background: Type 1 diabetes requires lifestyle changes involving diet modification, blood glucose monitoring, carbohydrate counting, and insulin administration. Since children with T1DM spend a major portion of their waking hours at school, one of the major challenges faced by parents is issues surrounding management of diabetes in the school setting.

Methods: The project was part of a larger study in which parents, siblings and CWD participated in focus groups, a type of participatory action research that combines interviewing and open discussion of common issues. Six separate focus groups were held over a four month period with a total of 21 parents representing 16 children with diabetes. Parents included 14 females (mean age 37.33, *SD* 9.35) and 7 males (mean age 39.67, *SD* 8.85) and the children ranged in age from 20 months to 17 years (mean 9.08, *SD* 3.78).The focus group discussions were audio recorded and then transcribed verbatim. The transcriptions were analyzed for common themes according to qualitative methodology.

Results: School concerns were identified by participants and included: a) interaction with school administrators and teachers, b) Section 504 of the Rehabilitation Act of 1973, c) educating the child's classmates, d) school lunch, and e) physical education classes. Interactions with school administrators and teachers included resistance to insulin administration and intolerance of mood swings caused by blood glucose fluctuations. Utilization of Section 504 of the Rehabilitation Act was misunderstood by both parents and school personnel; parents did not realize this act could be helpful and school personnel rarely used the act when evaluating the children/adolescents. Educating the child's classmates was important to parents who wanted other students to be knowledgeable about TIDM and issues related to managing the disease they may experience with the child. Concerns about school lunches included scheduling, preparation needed prior to lunch and the food provided. Finally, parents were concerned that physical education classes precipitated low blood glucose that needs immediate attention and the child and teachers needed to be prepared to treat/prevent hypoglycemia if and when it occurred.

Implications: Family and Pediatric Nurses Practitioners need to be aware of the challenges their patients with T1DM face in relation to schools. They should assume an active role in advocating for improved diabetes management in schools, participate in the initiation of a 504 plan, and provide support that can have educational and health benefits. They should also encourage parents of children with T1DM to involve school personnel in designing and administering an appropriate diabetes management plan.

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Addressing the Needs of Parents Raising Children with Diabetes

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Purpose: To address the needs of parents raising a child with type 1 diabetes mellitus.

Rationale: Diagnosis of a chronic disease in a child, such as diabetes mellitus, results in acute anxiety and stress in parents; strong emotions such as fear, anxiety, grief, and guilt are common. Parenting stress in diabetes is often centered on worry for the child's health and parents' ability to maintain the medical management of their child's diabetes. Since parents are the primary caregivers of children with diabetes the impact of stress on the parents can impact the health of the child as well as the health of parents.

Method: All participants were parents of a child with type I Diabetes Mellitus (DM). No limits were set on age of child or how long the child has had DM. Parents of children living with diabetes attended four separate two hour support group/ workshops. The Pediatric Inventory for Parents developed by Dr. Randi Streisand to measure parenting stress related specifically to caring for a child with an illness was used as a screening tool to help focus in on specific parent concerns and worries and to address those topics in subsequent workshops. Parents also completed an open ended questionnaire at the end of each workshop.

Results: Preliminary results show the parents respond very positively to being able to talk with other parents in the same situation. Nearly all the parents stated that hearing how other parents work through difficult situations and handle raising their child with diabetes was helpful. Subsequent workshops will again focus on topics identified by the Pediatric Inventory for Parents as being stressful for the participating parents.

Implications: The topics discussed were relevant to all the parents present. Parents participating in the workshops report knowing that there are others that have the same problems has helped decreased their stress levels. They repeatedly reported it was helpful to know there were others with the same problems and that being able to interact with them was beneficial.

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Symptoms and Dependent Care during Cancer Treatments of Children and Adolescents

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Aims: Examined (a) symptom occurrence/severity reported by parents/caregivers of children/adolescents during cancer therapy; (b) what caregiver reports that help alleviate symptoms, including self-care/dependent care; and (c) what self-/dependent care categories are reported.

Conceptual Framework: Used Orem's self-care/dependent care concepts.

Methods: Cross-sectional; Midwestern and Southwestern USA; 92 parents/children ages 1-17 years; 52% females; 16 were <5 years old; 5-11 yo.=53; 12-17 yo.=23. Diagnoses: 56% had leukemia; 44%, Other cancers. Instruments: Therapy-Related Symptom Checklist for Children (TRSC-C): record patients' symptom occurrence/ severity on a 5-pt scale (0, no symptom; 4, "A whole lot"; and Symptom Alleviation: Self-Care Methods (SA:SCM): identify methods used to alleviate therapy-related symptoms. Cronbach's alphas: TRSC-C= .91; SA:SCM= .72; good content and construct validity. Descriptive-correlational data/content analyses done.

Results: A. 40% or more reported 19 symptoms, mean severity "Quite a bit": loss of appetite, nausea, vomiting, bruising, fever, weight loss, feeling sluggish, hair loss, depression, pain, irritable, agitation, headache, sweating, afraid, constipation, skin changes, tripping and falling and difficulty sleeping. B. Of six categories of self/ dependent-care methods/complementary therapies, all found useful; most used were Diet/Nutrition; and, Prescribed Medicines. C. Self/dependent-care examples: a. Diet/ nutrition category includes: provide more variety, offer child's favorite foods, use 'strong flavors' (sweet, sour), change meal frequency; b. Mind/body control category includes: provide reassurance, rewards; hold, hug, say "I love you"; play/ talk; sleep; use heating pad; c. Biologic treatment and d. Herbal treatments, not mentioned; e.'Other' category includes: nutritionist consult; mouth care, ice chips, magic mouthwash, throat spray; f. Prescribed medications include anti-emetics for nausea, pain relievers.

Implications: Assessing patient/parent-reported symptoms and use of self/dependent care and complementary therapies during pediatric cancer treatments helps parents help their children.

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RESEARCH ON CHILDHOOD ILLNESS

The Meaning of Comfort for the Hospitalized Child: An Interpretive Description

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Purpose: The purpose of this study is to explore the meaning of comfort for hospitalized school-age child through interpretive description to capture conceptual themes and patterns that will inform a middle-range theory of comfort for children.
Background: Comfort of the hospitalized child is a complex, multidimensional and subjective phenomenon. It represents a challenge for children, parents and health professionals. In the United States, over 3 million children are hospitalized every year and 42% of these children are 6 years of age and older (National Association of Children's Hospitals and Related Institutions, 2009). Most endure one or more painful procedures as part of the management of their hospital care. Anxiety surrounding being hurt is identified as the biggest fear of the hospitalized child (Slaw, Stephens, & Holmes, 1986). One of the central themes of nursing care for the pediatric patient is to relieve this anxiety and enhance comfort and healing. Nurses contract with parents to achieve this goal (Pruitt, Johnson, Elliot, & Polley, 2008). Despite advances in relief of pain and anxiety, the concept of comfort is not well-defined for the hospitalized child.
Sample/Setting: Purposive sampling of key informants for this study will be school-age children and their families. Acutely ill and chronically ill children and their families will be sampled. In addition, expert nurses will be interviewed who have identified expertise in comforting the hospitalized child. The setting is an in-patient, medical-surgical unit in a 359-bed children's hospital in Mid-Western United States.
Methods: An interpretive description method will be utilized. Interpretive description explicitly locates itself within a philosophical tradition that explores matters involving human experience (Thorne, 2004). The more probable truths are those that are arrived at using multiple angels of vision (Johnson, 1996; Kikuchi & Simmons, 1996; Sandelowski, 1996). Interpretive description acknowledges the constructed and contextual nature of human experience and concurrently allows for shared realities (Thorne, Reimer Kirkham, & MacDonald-Emes, 1997). Developmentally sensitive, semi-structured interviews designed to explore the key informants' perceptions of the meaning of comfort will be utilized to gather data. The interviews will be transcribed and analyzed through a series of steps based on immersion and crystallization techniques which provide an iterative, contemplative and reflexive approach to data analysis. An essential element in the method is that the investigator is the interpreter of the data and generates findings that have the potential for interpretive authority beyond the artistic license of the individual author (Thorne, 1997).
Results/Implications: The results of this study will be interpreted themes regarding comfort. Multiple implications for practice application and clinical research are expected. An interpretive description of comfort will systematically harvest shared and patterned experiential knowledge so it can be of used in sensitizing and informing the people who are providing care to children in multiple health care arenas.

RESEARCH ON PERINATAL ISSUES

INFLUENCES OF KNOWLEDGE, ATTITUDES, AND BELIEFS ON INTENTION TO PROMOTE BREASTFEEDING

Kathleen M. Kennedy

FACTORS INFLUENCING PERINATAL OUTCOMES IN OLDER PREGNANT THAI WOMEN

Supawadee Thaewpia, Lois C. Howland, Mary Jo Clark, Kathy S. James

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POSTPARTUM CLINIC FEASIBILITY STUDY

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MODE OF DELIVERY AND MATERNAL AND INFANT RISK FACTORS AND HEALTH OUTCOMES

Amanda Claire Burke Aaronson, Kathryn A. Lee, Caryl Gay,
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FISCAL CRISIS CUTS: IDENTIFICATION OF SENSITIVE MATERNAL/CHILD HEALTH OUTCOMES

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LONELINESS, PET ATTITUDE AND PARENTHOOD MOTIVATION: WHAT IS THE RELATIONSHIP?

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SUPPORTIVE NEEDS OF ADOLESCENTS WHEN INITIATING BREASTFEEDING

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GASTROESOPHAGEAL REFLUX IN YOUNG INFANTS: MOTHER-INFANT CHARACTERISTICS

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PRECONCEPTION PRACTICES AND NEEDS AMONG BATTERED WOMEN

Fuqin Liu, Donna Scott Tilley

Influences of Knowledge, Attitudes, and Beliefs on Intention to Promote Breastfeeding

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Numerous research studies have shown the value of exclusive breastfeeding (BF) for infants, women, families, and society. Exclusive BF rates in the United States still do not meet Healthy People 2020 objectives, and a significant number of nurses do not appear to be aware of the importance and benefits of breastfeeding. A wide variance in nurses' attitudes toward promoting and encouraging breastfeeding has been observed despite intellectual agreement that breastfeeding provides the best health outcomes for infants and their mothers. Fishbein's Theory of Reasoned Action was used to evaluate nurses' intention to promote breastfeeding with their patients. According to this theory, intention to perform a behavior is the best predictor of whether that behavior will actually occur. Intention is influenced by attitudes and beliefs, which are predicated by age, educational background, knowledge, cultural background, and personal experience. This study evaluated traditional and non-traditional student nurses' attitude and intention regarding BF. Of the study variables, perceptions of the student's clinical experience was found to be related to attitude about breastfeeding, and attitude about breastfeeding was found to have a positive influence on future intention to promote breastfeeding. Nurse educators can use these findings to strategize teaching activities to structure students' clinical sessions, choose Baby-Friendly clinical sites whenever possible, and utilize creative strategies to influence students' attitudes and knowledge about breast feeding to achieve Healthy People 2020 goals for breastfeeding rates.

RESEARCH ON PERINATAL ISSUES

Factors Influencing Perinatal Outcomes in Older Pregnant Thai Women

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Background: The societal change in Thailand has influenced individuals to marry later in life resulting in a rapid increase in the number of women becoming pregnant later than 35 years of age. Many perinatal complications may occur in older pregnant women. However, limited data exists for factors associated with poor maternal and infant outcomes in this vulnerable group.

Purpose: To describe the relationship between personal factors, perceived benefits and barriers, self-efficacy, social support, and health promoting behaviors to perinatal outcomes in older Thai women.

Methods: Pender's Health Promotion Model (2006) provided the theoretical framework for this descriptive correlational study. The sample was 142 pregnant women age 35 years or older who were attending antenatal clinics in 4 public hospitals in northeastern Thailand. Measurement instruments included the Personal Characteristics Questionnaire, Perceived Benefits and Perceived Barriers of Health Promoting Behaviors Scale, General Self-Efficacy Scale, Interpersonal Relationship Inventory questionnaire, and Health Promotion Lifestyle Profile II scale. Maternal outcomes were obtained from medical records.

Results: Gestational diabetes mellitus, premature labor, breech presentation, pregnancy-induced hypertension, premature rupture of membrane, and ante-partum hemorrhage were the most frequently reported problem outcomes. Education level, perceived benefits, perceived self-efficacy, and social support were significantly associated with health promoting behaviors. Using stepwise multiple regression analysis, the findings revealed that 47.9% of the variance of health promoting behaviors can be accounted for by the linear combination of perceived self-efficacy, perceived benefits, and social support. A significant negative correlation was found between higher health promoting behaviors scores and risk for antepartum hemorrhage.

Conclusions: The results suggest that older pregnant women who have a higher education level, higher self-efficacy, who perceive more benefits of health promoting behaviors, and have higher social support tend to have increased health promoting behaviors. Moreover, women with higher health promoting behavior scores have lower risk for antepartum hemorrhage.

Implications: Creating interventions to enhance self-efficacy and social support combined with education about the benefits of health promoting behaviors may promote better pregnancy outcomes in this high-risk population. Future research needs to assess additional factors that may impact maternal outcomes in older pregnant Thai women.

Keywords: health promotion, older pregnant women, pregnancy outcomes

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Postpartum Clinic Feasibility Study

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Purpose/Aims: The study is conducted to assist administrators at a non-profit hospital in the Pacific Northwest to determine whether the hospital should establish a Registered Nurse (RN)-staffed postpartum follow-up clinic for its clients. The specific aims are to: (1) establish whether the current perinatal clients would be interested, willing and able to return for follow-up care at such a clinic and (2) investigate current postpartum support practices in other healthcare institutions in the area.

Rationale/Background: The rising costs of healthcare in the past several decades have led to postpartum discharge within 24 hours after vaginal and 48 hours after surgical birth. Researchers have linked early discharge without early follow-up with increased readmission rates due to maternal and newborn complications. The efficacy of provider follow-up for healthy mothers and babies has long been established while the efficacy of RN-staffed postpartum follow-up clinics has not been established. The hospital for which the study is conducted has various prenatal services for women, but has no services focused on early postpartum maternal and infant follow-up other than lactation support.

Undertaking/Best Practice/Approach/Methods/Process: Using an investigator-developed questionnaire, randomly selected clients are surveyed regarding their perinatal experiences and whether and why or why not they would use an RN-staffed postpartum clinic for follow-up care. Additionally, interviews are being conducted regarding the utilization, efficacy, and operational costs with the administrators and staff of the facilities that currently offer some form of outpatient postpartum follow-up. Data collection and analysis will conclude in January 2012. Data will be analyzed using descriptive statistics and qualitative content analysis using the Hsieh and Shannon (2005) method.

Outcomes Achieved/Documented: This study will offer important new information to assist the hospital leadership with a decision-making process regarding the establishment of an RN-staffed postpartum clinic. Findings may also assist other health care facilities that explore evidence-based, safe, effective, and cost-efficient alternatives to current postpartum care.

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Mode of Delivery and Maternal and Infant Risk Factors and Health Outcomes

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Background: Childbirth is a necessary stressor. It prepares the infant for extrauterine life, and prepares the mother for lactation and safe return to the non-pregnant state. However, added stressors can have repercussions.

Aims: This study aims to describe added stressors (including prenatal maternal socio-demographic and psychological factors) affecting mode of delivery (MOD), and the effect of MOD on mother-infant health at one month postpartum.

Methods: Approximately 150 first-time, English-speaking, expectant mothers, at least 18 years of age were recruited from San Francisco, California prenatal clinics for a postpartum sleep intervention clinical trial. They were excluded if they had a sleep or mood disorder, or worked nights. This is a secondary analysis of data from this study.

Prenatal maternal socio-demographic and risk factors (depression, anxiety, attitudes/adjustment, perceived stress) were evaluated by MOD outcome using analysis of variance (ANOVA). Labor induction/augmentation was evaluated, and maternal report of non-reassuring fetal status (NRFS) was the primary outcome variable, analyzed by Chi-Square and logistic regression. Lastly, MOD was evaluated for effect on maternal symptoms of depression and anxiety, infant temperament rating, infant sleep, and breastfeeding continuation at one month using ANOVA and Chi-Square statistics.

Results: Prenatal depression and anxiety symptoms were not associated with MOD (normal vaginal, instrument vaginal, cesarean in labor, or scheduled cesarean). Mothers with a prenatal "attitude toward baby" score that was more positive were more likely to have an unplanned cesarean birth. A scheduled cesarean birth was more likely in older women, and those with higher pre-pregnancy BMI. Maternal reports of NRFS were associated with induction/augmentation. One month postpartum measures of maternal symptoms, maternal adjustment, infant temperament, and breastfeeding did not differ by MOD. However, according to maternal sleep diary entries, cesarean-born infants slept an average of one hour more during the day than infants born vaginally.

Implications: These findings provide preliminary indication that prenatal attitude toward baby plays a role in MOD, induction/augmentation is associated with increased NRFS, and cesarean birth is associated with increased infant daytime sleep at one month. Nurses should develop, test and implement interventions to minimize prenatal and labor factors that unnecessarily add to delivery stress.

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RESEARCH ON PERINATAL ISSUES

Fiscal Crisis Cuts: Identification of Sensitive Maternal/Child Health Outcomes

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Purposes/Aims: The aims of this in-progress research project are to: 1) Identify and define key concepts, variables, and hypothesized linkages to form the basis of a conceptual model of relationships between/among changes in public health funding levels for maternal/child health (MCH) programs and related proximal health outcomes; 2) Identify, evaluate, obtain and link secondary data sources suitable for use in testing the posited model; 3) Quantify degree and direction of predictive relationships between variables in the hypothesized model through analysis of linked data using analytical modeling techniques; 4) Disseminate findings of analyses through academic papers and abstracts and policy briefs to key stakeholders.

Rationale/Conceptual Basis/Background: The State of Washington's declining government revenues have forced policy makers into difficult programmatic decisions. Local health department (LHD) budgets have been particularly hard hit, with some of the most sudden and severe program cuts made to MCH services provided by the State's 35 LHDs. Under the best of circumstances, little is known about outcomes of MCH services delivered by LHDs and whether governmental investments in clinical preventive services improve health outcomes. Using fiscal crisis-driven LHD and MCH (LHD/MCH) budget and service cuts as a natural experiment, this translational clinical research project is exploring whether predictive relationships exist between recent cuts in LHD/MCH budgets and services and proximal MCH outcomes. Based on the broad hypothesis that decreases in public health funding to LHD/MCH budgets and services are having, and have had, negative direct and indirect effects on proximal MCH outcomes; key informant interviews and secondary data analysis methods are being employed to identify and explore pre-, intra-and post-fiscal crisis relationships between variables.

Methods: Key informant interviews and secondary data analysis methods are being employed to identify and explore pre-, intra-and post-fiscal crisis relationships between variables. Data and input are being sought from branches of local, state, and federal government and are being integrated into a dataset sufficient for multi-level statistical modeling.

Results: Results will be presented in poster form at the 2011 WIN Conference.

Implications: Study results will identify significant predictive relationships between variables, laying the groundwork for continued research into this timely, emerging area of translational clinical research and practice.

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RESEARCH ON PERINATAL ISSUES

Effects of Miscarriage on Lesbian Couples: A Prospective Mixed Methods Study

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Purpose and Aims: The overall purpose of this prospective, mixed methods investigation is to examine the effects of miscarriage on lesbian birth and non-biological mothers. The specific aims are to: 1. Investigate pregnant versus non-pregnant partner's feelings about miscarriage; 2. Investigate impact of miscarriage on each partner's grief and depression, ways of coping, and their perceptions of caring and support received after pregnancy loss; and 3. Investigate impact of miscarriage on their couple relationship.

Background: National statistics indicate that in recent decades between 16 and 25 million women who self identify as lesbian in the USA have become mothers through various means of conception. There is also evidence that approximately 30-50% of all conceptions end in miscarriage, an unexpected pregnancy loss prior to the point of fetal viability.

Problem: Studies conducted with lesbian women who miscarried suggest that they are at increased risk for emotional disturbances subsequent to pregnancy loss because their experience is compounded by the complexities of planning and achieving pregnancy, uncertainty surrounding pregnancy outcomes, and generally low social support for their choice to become parents.

Significance: The National Institutes of Health (NIH), National Center on Minority Health and Health Disparities (NCMHD), and the National Institute of Nursing Research (NINR) are committed to addressing the unique health care needs of lesbian population by increasing research in this area (http://www.oar.nih.gov/minority/minority.htm). The NIH, Institute of Medicine, Office on Health for Lesbians has indicated that gaining knowledge that will improve the health and health care for lesbian population is a national priority by stating: "for lesbians, health care to be appropriate, the scope and nature of their health issues must be better understood" (2009, p. 20).

Design and Methods: The ethical approval to conduct the study was granted by IRB at the study site. It is a prospective mixed methods investigation. Wojnar, Swanson, and Adolfsson (2011) Miscarriage Model provided theoretical framework for the investigation. A non-random sample of 110 lesbian couples (220 individuals) is being recruited via WA State "Maybe Baby" and "Lesbian Miscarriage" peer support groups, online lesbian and heterosexual miscarriage support networks, "Country Doctor" clinic, and "Maia" Midwifery services. Women, who have miscarried as a lesbian couple within the prior 12 weeks participate. They are asked to complete surveys about their experience of pregnancy loss at enrollment, and at 16, and 24 weeks after loss. Data will be analyzed using SPSS #18 statistical software. Data collection is in progress with 24 couples recruited thus far.

Implications: Findings will add to the understanding of miscarriage experiences of lesbian partners for use in clinical practice and research. Findings will also provide basis for designing context-appropriate caring-healing interventions for this minority population of women.

RESEARCH ON PERINATAL ISSUES

Evaluation of the Effectiveness of Evidence Based Oxytocin/Pitocin Protocol

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Purpose and Aims: This research aims to evaluate the outcomes of an evidence-based practice (EBP) oxytocin check-list protocol implemented by the Birth Center Unit at one of the hospitals in the Pacific North-West in December 2009. Selected maternal and fetal outcomes will be compared before and after the protocol implementation using data from selected patients' records before and after protocol implementation.

Background: Oxytocin, a synthetic medication commonly utilized during labor augmentation, joined the list of high-risk medications that significantly heighten patient harm when used incorrectly. Protocols for administration of other high-alert medications, such as nitroprusside, insulin, and methotrexate, have already been implemented nationwide, while an oxytocin protocol has not. Currently, the administered dosages and increments between infusions are inconsistent in various care settings, and often reflect provider's experiential knowledge and preference. Implementation and evaluation of oxytocin/pitocin clinical protocols developed based on the best available evidence is imperative.

Problem: To date, there are no published studies that evaluated effectiveness of EBP oxytocin protocols on maternal and infant outcomes. The hospital in which the protocol was implemented has not evaluated the effectiveness of the new Oxytocin protocol yet.

Significance: Currently, the United States ranks 29th in infant mortality (Centers for Disease Control, 2008) and 41st in maternal mortality among developed countries (World Health Organization, 2007). Half of all births in the United States utilize oxytocin during labor and delivery (Freeman & Nageotte, 2007). The recent implementation of an oxytocin protocol checklist at the hospital is one of the key strategies to provide safe and quality care to laboring patients and to provide a safeguard for nurses and other providers. Evaluating outcomes of the new oxytocin protocol is therefore imperative.

Design and Methods: The ethical approval to conduct the study was granted by the University IRB and the study site. It is a retrospective electronic chart review investigation. We hypothesized that there will be a reduction in adverse outcomes following the implementation of the oxytocin check-list protocol on all selected variables with the strict adherence to the new protocol. To determine a statistically powerful sample size at 80% with alpha=.05, we will analyze before and after proportional data based upon our primary outcome of Late Decelerations using OpenEpi Sample Size for a Proportion or Descriptive Study calculator. If the calculated sample exceeds the number of charts available, which is 540 participants based upon 30 charts per month for 18 months, we will conduct a pilot study and enroll at least 60 participants per protocol. Data collection and analysis will take place in October 2011 through December 2011. Data will be analyzed using SPSS #18 statistical software. Descriptive statistics and independent samples T-tests will be performed to detect differences in outcomes before and after Oxytocin protocol implementation.

Implications: The recent implementation of an oxytocin protocol checklist at the study site is one of the key strategies to provide safe and quality care to laboring patients and to provide a safeguard for nurses and other providers. Findings will add new information about the effectiveness of evidence based oxytocin protocol for the study site. It will also contribute new information regarding administration for nation wide use.

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Loneliness, Pet Attitude and Parenthood Motivation: What Is the Relationship?

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Purposes/Aims: The purpose of this descriptive study was to examine the relationships among loneliness, pet attitude, and parenthood motivation in community dwelling pet owners of childbearing years.

Rationale/Conceptual Basis/Background: The theoretical framework guiding this research was based on attachment theory posited by Bowlby, 1969. The central theme of this premise is the reciprocal emotional bond, nurturing behaviors, and sense of security that occurs from caretaking of another. A review of the current research revealed a gap in the literature on the relationship between loneliness, pet attitude, and parental motivation. Therefore, this study addressed these relationships adding to the body of nursing knowledge.

Methods: Participants were recruited using chain sampling technique a variant of convenience sampling. The final sample consisted of community dwelling pet owners of childbearing years ($N = 118$). Emails were sent to 65 contacts (seeds) and inviting them to voluntarily participate in the online study. The email included an introduction to the study, a direct link to the online study, and a “share this web link”. In order to recruit other potential subjects the seeds were asked to forward the web link to others who met the age criteria (18- 45). When the potential participants clicked on the direct link to the survey and entered the online site and a formal letter of introduction followed by an Informed Consent was provided. Upon obtaining the informed consent the participants gained access to the online survey for completion. The participants completed a demographics, loneliness, pet attitude, and parenthood motivation survey. The completion of the online survey took approximately 20 minutes.

Results: Data were analyzed using Pearson product-moment correlations and one-way analysis of variance (ANOVA). Two-tailed tests were used to determine statistical significance at the .05 level. The results revealed that loneliness was related to parenthood motivation ($r = .33$, $p = .00$), in that those with increased loneliness reported increased parenthood motivation. Pet attitude was related to parenthood motivation ($r = .20$, $p = .03$), those with increased positive attitude toward pets reported increased parenthood motivation. Loneliness did not vary by pet specie however pet attitude varied by pet specie, as dog owners had the most positive attitude toward pets. Parenthood motivation did not vary by pet specie.

Implications: Nurses working with individuals of childbearing years should inquire about pet relationships and the instinctual bond they represent. Pets have been shown as a valuable resource in the influencing feelings of loneliness and parenthood motivation, and should be considered in nursing assessments and interventions for community residing individuals and couples. Future research is needed to further examine the relationships among loneliness, pet attitude, and parenthood motivation in community residing pet owners of childbearing years.

Reference:

Bowlby, J. (1969). *Attachment* (2nd ed.). New York: Basic Books.

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Risk Factors That Effect Maternal Delivery Outcome

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Purpose/Aims: Neonatal outcomes have been used as proxy for maternal-fetal care evaluation, which do not address the unique needs of the pregnant woman. The purpose of this study is to identify the maternal risk factors that have predictive value in determining adverse maternal outcomes in order to support the development of maternal risk-appropriate care. Specific aims: a) identify patterns of high-risk factors present in cases with adverse maternal outcomes, and b) describe the relationship between age, parity, pre-pregnancy weight, history of adverse outcome in previous pregnancy, history of chronic medical conditions or obstetrical complications, presence of current medical or pregnancy conditions, and adverse delivery outcomes.

Background: The number of high-risk pregnancies due to maternal or neonatal complications has significantly increased over the past decade (Kuklina et al., 2009). Approximately 31.1% of pregnant females suffered complications during hospitalized labor and delivery in 2007 (USDHHS, 2010). As a result, Healthy People 2020 objectives include the reduction of maternal illness and complications due to pregnancy (during hospitalized labor/delivery) by 10%. Antenatal risk assessment and transfer are key strategies to the successful provision of risk-appropriate care and prevention of maternal mortality and/or morbidity.

Methods: A descriptive, correlational design employing linked secondary data sets will be used for the study. Using probabilistic linkage techniques, data from the California Office of Statewide Health Planning (OSHPD) will be matched with the birth statistical files of the Office of Vital Statistics (OVS). OSHPD data include demographics, delivery mode, diagnoses, procedures, type of discharge, source of payment, length of stay, charges, and hospital type. Data including parity, pre-pregnancy weight, co-morbidities, and gestational age at delivery will be collected from OVS. The statistical analysis will include descriptive and inferential statistics.

Results: In progress.

Implications: Health care providers are being challenged to use their knowledge and skills to identify potential factors that may cause injury or harm to the patient. The earlier these factors are recognized the better the nurse can initiate the decision making process to mitigate the risk. Information is needed about potentially modifiable versus non-modifiable risk factors. Data sources regarding maternal outcomes are limited or non-existent. The results from this study will contribute information regarding what pregnancy related complications increase the risk for poor maternal outcomes. Information gained will inform practice standards and improve the recognition of these elements of risk and subsequent requirements for care to mitigate the potential for adverse outcomes.

Funding: Work was supported in part by the USD Dean's Research Scholar Award and the Doris A. Howell Foundation Research Award.

Supportive Needs of Adolescents When Initiating Breastfeeding

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Purpose/Aims: The purpose of this study was to explore the needs of adolescents for social support from nurses when initiating breastfeeding through conducting a secondary qualitative analysis of de-identified data from a psychometric study conducted by one of the researchers.

Rationale: The recent publication of *The Surgeon General's Call to Action to Support Breastfeeding* has highlighted the health costs of not breastfeeding. Unfortunately, adolescents initiate and continue breastfeeding at rates that fall below the *Healthy People 2020* breastfeeding goal of increasing the proportion of infants who are ever breastfed to 82% and who are breastfed exclusively at 3 months to 46%. Nurses who provide care to adolescents and their newborns in the immediate postpartum can influence their breastfeeding rates through the social support they offer adolescent mothers as they initiate breastfeeding.

Methods: Secondary qualitative content analysis of adolescents' responses to open-ended questions was conducted using social support theory as a framework. The two researchers independently categorized each as emotional, appraisal, informational, and/or instrumental social support. They collaboratively identified specific nurse behaviors that meet the supportive needs of adolescent mothers when initiating breastfeeding.

Results: The results of the analysis showed what kinds of support adolescent mothers would like to have from nurses. Adolescent mothers wanted nurses to take the time to explain about breastfeeding, answer their questions, and provide consistent information, which supported their informational needs. Emotional needs were met as the nurse provided for the adolescents' privacy, treated them with respect, stayed calm, and asked first what they knew about breastfeeding. The adolescent mothers wanted nurses to support their appraisal needs by praising and encouraging their efforts to breastfeed, which helped them feel confident. For instrumental support, adolescent mothers preferred to have hands on tips and tricks about positioning, latching, and baby behavior as well as wanting nurses to stay with them as they learned to breastfeed. They also valued being given opportunities to work out breastfeeding under the nurse's guidance.

Clinical Relevance: This study provides nurses with information about the kinds of social support adolescent mothers value as they learn to breastfeed. Adolescents feel supported when nurses take the time to talk with them about breastfeeding and to help them breastfeed. Nurses can use the findings of this study to reflect upon how they provide breastfeeding support for adolescent mothers in the immediate postpartum.

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RESEARCH ON PERINATAL ISSUES

Gastroesophageal Reflux in Young Infants: Mother-Infant Characteristics

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Purpose: The aim of this study was to examine characteristics of mothers and infants who were enrolled in a study to investigate benefits of massage therapy for infants with gastroesophageal reflux disease (GERD).

Background: Gastroesophageal reflux is regurgitation of gastric contents into the esophagus when the lower esophageal sphincter relaxes. Frequent regurgitation, irritability, and feeding difficulties are symptoms of a more complicated condition, GERD. Treatment typically is directed at relieving acid reflux, but symptoms of GERD occur with both acid and nonacid reflux. A common treatment, Proton Pump Inhibitors, is no longer approved for infants less than 12 months of age. Examining characteristics of infants with GERD and their mothers has potential to develop alternative treatment options.

Methods: Infants were 6 to 10 weeks of age. They were diagnosed with GERD and referred by their pediatrician. We further screened with the Infant Gastroesophageal Reflux Questionnaire-Revised (I-GERQ-R) using the recommended cut-off of 16 for diagnosis (Kleinman, 2004). We observed a mother-infant feeding session, administered the State-Trait Anxiety Inventory, the Edinburgh Depression Scale, the Infant Behavior Questionnaire-Revised, and collected 72 hour infant sleep actigraphy data at baseline before initiating the first of 12 biweekly massage or nonmassage treatments.

Results: Analysis for target enrollment (n = 40) for this study is in progress. Results are based on analysis of 27 infants and mothers. The mean infant I-GERQ-R score was 22.6 +/- 4.2, and 85% of infants were on anti-reflux medication. Feeding observations were scored using the NCAST Parent Child Interaction Feeding Scale (Sumner & Spietz, 1996). Maternal scores in our study were lower than NCAST national norms on Social-Emotional Growth Fostering ($p <.0001$), Cognitive Growth Fostering ($p <.0001$), Infant Clarity of Cues ($p = .034$), and Infant Responsivity ($p <.0001$). The mean total maternal score, 38.68, and the mean infant score, 17.56, also were lower than the NCAST national norms ($p <.0001$). Mean scores for anxiety and depression were within normal limits, but higher levels of maternal state anxiety correlated moderately with infant fear ($r = .46$) and sadness ($r = .41$). Maternal trait anxiety and depression correlated negatively with infant soothability and cuddliness ($r = -.66$ to $r = -.77$; $p <.01$). Infants slept a daily average of 8.2 hours which is less than 13.5 hours ($p <.0001$) reported by Thomas & Foreman (2005) for this age group.

Implications: Although findings are preliminary, maternal-infant interaction and infant sleep are compromised in infants experiencing GERD symptoms, despite treatment with anti-reflux medication. Others have reported ineffective treatment for clinical symptoms with anti-reflux medication in infants (Chen et al, 2011). Mother-infant feeding behavior, maternal emotional states, and infant temperament may be fruitful areas to target for future intervention research and treatment.

Funding: This study was funded by NIH.NINR, R21NR011069.

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Preconception Practices and Needs among Battered Women

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Purpose: To examine the preconception practices and needs among battered women, also known as women who experience intimate partner violence (IPV).

Background: Previous research shows that the promotion of a woman's health before she becomes pregnant, known as preconception health, positively impacts birth outcomes. Growing evidence indicates that women who experience IPV have more difficulties achieving optimal preconception health.

Methods: This study used a qualitative descriptive design. Women aged 20 and above who were abused by their partners before and during their last pregnancy were recruited from one domestic violence shelter in northern Texas. Following Institutional Review Board approval and informed consent, focus group interviews were conducted with study participants. Transcribed data were analyzed as appropriate for qualitative inquiry.

Results: The study participants identified their abusive relationship as the biggest barrier in achieving optimal preconception health. Other barriers included financial difficulties and lack of knowledge. Some women reported that they had little or no control over their own contraception. They rarely discussed birth control with their abusive partners. Most women had experienced more than one unplanned pregnancy. Common pregnancy complications reported were preeclampsia, placenta previa, and preterm labor. There is a consensus among the participants that most of these complications could have been prevented. All women also agreed that preconception health is important. Although most women acknowledged that they did not pay attention to their preconception health, they expressed an interest to receive preconception care from healthcare professionals.

Implications: Females experiencing IPV have challenges to healthy pregnancy. Educational and counseling services should be incorporated into routine check-ups for women of childbearing age. Healthcare professionals play an important role in identifying women experiencing IPV and promoting optimal preconception health among this growing population.

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STUDENT ISSUES/PERSPECTIVES

DISCOVERING STUDENTS' PERCEPTIONS OF COLLEGE AND HEALTH CAREERS USING PHOTOVOICE

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Robbie Paul, Patrice Griffin-Codd, Andrea Charette-Bluff,
Cynthia Fajmon, Robert Garza, Anthony Moore,
Phyllis Morris, Heidi Mueller, Camille Penaflor

LINKING PRACTICE TO THE CLASSROOM: BRINGING EBP TO LIFE

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Marylou V. Robinson

PHYSICAL AND MENTAL HEALTH IN SERIOUS MENTAL ILLNESS

Alissa Murrary, Heeyoung Lee, Irene Kane

STUDENT ISSUES/PERSPECTIVES

Discovering Students' Perceptions of College and Health Careers Using Photovoice

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Primary Aim: To identify disadvantaged high school students' perceptions about going to college, a career in nursing, and health sciences.

Rationale/Conceptual Basis/Background: Increasing the numbers of disadvantaged and ethnically diverse students in nursing and health science careers is nationally a work in progress. It continues to demand innovative and effective solutions. To date, research on recruitment and retention to increase diversity has emphasized the need for financial aid, academic preparation, and emotional support. These are important endeavors, but what may be missing are the voices and perceptions of the students. Creative research is needed to help understand, articulate, and act on barriers students perceive as keeping them from obtaining degrees. Working with students can lead to effective community based interventions to make a difference in increasing the diversity of the nation's health care workforce. Photovoice was chosen for this study of disadvantaged high school students because it allows marginalized groups the opportunity to voice their concerns and opinions in a safe and non-threatening environment.

Methods: This phenomenological study used a descriptive qualitative design with photovoice. High school students attending a two-week summer residency program to prepare for college and health sciences careers were recruited for the study. Study participants were encouraged to photograph people, places, and things that conveyed their perspectives on problems and strengths related to going to college and health/nursing professions. Students presented their photos in small focus groups facilitated by undergraduate and graduate students using the mnemonic SHOWeD: What do you See here? What's really Happening here? Data analysis began with identifying exclusive and exhaustive categories for open and axial coding. Coding began in focus groups as participants and researchers engaged in a process of capturing, discussing, and thematizing photographs.

Results: Forty-five high school students, 20 Native American, 25 Hispanic, 1 African American, 1 Pacific Islander, and 3 White, participated in the study. Themes included: Recognizing the university is large, I am small; Needing to transition from high school and home to college; Becoming independent; and Overcoming bad times. Students' photographs included the obstacle ropes course activity to show ability to overcome difficulties, parking signs to indicate external limitations, and a spider eating a fly to indicate good and bad times. Overall students indicated growing awareness of themselves within a larger system and the need to face difficulties to progress to college and a health career.

Implications: Nursing and health sciences educators need to continue helping students increase academic skills and financial aid, but students at the high school level also need support making their way from the known home environment to the unknown college environment. The use of photovoice in this study resulted in participant reflection. Reflection and growing self-awareness may motivate participants to change and succeed by enabling them to understand the world from new and thought-provoking perspectives.

Funding: HRSA Workforce Diversity Grant # DP19HP19023; NIH/IHS NARCH Grant # U26IHS300291/01.

STUDENT ISSUES/PERSPECTIVES

Linking Practice to the Classroom: Bringing EBP to Life

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Purpose/Aims: The purpose of this teaching/learning approach was to engage students in considering a real locally-relevant nursing clinical problem from retrieval and synthesis of the evidence, to the identification of specific interventions, and finally through the development of an implementation plan.

Rationale/Background: The traditional method of teaching the senior seminar class with RN to BSN students was a format of student-led discussions exploring problems encountered in practice. Although the students read and discussed research articles related to a different clinical problem each week, it was more of a research utilization approach that typically ended with students quite pessimistic about how they could translate any findings into practice.

Brief Description of Approach: This course innovation involved collaboration with a local acute care agency. Each semester the seminar is taught, a nurse from the Performance Improvement Committee identifies a clinical problem for which the agency would like to improve health care services. Patient falls and nurse injury while repositioning patients in bed are examples of two problems the seminar group has worked with. The agency nurse comes to the class at the beginning of the semester, shares all the relevant data and policies, and answers student questions. Utilizing a team-based learning approach, teams of students retrieve pertinent evidence including clinical practice guidelines, systematic reviews, single research studies, and grey literature. Evidence is synthesized and a bundle of 3-4 practice change recommendations are identified based on the strength/quality of the evidence, what is determined to be the best match for the environmental context, and patient preferences. Next, the groups develop a comprehensive implementation plan for each practice change recommendation. Throughout the semester, contact is maintained with the collaborating nurse and the acute care agency including a field trip to the unit where the change is targeted, interviews with important stakeholders, frequent updates via email, and finally a presentation to the Performance Improvement Committee.

Outcomes Achieved: Both students and agency nurse considered the experience worthwhile. Students rated the class as “very helpful” or “extremely helpful” in the development of skills related to retrieving and synthesizing evidence, knowledge related to clinical practice guidelines and the implementation process, and attitudes about quality and safety. The agency indicated that they planned to implement the fall risk screening tool recommended by the class.

Conclusions: This classroom and practice collaboration was successful in creating a dynamic teaching/learning environment where students were able to apply evidence-based practice principles along with the translation of that evidence into practice for a real clinical problem. Students and practice settings both benefit from working together in projects such as these. Healthcare agencies will undoubtedly continue to identify opportunities for improvement, and the classroom provides a setting from which to provide a unique contribution. Nursing schools in some regions may want to consider developing centers on campus to support health care agencies with the translation of evidence into practice.

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Reflections: A Window into RN-BSN Progression

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Background: Reflection is a teaching strategy that helps students clarify and create meaning for themselves, resulting in an altered conceptual perspective. Johns' seminal 1995 article articulates that reflective practice may be seen as the ability to retrieve, interpret, and understand through work experiences and education.

Purpose: The purpose of this study was to encourage nursing students to reflect on their affective and cognitive growth as they came to the end of their RN-BSN journey.

Methodology: This qualitative, descriptive study was informed by Hermeneutics. Senior RN-BSN students in their last nursing course reflected upon their educational journey and posted their responses on Blackboard as part of a weekly discussion assignment. They were asked to describe how they incorporated what they have learned into their nursing practice and what they now do differently, as well as to reflect on how their thought processes may have changed and if they felt there was a significant difference in their nursing practices pre- and post-BSN. After IRB approval, and at the conclusion of the course, interested students completed a brief demographic survey and consented by return email to have their responses used in this study. Researchers independently searched for common themes and meanings.

Results: Almost 40% of students agreed to participate. They ranged in age from 20 to 55 and were mostly female. The number of years as an RN ranged from less than one year to 23 years (x=8.4). Five major themes emerged from the data: Evidence-based Practice (EBP)/Research, Leadership, Nurse Theorists, Public Health Nursing (PHN), and Benner's Stages. For EBP/Research, one student stated, "I am always searching for new information that would be beneficial to providing quality patient care and I have learned so much from the EBP articles that I have already read … (and) started putting into my own practice." Another noted, "My professors have introduced me to a world of nursing I did not know existed." The Leadership theme included the revelation, "I have had the opportunity to take what I have learned and put it into practice . . . I have learned how to be a (better) delegator, leader, mediator, and educator." The theme of Nurse Theorists brought out comments like (I) "apply her theory to my practice during patient care," and "it changes how you think about what you are doing." The PHN theme afforded learning about "resources" and being "the safety net of our community." Benner's Stages theme generated remarks like "recognizing signs of burnout can help me understand some of my colleagues better" and (helps) "guide my teaching methods and focus my attention to their abilities and limitation(s)."

Implications: This reflective study aided RN-BSN students in expressing their feelings and thoughts, and viewing their experiences in a new light. They noted the BSN improved their critical thinking, helped them see the "bigger picture," and the need for lifelong learning, as well as future goals. This may facilitate their transition into new, broader roles, educational experiences, and a more reflective nursing practice.

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STUDENT ISSUES/PERSPECTIVES

The Next Step: Mentorship in Student Developed Leadership Simulation Scenarios

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Purpose/Aims: The purpose of the student developed leadership simulation scenarios is to provide students having previous experience in simulation development an opportunity to demonstrate essential leadership principles by mentoring other students while actively directing the development of simulation scenarios. The students utilized evidence based practice and needs assessment in developing their simulation topics of conflict, delegation, and cultural diversity, principles essential to the role of the bedside nurse leader.

Rationale/Background: The simulation experience involved traditional senior nursing students enrolled in a leadership course. With student reported need for opportunities to demonstrate leadership skills and an increased use of simulation as a learning tool in practice settings, the use of simulation development supports the advancement of BSN prepared nurses entering into the profession. Focusing on leadership skills related to conflict, delegation, and cultural diversity enables students to prepare to manage the role of the nurse in diverse and dynamic patient care settings.

Brief Description of the Undertaking: The students self-selected small groups ensuring one member had previous experience in simulation design to serve as a mentor to the group for effective scenario development. Students were randomly assigned conflict, delegation, or cultural diversity topics and conducted evidence based research on the nursing role in managing their assigned topic in health care settings. Students received training on the implementation of simulation scenarios using high-fidelity mannequins. The students constructed and implemented a 15 minute scenario with clearly defined objectives based on self identified strengths and areas of growth of the simulation participants and specifically outlined roles of each participant in the simulation scenario. Following scenario completion, students debriefed and reflected individually and as a group.

Outcomes Achieved: Student successfully utilized simulation technology currently used in education and clinical practice environments. Students effectively demonstrated leadership skills in the management of conflict, delegation, and cultural diversity scenarios, and by mentoring and educating peers on the utilization of simulation technology. The Faculty and a community hospital liaison served as resources with the students taking the lead role in the development of objectives, implementation of scenarios, and facilitation of debriefing activities. Students reported increased comfort in the development and participation of simulation scenarios, including the recognition of motivators and barriers to learning, as well as enhanced leadership skills in managing conflict, delegation, and cultural diversity.

Conclusion: Providing students the opportunity to mentor each other through development of simulation scenarios focusing on conflict, delegation, and cultural diversity allows for the demonstrations of leadership skills in practice type situations. Students are better prepared to assume clinical leadership roles as a result of the observed and active learning present in developing, implementing, and reflecting on student developed simulations.

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Responses of RN to BSN Students to Reflective Assignments

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Purpose: This study will explore responses of RN to BSN students in a Community/Psychiatric/Mental Health Practice clinical course to the assignment "reflect on your practice." This is a preliminary inquiry to explore the meaning and practice of reflection in nursing education. Using mixed methods, students' perceptions of how they operationalize "reflect on practice" will be explored in surveys and interviews. In addition, students' written reflective journals will be examined for themes or patterns.

Background: Nurse educators are charged with encouraging and teaching reflection on practice as a component of professional nursing behavior. The most recent iteration of the AACN Baccalaureate Essentials includes reflection on practice in all nursing competencies. Definitions of professionalism include reflection as essential to growth and the ability to improve upon practice. Yet there is little formal agreement among nurse educators about how to elicit or evaluate reflection. Nurse educators report intuitive or tacit understandings of what constitutes deep reflection, yet often are unable to clearly articulate what they expect in responses from students beyond, "I know it when I see it". International nursing and education scholars describe various models for assessing reflection and point out that ethical evaluation of reflection can be problematic.

Methods: After institutional review board approval, 10 students will be surveyed anonymously using an electronic emailed structured questionnaire with 2 open ended questions and several likert scale type questions about students' perceptions of reflection on practice. Then, a small subset of the students choosing to respond to the survey will be interviewed. Additionally, written structured reflective assignments from an RN-BSN Community/Psychiatric/Mental Health clinical course will be analyzed for themes and levels of reflection by four experienced nurse educators for depth of reflection and linkages to transforming practice.

Results: Anticipate completion February 2012.

Implications: Expected implications include increased clarity about students' perceptions of reflection and better understandings for nurse educators on how to elicit and evaluate reflection. This pilot study is expected to inform the researchers' future direction and methods in regards to reflection and nursing pedagogy.

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Building Strong Teams: Effects of a Medical Student/Nurse Shadowing Experience

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Purpose/Aims: As part of the 4-week Race and Health Institute at UC Davis Health System, this shadowing experience sought to increase medical students' knowledge of the role of the bedside nurse. First year medical students participated in a one-time shadowing experience, where the medical student was paired with a medical intensive care unit bedside registered nurse for a shift to observe how the nurse cares for patients and families, utilizes "critical domain knowledge," and functions as an integral part of the healthcare team. The shadowing experience was preceded by a two hour didactic session on nursing history and present practice, delivered by a nurse scholar.

Background: While nurses and physicians have distinct professional identities, it is necessary to understand the role of one another in order to eliminate professional hierarchies. The 2011 report, "Core Competencies for Interprofessional Collaborative Practice," authored by an expert panel consisting of members of the Association of American Medical Colleges and the parallel education associations of nursing, dentistry, pharmacy, osteopathy, and public health, states that interprofessional collaborative practice is the "key to safe, high quality, accessible, patient-centered care desired by all." The 2010 report, "The Future of Nursing," authored by the Institute of Medicine cites "interprofessional collaboration and care coordination as being the standard in the future delivery of health care."

Methods: Mixed methods were used as an analytic approach. A pre and post intervention survey was given to the medical students and nurses to assess their views of the nursing profession. Quantitative questions used a 1-5 range Likert scale that assessed participants' assessments of the impact of the shadowing experience. Content analysis was conducted on responses to open-ended questions to identify themes and sub-themes related to the experience.

Results: Medical students experienced a meaningful interprofessional exchange and obtained a deeper understanding of and appreciation for the role of the bedside nurse. There was a distinct change in the medical students' response language that reflected a higher valuing of the nurse role and status as a team member. The mean rating of the value of this experience was 4.5/5 by medical students and 4.3/5 by nurses (1= not valuable, 2= somewhat valuable, 3=valuable, 4= very valuable, 5= extremely valuable).

Implications: Based on the results of this shadowing experience, future shadowing experiences are merited.

Funding: Race and Health Institute sponsored by HRSA Pre-doctoral Training in Primary Care #D5DHP20522 (PI Fancher).

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Stress Management for Nursing Students: A Pilot Feasibility and Efficacy Study

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Aim: To determine the efficacy and feasibility of an educational program of mantram repetition on levels of perceived stress, quality of life, and empathy in nursing students delivered using teleconference calls over a 12-week period of time.

Rationale: It is well documented that students in nursing education experience high levels of stress and anxiety. Common sources include: conflicting demands (school, home, and work), workload, lack of preparedness, fear of failure, fear of interpersonal nature of the clinical experience and time pressure. The clinical setting is stressful whether a learning or working environment (Tully, 2004). Studies suggest that high stress impedes concentration, memory, and problem solving ability which are all essential for clinical reasoning, successful learning and professional practice. Beyond these cognitive challenges, communication, empathy and caring, essential components of nursing, may also be hampered by stress. Therefore, nursing faculty have an obligation to assist nursing students in dealing with stress—for their own health, the health and wellbeing of the patients they care for, and the nursing profession as a whole. This study examined mantram repetition a simple, evidence-based tool for coping with stress by initiating the relaxation response (Bormann, 2006). This preliminary study examined both the methods for and the effects of delivering a stress management tool to nursing students. The study explored efficacy of mantram repetition and how well the selected methods of recruitment, teleconferencing delivery and data collection worked.

Methodology: This study has a 2 group [intervention and control] by 4 time [pre-intervention, post-intervention (approximately 3 months), mid-program (approximately 1 year after program orientation), and end-program (approximately 2 years after orientation during last BSN class)] design. Participants self- referred at the orientation for the nursing program and were randomly assigned to either the intervention or control group.

Results: Fifteen students have participated in the study. Data has been collected 3 times to date with the final data collection to be completed 10/31/11. Levels of perceived stress, quality of life, and empathy in nursing students will be examined after last data is collected. Lessons learned regarding delivery include: having sessions when students are already on campus enhances participation even when the resource is teleconferenced. Data collection also succeeds best when students are scheduled to be on campus and completing the surveys is made convenient.

Implications: The results will help others to determine how to support students stress reduction. Future research should examine electronic methods of delivery and data collection.

References:

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Funding: This research was partially funded by a Presidential Award from National University.

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Student Nurses' Perceptions of Participation in Service Learning

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Purpose: The purpose of this research study was to explore student nurses' perceptions of learning experiences related to their participation in Community Preventive Health Collaborative (CPHC), a community service learning course, which provided health teaching, health screenings, referrals and follow-up to underserved populations in Kern County.

Background: Kern County is located in the Southern Central Valley of California. Of the population in Kern County, 20% do not have a usual source of health care, 20% of people are living beneath the poverty line, and 68.5% of residents age 25, graduated from high school. Kern County ranks 58th out of 59 counties in the state for percentage of adults with diagnosed diabetes, 49th out of 59 counties in the state for high blood pressure, 33rd out of 59 counties in the state for obesity, and 57th out of 59 counties in the state for heart disease. There is a great need for health services that emphasize health teaching, health screening services that detect potential problems early, and linking of individuals to health care resources. CPHC allows student nurses at California State University Bakersfield to provide these services to underserved populations.

Methods: Permission to conduct the study was obtained by the California State University Bakersfield Institutional Review Board. This was a qualitative study of student nurses who were enrolled in CPHC, a community service learning course. The student nurses were informed of the research study and invited to participate by consenting to allow their reflection journal to be utilized as data for this research study. The reflection journal is an assignment for the community service learning course that requires the student to write 1 – 2 pages regarding their experience. Students may share an experience that had an impact on their goals of becoming a nurse or share what was learned about the health care needs of the community. Each student nurse was asked to describe insights developed as a result of participation in this course that supports their ability to provide better nursing care. The reflection journals were reviewed and common themes were extrapolated.

Results/Discussion: During academic year 2010 – 2011, 12 out of 30 students consented to participate in this research study. Eleven participants were female. Three common themes revealed were: a) Nursing lessons learned b) Rewarding experience, and c) Helping others. Exemplars are shared to give meaning to the experience. Student nurses valued the opportunity to provide services to underserved populations.

Implications: Service learning courses can be developed as great learning opportunity for student nurses. CPHC can be replicated in a number of underserved communities where nursing programs are operated. Other similar programs can be implemented to provide clinical experiences for student nurses and assist vulnerable populations with health services that they probably would not have received if it had not been for student nurses. The student nurses helped to meet a great community need and were able to reflect on experiences that helped them to build nursing skills in the community health setting.

Funding: By a grant from Kaiser Permanente.

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Stress Self-Management among Pre-Licensure Nursing Students

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Background and Rationale: Nursing students are especially susceptible to stress as they are required to maintain a complex schedule and rigorous academic workload combined with personal family and employment commitments. Knowledge in this area has been primarily informed by quantitative research via instruments to measure stress levels (Gibbons, Dempster, & Moutray, 2007). Early research has identified interventions that may be effective in reducing stress in nursing students. However, gaps remain regarding how students self-manage stress and the effectiveness of these interventions (Charlesworth, Murphy, & Beautler, 1981).

In 1975, Seyle identified stress as "the nonspecific response of the body to any demand made upon it." Stress severity is gauged by the level of disruption experienced when coping is not effective (Charlesworth, Murphy & Beutler, 1981). Excessive stress results in a decrease in individual performance, a concern that yields potential program failure, personal health issues, and/or negative patient care outcomes.

Purpose and Aims: The purpose of this grounded theory study is to gain an understanding of the process regarding stress self-management in pre-licensure nursing students by answering the research question: What are the major processes through which pre-licensure student nurses' self-manage stress? The aims of this study are to identify: 1) methods of self-management of stress in pre-licensure nursing students, 2) variations in self-management of stress among nursing students, 3) an emergent theory that addresses stress self-management, and 4) areas for future development of effective stress management strategies for pre-licensure nursing students.

Methods: An initial sample followed by theoretical sampling technique will be employed. English-speaking male and female pre-licensure nursing students and faculty actively enrolled or teaching in an on-ground/campus-based nursing course in a pre-licensure program will be recruited to take part in this study. Initially, up to 30 nursing students and 12 nursing faculty will be recruited**.** Recruitment via posted flyers in common nursing student and faculty areas, nursing email distribution lists, and word-of-mouth (snow-ball effect) will be used. Data collection with occur over six months with separate student and faculty focus groups. Two additional focus groups may occur to ensure data saturation. Interviews will be transcribed and verified for accuracy by participant review. Open coding will be used to identify experiences, thoughts, and behaviors. Codes will then be compared across transcripts to identify consistencies and differences followed by axial coding for categorizing findings. Extensive use of thick, rich descriptions, a detailed audit trail, and peer debriefing will contribute to the trustworthiness of this study.

Implications: The purpose of this study is to gain knowledge through inductive inquiry regarding how pre-licensure nursing students self-manage stress, culminating in an emerging theoretical framework. A better understanding of potential program/curriculum revisions that potentially decrease stress will decrease the risk of negative stress response implications, such as program failure, personal health issues and/or negative patient care outcomes.

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STUDENT ISSUES/PERSPECTIVES

Simulation and Nursing Student Attitudes toward Poverty

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Purpose/Aims: The purpose of this study was to examine attitudes about poverty and poor people held by nursing students and to explore the impact of a poverty simulation on attitudes of nursing students toward poverty and the poor. This research provides evidence of the efficacy and utility of simulation in the affective domain for nursing students. The results of this research will provide guidance for nursing faculty in curriculum planning and implementation relative to issues of social justice and diversity competence.

Rationale: To provide safe, quality care for all, nurses must be prepared to care for diverse persons and families from all walks of life. In 2009, 43.6 million people in the United States were in poverty, the largest number in the 51 years in which poverty estimates have been published. Negative attitudes and stereotypes can have a negative impact on professional behavior. The literature regarding stereotypes and attitudes toward poor people and poverty held by health care professionals is troubling. A simulation about poverty provides a stimulating learning opportunity in which nursing students can develop knowledge and feelings about the experiences and challenges of living in poverty. Reflection and discussion of the experiential aspect of simulation further enhances the cognitive and affective knowledge transfer from the simulation to student.

Methods: The research questions that guided this research:

1. What are nursing students' attitudes toward poverty and the poor?
2. What effect does a Poverty Simulation have on nursing students' attitudes toward poverty and the poor?
3. What is the relationship between attitudes toward poverty and the poor and demographic variables?

The research was a pre-post test intervention design using a convenience sample of 72 undergraduate nursing students in their final year of nursing school. The pre-post data collection instruments included a 10-item demographic survey and a 37-item attitudes toward poverty survey (Atherton & Gemmel, 1993).

The intervention was poverty simulation implemented with 72 nursing students at one time. At the end of the simulation, debriefing began in small groups of 8-10 students in which students were asked to reflect on their experiences, interactions, and feelings throughout the simulation, a summary of which was reported to the large group. Discussions with all of the nursing students focused on small group similarities and differences as well as lessons learned from the simulation experience and opportunities for application to their professional practice.

Results: Data collection will be completed December 2011. Data will be analyzed using appropriate qualitative and quantitative data analysis strategies.

Outcomes: This research will add to the body of knowledge about the efficacy of group simulation to foster nursing student awareness and knowledge about poverty and poor people and to nurture skills and behaviors that reflect respect and caring for all health care clients.

Self-Directed Learning Readiness and Learning Styles in Nursing Students

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Purpose: To explore the learning style and self-directed learning readiness of entering graduate (GS) and undergraduate (UG) nursing students at a major academic health center university. Aims: Compare and contrast the survey scores of both student groups. The questions posed are 1) whether both cohorts have the attributes of Self Directed learning (SDL) and 2) is there evidence that students have the ability to be flexible in learning styles when approaching different subjects.

Background: An assumption in revising a curriculum based on the Advanced Practice Essentials (NONPF, 2011) or the AACN Bachelors' Essentials (2008) is that the students will have SDL attributes and be able to explore complex content from various perspectives. A long held belief is that under graduate students (UG) differ from undergraduates (UG) in these attributes. Studies of the new generation (Millennials) recognize they are more technology savvy and approach problem solving differently than other generations (Hartman, Moskal & Dzuiuban, 2005).

Methods: Using the nursing student validated Self-Directed Learning Readiness Scale (SDRLS)(Fisher, Tague, King, 2000) and the Index of Individual Learning Style questionnaire (ILS)(Felder & Solomon; 1993), the entering cohorts of both levels of students taking their first pharmacology course were tested using de-identified data.

Results: There were 154 participants (34 GS) with an equal distribution of men (17%) in each cohort. Average age was 26-34 years (49.7%) with the range of 18-25 years representing 28.4% of the participants. The high SDL scores earned by both cohorts were not significantly different. Importantly, the English as Second Language students (n = 11) did not differ in SD scores either. Age and gender did impact ILS scores. Men showed a slightly stronger real life or "Sensing" learning preference. The older students in self-reported lesser scores on self-control than their younger counterparts! When measured across the four subscales of the ILS, both cohorts repeatedly scored as having flexibility in use of multiple learning styles.

Implications: Both undergraduate and graduate students have the required attributes of being able to focus on details, but also see the global picture; follow sequential protocols but also vary interventions as needed; can both empathize with others but logically prioritize needs; and are able to process both verbal and visual cues. The assumptions of the past concerning the learning style difference between UG and GS should be questioned. Curriculum revision can proceed because the high standards of both NOPF and AACN can be achieved by the entering classes of students.

Funding: University of Colorado Presidents Teaching and Learning Collaborative Grant.

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Physical and Mental Health in Serious Mental Illness

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Purpose: The purpose of this study is to explore physical and mental health in individuals with Serious Mental Illness (SMI).

Background: In addition to human sufferings, individuals with SMI have physical illness concurrently such as obesity, diabetes, or cardiovascular disease. Their physical conditions are partly related to their diet, sedentary lifestyle in comparison to the general public, and the side effects of their psychotropic medications. These physical health conditions are often left undetected, resulting in morbidity and mortality. Accordingly, healthcare providers should be aware of this dilemma and manage mental illnesses and physical illness concurrently to ensure prevention and reduce disability.

Methods: Data was drawn from a study on pedometer-based exercise for adults with a DSM-iv diagnosis of schizophrenia spectrum disorders, bipolar disorders, or major depressive disorders. The original study was a pilot study to test the feasibility of a pedometer-based exercise study for patients with SMI. Data was collected at baseline, after 8 weekly sessions, and after 1 month post-intervention. Data that was used for this study measured 17 subjects at baseline. Physical and mental health was evaluated by the SF-36 Health Survey v2 (SF-36 v2). Brief Comorbidity Questionnaire evaluated general health conditions. Norm-based Scoring (NBS) was used for computing SF-36 v2, and descriptive statistics were used to analyze the data.

Result: The mean age was 44.35 years old (SD=7.77); 41.2% (n=7) was female; 64.7% (n=11) were African American. The average physical health score for this group was at the norm (50.58) and below the norm for mental health score (45.51). Number of self-reported medical conditions were approximately 6 (Mean=6.24; SD=3.54). Examples included high blood pressure (n=9), headache (n=7), and skin disorders (n=6). Subjects currently experienced around 5 different physical symptoms such as fatigue, weight change, or vision problem (Mean=5.47; SD=4.50), resulting in slightly decreased quality of life (mean=0.92, SD=0.63). The mean score of BMI is 32.97 (SD=7.56).

Implications: The results show that patients do suffer from various health problems. They have a decreased quality of life as a result from their major health problems. Health care providers can help to decrease comorbidities experienced by these patients by understanding that the physical conditions are related with the psychiatric illness and can be treated simultaneously. Ways health care providers can help reduce these comorbidities is through routine screenings such as BMI, Waist circumference, blood pressure, lipid panel, blood glucose checks, and encouraging physical activity. Health care providers in psychiatric settings should be educated on the fact that physical conditions need to be treated in congruence with psychiatric treatment. Further research is needed in areas regarding psychosocial interventions that target psychiatric conditions as well as physical health conditions.

Funding: This study was supported by the University of Pittsburgh Central Research Development Fund (CRDF).

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TRANSITIONS IN PRACTICE AND TEACHING

NEOPHYTE NURSING INSTRUCTORS: HOW DOES MENTORSHIP PLAY A ROLE IN THEIR DEVELOPMENT?

Lorelli Nowell

DETERMINANTS OF NURSE FACULTY INTENTION TO REMAIN EMPLOYED

Ann E. Tourangeau, Heather Thomson, Margaret Saari,
Kimberley Widger, Era Mae Ferron, Kathleen MacMillan

MENTORING: A WIN-WIN RELATIONSHIP FOR THE MENTOR AND MENTEE

Mary Terrazas, Mary Wickman

A STUDY OF NEW GRADUATE NURSES' TRANSITION TO PROFESSIONAL PRACTICE

Jaynelle F. Stichler, Laurie Ecoff

BALANCING SURVIVAL AND RESISTANCE: FACULTY OF COLOR IN EURO-AMERICAN SCHOOLS OF NURSING

Ann Beckett, Dena Hassouneh, Rhonda VanderSluis,
Jen Akeroyd, Kristin Lutz

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Neophyte Nursing Instructors: How Does Mentorship Play a Role in Their Development?

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Background: The current critical nursing shortage is placing stress on both nursing education programs and clinical agencies to increase the number of nursing practice instructors (NPIs) who are able to facilitate undergraduate students learning of nursing practice knowledge. Consequently, this increased need results in hiring NPIs who may not have the necessary knowledge base to adequately fulfill the educational role expected. Neophyte NPIs have recognized the need for support from mentors for them to do justice to their role.

Purpose: The primary objective of this research is to describe how the concept of mentorship plays a role in developing the teaching skills and knowledge to adequately fulfill the NPI role.

Sample: Informants consist of six neophyte NPIs who reside in Calgary and work at either the University of Calgary or Mount Royal University, and have been mentored by a NPI who has a minimum of 5 years' experience teaching undergraduate nursing students in a clinical practice setting. Neophyte NPIs include any nurse educator who is a baccalaureate prepared registered nurse with less than one year of experience teaching undergraduate nursing students in a clinical practice setting. All potential informants were contacted via email by the Clinical Teaching Collaborative Coordinator and invited to contact the researcher if they wished to participate in the study.

Methods: Using descriptive phenomenology as a research method, six neophyte NPIs have been interviewed to gain understanding of their lived experience of being a neophyte NPI, and to describe the essences of the phenomenon of mentorship. This data will be coded and analyzed using Colaizzi's method to uncover themes and arrive at the essential structure of mentorship.

Results: The data gathered through these interviews will be analyzed and the results will be presented.

Implications: In order to sufficiently prepare and support nurse clinicians as they become NPIs, further research is needed to describe how the concept of mentorship plays a role in the development of teaching skills and knowledge to adequately fulfill the NPI role. Conducting this research is needed to justify the creation of viable and sustainable mentorship programs for neophyte NPIs. This research is focused solely on the experience of being mentored for neophyte NPIs. Further research is needed to study mentoring from the mentor's perspective to provide additional insight into these relationships. In addition, further research is needed to explore the development of the connection between the two individuals in a mentoring relationship and how that connection and relationship develops and evolves over time. As the number of adjunct faculty positions continue to grow in response to the nursing faculty shortage it is essential to support and retain these valuable resources. Well prepared and successful NPIs are critical to the achievement of nursing education programs. If mentorship of NPIs is absent, the success and empowerment accompanied by successful mentorship will not be fully achieved.

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Determinants of Nurse Faculty Intention to Remain Employed

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Aims: This paper is a report of a study to explore nurse faculty reported determinants of intention to remain employed.

Background: The current and projected shortage of nurses is a major concern across healthcare systems. One contributing factor that has received little attention is the shortage of adequately prepared nurse faculty. The nurse shortage will be exacerbated if the supply of adequately prepared nurse faculty is insufficient. Little is known about the factors that influence nurse faculty to remain employed.

Methods: Focus groups were conducted in 2011 with nurse faculty from both colleges and universities in Ontario, Canada. Six focus groups including 37 participants were held with different groups of nurse faculty in geographically diverse areas of the province of Ontario, Canada. Focus group transcripts were reviewed by five members of the research team using thematic analysis strategies to identify factors related to nurse faculty intention to remain employed.

Results: Nurse faculty members' intention to remain employed was influenced by factors that fell into four thematic categories: personal characteristics (age, health status, number of dependents, job opportunities for partners, ability to balance work and life), work environment and organizational support (quality of faculty leadership, organizational climate, quality of physical environment, access to required human resources, access to required material resources, quality of relationships with colleagues, adequacy of salary and benefits, satisfaction with job status, promotion opportunities), job content (autonomy, role variety, congruence with scholarship expectations, student success, student attitudes, workload), and external characteristics (unionization and collective agreement, availability of alternate employment opportunities, location, local community situation). Using these thematic categories, the 'Determinants of Nurse Faculty Intention to Remain Employed' model is hypothesized.

Implications: Strategies to address modifiable factors and support unmodifiable factors are suggested to promote retention of nurse faculty. Additional research is needed to test the hypothesized model of nurse faculty intention to remain employed.

Funding: Ontario Ministry of Health and Long Term Care, Nursing Research Fund.

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Mentoring: A Win-Win Relationship for the Mentor and Mentee

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Purpose: The purpose of this study was to evaluate the effectiveness of a hospital-based Mentoring Program in retaining new nurses in their positions while encouraging experienced nurse to make a fresh commitment to professionalism.

Background: Healthcare organizations struggle with the best way to integrate new staff members into the organization. Turnover rates for new graduate nurses are estimated at 55% to 61% during the first year of practice (Beecroft, Kunzman, Krozek, 2001; Casey, Fink, Krugman, & Propst, 2004) which is costly for the organization (Jones & Grates, 2007), as well as to the new graduate's timely and successful transition into practice. The literature suggests that mentoring relationships may be the key to nurse's success in practice and is further linked to professionalism and maintaining quality standards (Ronsten, Andersson, & Gustafsson, 2005). Additionally, research reinforces the importance of creating a mentoring environment that encourages individuals to want to become part of a profession, remain or return to the profession, and become or remain a member of a health care organization (Stewart, 2006).

Methods: Expedited Institutional Board Review approval was obtained for a new mentoring program pilot study. A descriptive design was used with a convenience sample of paired mentors (n=12) and mentees (n=12). Instruments for this study included both quantitative and qualitative measures: Mentoring skills inventory (Zachary, 2000); pre and posttest evaluation survey to determine level of job satisfaction; journal entry reflective exercise; new graduate self-assessment of skills; and profiling of mentor and mentee to help in mentor – mentee matching. Mentors were recruited and paired with new graduate mentees through a self-selection process. Mentors and mentees completed an agreement that they would meet regularly over a 12 month period of time in face-to-face meetings, by telephone, texting, and email. An interactive lecture on the mentoring development program and expectations of mentors/mentees was conducted at the beginning of the program and several structured social events occurred over the year.

Results: Eleven mentor-mentee relationships were established and all mentees remain employed a year after being hired. Both mentors and mentees expressed increased job satisfaction over time and mentors repeatedly expressed how much they valued the mentor-mentee relationship in terms of sharing with each other and feeling connected to a greater purpose of mentoring the next generation of nurses. Qualities of an effective mentor-mentee relationship were identified as well as difficulties and challenges in maintaining the relationship. Common areas of difficulty for mentors were in the areas of managing conflict and coaching. Mentees stated that the mentor-mentee relationship provided a “safety net” when the preceptor-preceptee relationship ended that helped smooth the transition to practice.

Implications: In today's healthcare environment of limited resource and restructuring, it is even more important that new hires are integrated into the organization and retained. Findings from this study suggests the importance and effectiveness of a mentoring relationship in invigorating seasoned staff and ensuring that new hires feel comfortable and accepted in the hospital environment and culture. Clearly, nurse mentoring is a progression that builds skills, increases job satisfaction, and ultimately encourages nurse retention. Mentoring may provide a strategy to counteract workplace lateral violence and bullying and findings provide direction in structuring mentoring programs for future hires.

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A Study of New Graduate Nurses' Transition to Professional Practice

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Director
Research & Professional Development
Sharp Memorial Hospital
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Introduction: The gap between the student nurses' experience, the anticipation of the role of a registered nurse (RN) and the reality of the RN role in an acute care setting has long been recognized. Many new graduate nurses do not survive the first years of their employment as an RN, and the turnover has been estimated to be as high as 30% among new graduate nurses. The transition from student nurse to RN can be a very stressful time as the new graduate nurse learns to manage larger numbers of patients with higher levels of acuity, to "fit in" to an already existing unit culture, and to interact with highly experienced professionals from multiple disciplines. After three decades of discussing the situation, the problem still exists.

Purpose: The purpose of this article is to disseminate the findings of a study that explored new graduate nurses' perceptions of: 1) role stress (RS); 2) caring efficacy (EC); 3) evidence based practice (EBP); 4) organizational commitment (OC); and 5) job satisfaction.

Significance: This study is significant because it is critical to assist each nurse with his/her transition from student to professional nurse, to enhance their satisfaction with the role and commitment to the organization, to enhance the retention of a critical human resource, and most importantly, to ensure safe, efficient patient care.

Conceptual Framework: The Benner conceptual model of Novice to Expert theory (Benner, 1984) and the Dreyfus Model of Skill Acquisition (Benner, 2004), and the O'Rourke Professional Role Development model (O'Rourke, 2003) were used to guide the study.

Methods: The study employed an exploratory, cross-sectional quantitative design with a convenience non-probability sample (n = 41) of new graduate nurses who had worked at the organization for less than two years. Approvals to conduct the study were received from the two IRBs at Sharp HealthCare and SDSU. Study variables (RS, CE, EBP, OC and JS) were measured using previously published scales with demonstrated psychometric properties.

Results: The most important findings were the significant relationships seen between role stress and job satisfaction ($r = -.36, p = .05$) and affective commitment and job satisfaction ($r = -.51$, $p = .01$). It was also significant to note the strong correlation between caring efficacy and the evidence-based practice total scale (r = .63, p = .01) and the subscale of EBP – Skills/Knowledge (r = .63, p = .01). More moderate and significant relationships were seen between caring efficacy and EBP-Practice (r = .34, p = .05) and EBP – Attitude (r = .38, p = .05). These findings were significant since this is the first report of the significant relationship between caring efficacy and EBP-knowledge and skills.

Implications: Since caring efficacy pertains to the nurses' confidence that they can effectively care for patients and accomplish patient care goals, the findings of this study support the need for new residency programs that emphasize EBP to achieve higher levels of caring efficacy and to ensure affective commitment and job satisfaction.

Funding: This research was supported by Sharp Memorial Hospital and made possible through an academic partnership with SDSU.

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Balancing Survival and Resistance: Faculty of Color in Euro-American Schools of Nursing

Ann Beckett, PhD, RN, Assistant Professor
Dena Hassouneh, PhD, PMHNP, APRN-BC, Associate Professor
Rhonda VanderSluis, MSN, RN, CPN, Instructor/PhD Student
Jen Akeroyd, MA, BA, BScN, PhD Student
Kristin Lutz, PhD, RN, Assistant Professor

School of Nursing
Oregon Health & Science University
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Purposes/Aims: The purpose of this study was to develop a substantive grounded theory of the experiences of faculty of color (FOC) in predominantly Euro-American schools of nursing.

Rationale/Background: Nursing FOC are a vital resource for increasing the number of nurses of color in the workforce, decreasing health disparities, and improving the quality of academic environments. Despite the importance of FOC in schools of nursing and a stated commitment to diversity on the part of nursing schools and professional organizations, FOC continue to be underrepresented. In addition to being underrepresented, anecdotal reports suggest that FOC face numerous barriers to contributing to and benefiting from academic environments due to the deeply entrenched problem of racism. To begin to address this problem we conducted a critical grounded theory study of the experiences of FOC in predominantly Euro-American schools of nursing.

Methods: Twenty-three FOC participated in the study. In addition to interviews with FOC we also coded published first person narratives written by FOC across disciplines. The analysis began with open coding followed by substantive open coding. The final stages of the analysis consisted of selective and theoretical coding to form the emerging theory.

Results: Findings indicate that a dominant group sometimes referred to as the "good old girls" posed a major barrier to change. To maintain the status-quo, the good old girls used their influence to subject FOC to *Patterns of Exclusion and Control* with the ultimate goal of controlling the influence of FOC. The intensity of the exclusion and control experienced by FOC was mediated by the perceived threat posed by each individual FOC to the status-quo. In addition, the intensity of *Patterns of Exclusion and Control*, and FOC's response to these patterns was mediated by intervening conditions such as progressive/regressive school leadership, mentoring, and FOC rank. The core psychosocial process of our theory, *Balancing Survival and Resistance,* describes FOC's response to *Patterns of Exclusion and Control* as they struggled to progress in their careers and influence their environments. The final outcome of the process of *Balancing Survival and Resistance* was *FOC Having Influence.* Despite the barriers many FOC faced, they were able to have significant influence on students, faculty, school, and community.

Implications: These findings document the complex ways that racism operates within predominately Euro-American schools of nursing and suggest possible avenues for intervention to improve the experiences of FOC and support their influence on nursing academic environments.

Funding: Supported by Sigma Theta Tau International and the Josiah Macy Foundation.

RESEARCH & INFORMATION EXCHANGE

The Research & Information Exchange includes posters of research conducted by faculty and students, and nurses in clinical practice. These posters have been selected by, and submitted from, WIN member agencies.

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Phoenix, AZ

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WIN HONORS

The Western Institute of Nursing proudly recognized outstanding Western nurses and friends with the following awards and honors in 2012.

DISTINGUISHED RESEARCH LECTURESHIP AWARD

The Distinguished Research Lectureship recognizes a senior researcher whose research efforts have made significant and sustained contributions to nursing. The 2012 award recipient was:

> ***Martha J. Lentz, PhD, RN***, Research Professor Emerita, Department of Biobehavioral Nursing and Health Systems, School of Nursing, University of Washington, Seattle, WA.

CAROL A. LINDEMAN AWARD FOR A NEW RESEARCHER

The New Researcher Award was established in 1976 by Carol A. Lindeman to support nursing researchers early in their careers. In 1987, the award was renamed to recognize Dr. Lindeman for her contributions and support of colleagues. In 2012, the award was given to:

> ***Terri L. Yost, PhD, FNP-BC***, Nurse Scientist, Center for Nursing Science and Clinical Inquiry, Tripler Army Medical Center, Honolulu, HI.

PAT A. PERRY BIOLOGICAL NURSING RESEARCH AWARD

The Biological Nursing Research Award was started, and is supported, by Pat A. Perry, RN, PhD, Professor (Retired), Arizona State University College of Nursing. The purpose of the award is to recognize outstanding biological research conducted by nurses. In 2012, the award was given to:

> ***Charles A. Downs, PhD, ACNP-BC***, Postdoctoral Fellow, Physiology Department, Emory University, Atlanta, GA.

JOHN A. HARTFORD FOUNDATION/WESTERN INSTITUTE OF NURSING REGIONAL GERIATRIC NURSING RESEARCH AWARD

The Western Institute of Nursing and the John A. Hartford Foundation make annual awards to a senior nurse researcher and a new nurse researcher to recognize outstanding nurse researchers and to foster and showcase geriatric nursing research. Recipient of the new researcher award in 2012 was:

> **New Researcher**:
> ***Gloria Adriana Perez, PhD, ANP***, John A. Hartford Foundation Postdoctoral Fellow, College of Nursing & Healthcare Innovation, Arizona State University, Phoenix, AZ.

JOHN A. HARTFORD FOUNDATION/WESTERN INSTITUTE OF NURSING REGIONAL GERIATRIC NURSING EDUCATION AWARD

In 2011, the John A. Hartford Center of Geriatric Nursing Excellence at Oregon Health & Science University established a "Regional Geriatric Nursing Education Award" at WIN, with the first award to be given in 2012. The OHSU Hartford Center is providing the funds for the award. The first award went to:

> ***Catherine Van Son, PhD, RN,*** Assistant Professor, College of Nursing, Washington State University, Spokane, WA.

ANNA M. SHANNON MENTORSHIP AWARD

The Anna M. Shannon Mentorship Award was established in the name of the former Dean and Professor of the College of Nursing, Montana State University – Bozeman who unselfishly supported and promoted the professional growth of other nurses in the West. The 2012 Award recipient was:

> ***Heather M. Young, PhD, RN, FAAN***, Associate Vice Chancellor for Nursing, Dean and Professor, Betty Irene Moore School of Nursing, University of California Davis, Sacramento, CA.

ANN M. VODA AMERICAN INDIAN/ALASKAN NATIVE/FIRST NATION CONFERENCE AWARD

The Ann M. Voda American Indian/Alaskan Native/First Nation Conference Award was established in 2008 by Ann Voda to encourage American Indian/Alaskan Native/First Nation nursing students or nurse clinicians to participate with the WIN community of scholars. The 2012 award was made to:

> ***Milissa Grandchamp, RN, MSN,*** Family Nurse Practitioner, Graduate of the College of Nursing, Montana State University, Bozeman, Bozeman, MT.

WESTERN ACADEMY OF NURSES

The Western Academy of Nurses recognizes and honors nurses who have demonstrated excellence in nursing practice and who have advanced nursing in direct care, education, or research. Inducted into the Academy in 2012 were:

> ***Judith A. Berg, PhD, RN, WHNP-BC, FAAN, FAANP***, Clinical Professor, College of Nursing, The University of Arizona, Tucson, AZ 85739

> ***Lauren Clark, PhD, RN***, Professor, College of Nursing, University of Utah, Salt Lake City, UT.

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Monica E. Jarrett, PhD, RN, Professor, School of Nursing, University of Washington, Seattle, WA.

Joan L. Shaver, PhD, RN, FAAN, Dean and Professor, College of Nursing, The University of Arizona, Tucson, AZ.

Carolyn Yucha, RN, PhD, FAAN, Dean and Professor, School of Nursing, University of Nevada, Las Vegas, Las Vegas, NV.

FRIENDS OF WIN AWARD

In 2010, the Western Institute of Nursing Board of Governors established the Friends of WIN Award. The award is given for stellar individuals or organizations that have made outstanding contributions to the Western Institute of Nursing (WIN). The intent of this award is to recognize these individuals or organizations and to thank them for their contributions. The 2012 was made to:

Charles C. Dobson, CFP, Registered Investment Advisor, Dobson Asset Management, Portland, OR.

SIGMA THETA TAU INTERNATIONAL/WESTERN INSTITUTE OF NURSING JOINT RESEARCH GRANT

Sigma Theta Tau International (STTI) and the Western Institute of Nursing (WIN) jointly sponsor a research grant to an individual whose research proposal is accepted by a selection committee made up of STTI and WIN reviewers. The 2012 joint award went to:

Ira Kantrowitz-Gordon, MN, CNM, ARNP, Director, Graduate Nurse-Midwifery Education Program, School of Nursing, University of Washington, Seattle, WA; and PhD student, Washington State University College of Nursing, Spokane, WA.

AMERICAN NURSES FOUNDATION/WESTERN INSTITUTE OF NURSING SCHOLAR AWARD

The American Nurses Foundation (ANF) and the Western Institute of Nursing (WIN) jointly sponsor a research grant to a WIN member selected through the ANF selection process. The 2011 scholar award went to:

Lori L. Candela, RN, EdD, FNP-BC, CNE, Associate Professor and Chair, Psychosocial Nursing, School of Nursing, University of Nevada Las Vegas, Las Vegas, NV.

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Abbreviations

AACN=American Association of Critical Care Nurses
ADL=Activities of Daily Living
A-EEG=Ambulatory electroencephalography
ART=Antiretroviral Therapy
CAM=Complementary and Alternative Medicine
DASH=Dietary Approach to Stop Hypertension
DNP=Doctor of Nursing Practice
DOD=Department of Defense
EBP=Evidence Based Practice
ECHO=Extending Community Healthcare Outcomes
HBOC=Hereditary Breast and Ovarian Cancer
HESI= Health and Environmental Sciences Institute
HCP=Health Care Provider
HPV=Human Papillomavirus
IBS=Irritable Bowel Syndrome
IPV=Intimate Partner Violence
MSU=Montana State University
NEXus=Nursing Education Xchange
QOL=Quality of Life
RCT=Randomized Controlled Trial
REDCap=Research Electronic Data Capture
TeamSTEPPS=Team Strategies & Tools to Enhance Performance & Patient Safety

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