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FOREWORD

The first Communicating Nursing Research conference was held on May 1-3, 1968 at Salt Lake City, UT. Robert H. Kroepsch, Executive Director of the Western Interstate Commission for Higher Education, wrote the first Foreword. In his message, he said:

"The Western Interstate Commission for Higher Education (WICHE) presents here the papers of the first of a projected series of annual conferences on nursing research. WICHE was formally established in 1951 as a means of implementing cooperative planning and programming on a regional basis in order to expand and to improve the quality of higher education in the West. In 1957 WICHE sponsored the organization of the Western Council *no* Higher Education for Nursing (WCHEN) as a means to foster these goals in the field of nursing. Qualitative improvement in higher education in nursing requires a continuing growth of new knowledge, a sharing of the contributions to that knowledge, and meaningful criticism of the techniques and the results of the research process. This report represents one effort in this direction."

In concluding remarks, Dr. Maureen Maxell, Loma Linda University, commented:

"As our researchers move on to greater accomplishments, they will no doubt forget why they did what they said they did in the presentation of their research today. Only the diligent, student critics will understand, and historians of tomorrow will no doubt consider the studies presented at this conference avant-garde for nursing in 1968… Research in the West will move on."

The conference itself was avant-garde; it was the first of its kind in the entire country. One wonders if those first researchers and speakers could have envisioned how research in the West has "moved on". The 1968 proceedings contained the addresses of 7 plenary session speakers and 5 papers with related critiques. There were 44 attendees at the first conference. In 2010, we welcome 524 podium and poster session presenters on a wide range of topics. We expect well over 635 attendees in 2010.

The papers in the 2010 proceedings reflect the research, practice and educational policies that have been put into place over time. Interdisciplinary teams are conducting research projects. We have the first reports from the projects undertaken by the graduates of the new Doctor of Nursing Practice programs. Conference presentations reflect the contemporary condition of our society, with research projects on geriatric conditions as our US population ages, biological research which can now be conducted with advanced techniques, studies on populations segments such as families, incarcerated prisoners and returning war veterans, and educational projects to improve education and utilize emerging technologies, to name only a few.

Despite the growth over the years, we continue to have a common theme with our predecessors of forty-two years ago. The theme of the first conference was, "Improving Nursing Practice through Research." That central focus is reflected in 2010 as we look at utilizing nursing science to inform practice and drive policy. One core value has been held constant over the past four decades: to improve care to our patients through development and application of nursing science.

Paula McNeil, RN, MS
Executive Director
March 2010

PREFACE

The 43rd Annual Communicating Nursing Research Conference, "Nursing Science: Informing Practice and Driving Policy," was held April 14-17, 2010 at the Renaissance Glendale Hotel and Spa, Glendale, Arizona. Following is a description of the contents of these proceedings.

The plenary sessions focused on the development and integration of nursing science into practice and policy. The **keynote** speech was made by **Mary K. Wakefield,** PhD, RN, Administrator of the Health Resources and Services Administration (HRSA), Rockville, MD. Three State of the Science presentations were made by: **Janice M. Morse,** PhD, RN, FAAA, FSAA, FCHS, FAAN, Professor and Barnes Presidential Chair, College of Nursing, University of Utah, Salt Lake City, UT; **Paul Cook,** PhD, Assistant Professor and Director, Center for Nursing, College of Nursing, University of Colorado Denver, Aurora, CO; and **Huong Nguyen**, PhD, RN, Associate Professor, School of Nursing, University of Washington, Seattle, WA.

Three award papers were presented:

- **Distinguished Research Lectureship Award**: **Ginette A. Pepper**, PhD, RN, Professor, College of Nursing, University of Utah, Salt Lake City, UT;
- **Carol A. Lindeman Award for a New Researcher**: **Katie Anne Adamson**, MN, RN, Graduate Teaching Assistant, College of Nursing, Washington State University, Spokane, WA; and
- **Patsy A. Perry Biological Nursing Research Award: Ann Elizabeth Lowe,** GNP, PhD, Graduate of Doctoral Program, School of Nursing, University of California Los Angeles, Los Angeles, CA.

The **Western Academy of Nurses** panel focused on the impact and outcomes of magnet designation on patients, nurses and academic partnerships. Speakers included: **Anna Gawlinski**, RN, DNSc, FAAN, Director of Evidence-Based Practice and Adjunct Professor, Ronald Reagan UCLA Medical Center and UCLA School of Nursing, Los Angeles, CA; **Colleen Goode**, PhD, RN, FAAN, NEA-BC, Professor, College of Nursing University of Colorado Denver, Aurora, CO; and **Ann Voda**, PhD, Professor Emerita, College of Nursing, University of Utah, Salt Lake City, UT.

The Proceedings include the abstracts of symposium, podium, and poster presentations. Two hundred twenty papers were presented in podium sessions on a wide variety of topics, including completed research, theoretical papers, and projects. Ninety-seven papers were presented in nineteen symposia, and one hundred and twenty-three papers were organized in twenty-six other concurrent sessions. One hundred ninety-four posters were exhibited in four poster sessions, and represented research, completed or in progress, and projects. In addition, a total of one hundred thirty 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 15 WIN members during the 2010 conference. Please consult the Table of Contents for the location of each 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 2010 committee identified speakers and topics to address various ways nursing science informs practice and drives policy. The committee has created a stimulating program. We make special recognition of, and extend our gratitude to: Marie Lobo, Chair, NM; Judith Berg, AZ/CA; Lauren Clark, UT; Tina DeLapp, AK; Marie Driever, OR/WA; Margaret Heitkemper, WA; Anne Marie Kotzer, CO; Martha Lentz, WA; Lori Loan, WA; Barbara Mandleco, UT; Jan Schultz, HI; Donna Velasquez, AZ; and Karen Zulkowski, MT.

We extend special appreciation to:

- Michael Bleich, Dean, Oregon Health & Science University (OHSU) School of Nursing, for his support of WIN;
- Elizabeth Woods, MA, MSLS, who created the author and subject indexes for the proceedings;
- Amy Tomlinson, Graphic Designer; and
- Parisa Zolfaghari, MS, Editor of these proceedings.

We extend our gratitude to the WIN Executive Director, Paula McNeil, and her staff 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 2010 conference.

The 43rd Annual Communicating Nursing Research Conference provided an opportunity to focus on many ways the work of nurse researchers, educators, practitioners and interdisciplinary colleagues informs practice and drives policy.

Marty Lentz, PhD, RN, President
Western Institute of Nursing

Marie Lobo, PhD, RN, FAAN, Chair
WIN Program Committee

RESEARCH, PROGRAM EVALUATION, OR QI? MAPPING THE EDGES IN ADHERENCE STUDIES

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RESEARCH, PROGRAM EVALUATION, OR QI? MAPPING THE EDGES IN ADHERENCE STUDIES

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Research is defined by Federal statute (Protection of Human Subjects, 1991) as "a systematic investigation, including research development, testing and evaluation designed to develop or contribute to generalizable knowledge." Evaluation can be described as "the systematic collection of descriptive and judgment information necessary to make effective … decisions related to the selection, adoption, value, and modification of … activities" (Goldstein, 1980). Quality improvement (QI) involves "systematic, data-guided activities designed to bring about immediate improvements in health care delivery in particular settings" (Lynn, et al., 2007, p. 667). These activities all clearly involve *data*, and all are described as *systematic*. What are the differences between them?

Clearly defining the lines between research, evaluation, and QI is a hot topic at many universities, but it's interesting to start by considering *why* that's the case. Program evaluation has been around as long as taxpayers wanted to know where their money was going. Deming popularized basic QI methodology in the 1950s. Why are we struggling with these distinctions now? There have been at least three important developments in the past 10 years. The first is the movement toward evidence-based practice (EBP), which has increased attention to the application of research in clinical settings. Clinical settings have historically answered EBP questions through QI and program evaluation modalities (Bellin & Dubler, 2001). Hospitals and other organizations may use QI programs to develop and demonstrate their scientific expertise for Magnet status, accreditation, or other competitive advantage (Newhouse et al., 2006). In addition, the growing demand for data-based decision making in all areas of public life has increased organizations' use of QI and program evaluation to improve their quality of care (Bellin & Dubler, 2001).

Second, the doctorate of nursing practice (DNP) has developed in recent years as the highest level of clinical training in nursing. At our university, the DNP is strongly aligned with QI and program evaluation modalities based on the DNP students' clinical focus. In place of research dissertations, our DNP students complete QI or evaluation projects.

The third development is increased attention to applied data in the research community itself. Many people are now familiar with the finding that the average time from a new scientific discovery until its routine delivery in clinical practice is 17 years (Balas & Boren, 2000). NIH's Clinical and Translational Science Institutes (CTSIs) attempt to address this problem through type 2 translational science, defined as research on "adoption of the outcomes of promising clinical research by community-based health care under uncontrolled and often uncontrollable conditions" (Chesla, 2008, p. 382). Even broader questions about the relationships between QI and research will be raised by the emerging field of comparative effectiveness research (CER: Wilensky, 2009), which aims to answer the question *what treatments work best for what patients under what circumstances*. CER uses large healthcare datasets from govern-

ment or managed care that will become even richer with increasing use of electronic health records. CER further blurs boundaries, as it attempts to generate new, highly generalizable knowledge using *post hoc* analytic methods more closely related to program evaluation than to research.

These large-scale social and professional trends have increased interactions among people doing QI and program evaluation and those doing traditional research. As such interactions increase and people see the overlap between their own activities and those of others, traditional lines have become blurred. For instance, you can no longer identify research based only on publication, or a researcher based on a faculty role. You can't identify a program evaluation project based on the absence of complex statistics or a comparison group, because some evaluations include these. And not all QI projects are done on a small scale. Yet the distinctions have important practical implications, such as funding and human subjects oversight. Thus, better maps of these boundaries are needed.

What is Science?

The Federal definition of research at the start of this paper is the most broadly cited. You'll notice that it includes the word "evaluation," and even uses the word "research" in defining research! Given this unclarity we can't expect to definitively answer the question *What is research?* but I will try to draw some lines around it here.

In this paper I will use the term *science* as an overarching category that includes research, program evaluation, and QI. *What is science?* may be an easier question to answer. When I teach either research methods courses or program evaluation seminars, I generally start with B.F. Skinner's (1965) definition: The objectives of science are *prediction* and *control*. We engage in scientific work either because we want to predict what's going to happen in the future, or because we want to know how to produce some outcome. Because our science probably isn't advanced enough to really *control* most events I usually edit Skinner's definition to *influencing* events instead, and because our understanding is rudimentary I think there's also an important role for *description*. So my working definition is that we are doing science whenever we seek to *describe*, *predict*, or *influence* the world around us.

All three modalities considered in this paper – research, program evaluation, and QI – are scientific modalities. In other words, they use scientific methods to gain knowledge. Science involves a particular way of reasoning, gathering evidence, and drawing conclusions. For example, scientific inferences must be consistent with available data, and scientists must always address challenges to interpretation such as selection bias or unreliability of measurement. Researchers, evaluators, and QI specialists are all engaged in science, and their work is therefore valuable to the extent that it allows us to describe, predict, or influence variables that are relevant to clinical practice.

Examples from a Program of Science on Medication Adherence

To illustrate similarities and differences among the three scientific modalities, I will use examples of research, program evaluation, and QI from my own work on medication adherence. (I almost wrote "my program of research" on adherence! These different modalities mean that we need to think about our own work more broadly – a "program of science" or "program of inquiry" instead). The need for a program of science on adherence comes from the observation that about half of all patients drop out of any chronic medication regimen within the first year, which significantly interferes with treatment outcomes (Cook, 2006; Meichenbaum & Turk, 1987). Scientific

questions about nonadherence include *what are people's reasons for nonadherence?* (description), *who is most likely to be nonadherent?* (prediction), and perhaps most importantly *what can we do to help?* (control).

My initial work centered on a telephone nursing program to support patients' adherence to medications taken routinely for chronic conditions. The program had several components: educational materials to address common reasons for nonadherence, a risk assessment tool to determine which patients were most likely to stop treatment, and a counseling intervention based on a treatment manual of cognitive-behavioral and motivational interviewing techniques. Nurses called patients on a schedule, with the exact number and timing of calls differing across medication types and individual patients. The same nurse called the patient each time; patients could also call their nurse at any time using a toll-free number. Finally, the medication prescriber received a written progress note after each telephone call. I will use this program, which ultimately reached about 50,000 patients in the U.S. and Puerto Rico, to show how all three scientific modalities allow for description, prediction, and control.

The Question of Publication

The most important term in the Federal definition of research is "generalizable knowledge." Program evaluation and QI modalities produce less generalizable results than research. QI and evaluation usually collect data from one specific site or program, and report lessons learned or "pearls for practice" (Newhouse et al., 2006). Research, on the other hand, is intended to be generalized and applied on a broader scale.

Generalizability is probably best conceptualized as a continuum: Projects that yield insights applicable to most similar patients and situations are probably research. But when results apply to a few other people or situations—in other words, a narrow scope of generalizability—they may be program evaluation or QI (Lynn et al., 2007). For instance, evidence from evaluation may be used by other organizations to improve their own programs, but the intent of dissemination is not *in order* to affect the development or implementation of other programs – it is simply to share one's own program results. It is unlikely that a program will ever be implemented in exactly the same way elsewhere, but it may be adapted, copied, or cannibalized in a new version. Because of changes in content, personnel, patients, and setting, the new version then requires its own program evaluation. Many funders recognize this problem by requiring evaluation activities (and sometimes even dissemination of evaluation data) as a condition of service grant awards.

Traditionally, generalizability was inferred from or equated with a study being published, but this distinction has begun to break down (Lynn et al., 2007). Research results focus on the outcomes of individual patients, and are of interest for publication because they lead to broadly applicable rules like "patients with condition A will benefit most from treatment B." Evaluation activities focus on programs rather than patients and lead to non-generalizable statements like "program X should be funded again next year to accomplish objective Y." Despite this, they are often undertaken with an intent to publish from the outset (Cobb & Moberg, 2008), because peer-reviewed publication is one way to assure high-quality outcome data. Such data are of substantial interest to program funders and taxpayers despite their lack of generalizability. Even clinical QI activities are often of interest for publication or presentation because they illustrate a process of change or a system's response to an identified need for improvement. The specific information gleaned from the project is not generalizable, but others may benefit from learning about the methods used and the organizational changes implemented (Newhouse et al., 2006). For example, clinical strategies used by one

hospital to reduce H1N1 influenza risk might be of interest to other organizations that face similar problems in delivering care.

Another challenge in using generalizability to differentiate modalities is that even published research is often *not* generalizable. Researchers habitually pay more attention to internal validity than to external validity by focusing on what measures were used, how blinding was accomplished, how randomization was implemented, and so forth. Publications may address sampling bias, but rarely pay attention to whether research samples mirror the population at large, and even less often have the resources to ensure that such similarity occurs. This is, in fact, the major critique of many drug trials: The typical patient in the community does not match research study participants selected based on stringent eligibility criteria. The new field of CER is intended to be broadly generalizable in identifying best practices for care, which it might accomplish using population-based data that eliminate the sampling process altogether. CER's lack of sampling or randomized treatment assignment brings it closer to the traditional chart-review methods of QI (Bellin & Dubler, 2001), although for reasons elaborated below I believe CER's attempt to answer novel questions probably qualifies it as "research."

In my telehealth medication adherence studies, my co-investigators and I used quality improvement methods to address an ongoing problem for our call center: a high rate of non-completed phone calls. First, we held a meeting to identify barriers to call completion and to brainstorm a list of possible solutions. Then we used the plan-do-check-act (PDCA) method, taking several actions to improve call completion in a series of quality improvement cycles. After each step, we collected data, evaluated our level of success, and decided what to do next. First, we started sending letters to each participant with a specific date and time when we intended to call. This was a relatively cheap option and increased call completion slightly. Next, we changed our scheduling rules so that participants were called up to three times at different times of day and on different days of the week. Again, this produced a slight improvement. Third, for reasons not just related to our QI project, the call center added a capability for Saturday calls, which produced a more dramatic improvement. Finally, we subscribed to a telephone matching service that verified patient phone numbers. This was particularly important as we moved into work with Medicaid populations, and produced the largest single improvement of any intervention tried. These interventions may be of interest to others in the field of telehealth, and other investigators might try them. However, QI efforts in other systems are likely to have different patterns of success in addressing their own unique barriers. Many of our actions might also be useful in a research project, where logistical issues like the telephone follow-up rate can make or break a study. Researchers who can't conquer these small details may never be able to answer their original research questions because of concerns about about sampling bias and response rates. So research may include QI procedures, QI data may be of interest for publication, and a QI process may be of interest to researchers despite its lack of generalizability.

The Question of Methodological Quality

An alternate way to differentiate research, program evaluation, and QI might be based on methodological quality. When considering three different scientific modalities, it seems only natural to array them on a continuum. At UC Denver, our faculty have had frequent discussions about quality in the sense of "good science." Our research faculty sometimes view QI or program evaluation as less rigorous forms of science, for example, because they don't utilize randomized controlled trial (RCT)

methodology. Our clinical faculty members tend to see research as too abstract, and perhaps unrealistic or irrelevant to everyday practice questions. Such tensions are common (Lynn et al., 2007). Because our college was struggling with this issue, we conducted a survey of faculty in both our clinical and research tracks to find out what they looked for in a "good" PhD research project and in a "good" DNP quality improvement or evaluation project. The faculty had varied opinions about appropriate topics or target audiences for each type of work, but one thing they consistently agreed upon was that regardless of the modality, a doctoral-level work product had to be of very high quality. So if it was a QI project, it had to be a *good* QI project that answered scientific questions: In other words, it had to produce knowledge for the goals of description, prediction, or influence.

In order to accurately describe, predict, or influence phenomena of interest, a program evaluator or QI specialist must deal with all the same issues of internal and external validity that come up in a traditional research study. These challenges may be handled in different ways, but deciding to ignore them isn't an option. In fact, because of limitations in large datasets collected for other purposes, complex statistical methods are sometimes *more* important in program evaluation – for example, to deal with non-random missing data or multiple potential confounds. Bellin and Dubler (2001) noted that

> [early proponents of QI and evaluation modalities] tested no hypotheses, generalized to no larger group, assigned no therapy, and used no highly sophisticated statistical and graphing tools. The last distinction, more symbolic than relevant, created an important psychologic distance between the two activities … [and] academic researchers did not consider members of the quality assurance community to be their peers. With the advent of cohort creation as a quality assurance tool, the significantly enhanced sophistication of the statistical methods used, and the breadth and depth of the electronic database available, the superficial distinctions have vanished. We are now forced to confront the substantive differences … (p. 1513).

QI and evaluation projects must meet the standards of good science (Blegen, 2009); otherwise they produce *data* but not useful *information*. There are ways to improve the quality of projects even within organizational and financial constraints (Cook, 2009).

Program evaluation was the mainstay of my work on the telephonic adherence program. In an early study of endometriosis treatment adherence, my coauthors and I compared program participants' self-reported adherence to a baseline rate from pharmacy data (Cook, 2006). The study showed improvement but had clear methodological problems, including non-comparable measures and the lack of a comparison group. In a second study on osteoporosis medication adherence, we addressed the measurement problem by including pharmacy data, which correlated well with participant self-report and was directly comparable to a general population adherence rate (Cook et al., 2007). In a third study on antipsychotic adherence we added a nonrandomized control group, again included pharmacy data, and also examined emergency department use as a clinical outcome related to adherence (Cook et al., 2008). Some of these studies were published in research journals, but were really program evaluations. I categorize them this way in part because they used nonrandomized controls or population comparisons. However, this may not be the best way to make this distinction; other criteria are described below.

The Question of Intent

Another interesting aspect of the Federal definition of research is the phrase "designed to." A study may or may not be generalizable, but it is research whenever

it was *designed* to generalize. This relates to the investigator's *intent* in conducting the study. Unfortunately, intent is largely unmeasureable, especially after the fact. But some aspects of a study may help to distinguish between the three modalities. For example, one way to determine an investigator's intent is based on the design of the study. If participants are randomly assigned to treatment conditions the study is almost certainly research. This is not because RCTs are a higher-quality method (although they might be), but because the ethical use of random assignment necessarily means the investigator has an attitude of *equipoise*—i.e., an equal expectation of success for both the treatment and control conditions (Robinson et al., 2005). The moment this assumption is negated based on preliminary data or other new knowledge, the investigators are ethically required to call off the study because one treatment is known to be better. By contrast, in QI and program evaluation, the null hypothesis is presumed already rejected at the outset: There is a clear expectation that individual participants will benefit from the intervention (Bellin & Dubler, 2001). Without this expectation, it would be unethical to offer an intervention without first obtaining participants' consent to an experimental treatment. QI and evaluation are a part of providing care and generally do not require additional consent.

A second potential way to discern intent is based on whether an intervention is provided only for some patients invited to participate or for all patients meeting certain clinical criteria. Because QI or evaluation modalities assume patients will benefit, their interventions are offered as part of the standard of care. Our DNP students identify best-practice evidence from guidelines, meta-analyses, or other sources and then apply those practices at a local site. While clinical research is an optional activity in which individual patients or care providers are not required to participate, the use of best practices in standard care is part of clinicians' obligation to their patients (Bellin & Dubler, 2001). Although interventions in QI and program evaluation may be new to the local environment, they are introduced as changes within the organization's existing scope of services, under patients' existing consent to receive treatment. "New" interventions in this context might in fact be less risky than the previous standard of care, and certainly present less risk than making the same clinical changes without collecting any evaluation data (Lynn et al., 2007)! Research is exemplified by phase I-III drug trials, while evaluation is analogous to postmarket surveillance of FDA-approved medications. Postmarket surveillance data are collected from individuals and may be used to make decisions (e.g., as when the FDA withdraws a drug from the market or requires a "black box" warning on its package insert). But special consent is not required for these surveillance activities.

The involvement of organizational stakeholders is a third way to evaluate intent. Because QI or evaluation projects are an extension of clinical care rather than an activity extrinsic to clinical services, they must involve the clinical organization at all levels of decision-making about study purposes, measures, and design. QI activities often occur in cycles with incremental changes rather than following a set treatment protocol throughout (Lynn et al., 2007); in each of these cycles, data are reviewed and interventions revisited by experts within the organization. Scientists conducting QI or evaluation therefore must consider organizational needs and goals. One common mistake made by our DNP students is trying to persuade an organization to adopt a particular clinical intervention without considering the organization's own needs, interests, and priorities. Even if the student were successful, the project should be considered an optional research activity separate from the organization's mission. By contrast, QI and program evaluation are ethically permissible, and perhaps even ethically *required*, because the use of outcomes data is necessary for organizations to provide quality care

(Bellin & Dubler, 2001).

Both the assumption of benefit and the high level of stakeholder involvement in QI or evaluation sometimes make researchers uneasy about the possibility of bias (e.g., Blegen, 2009). One way to reduce conflict of interest is by contracting with an external evaluator. This is, in fact, common practice for most QI activities, where regulatory agencies like the Joint Commission or the National Committee for Quality Assurance (NCQA) set standards and evaluate organizations' policies and procedures for QI. Even internal evaluators can adopt external standards for data analysis and reporting, such as those developed by the American Evaluation Association (2009). As in other fields, professional ethics provide a strong check against situational demands. A second method to reduce bias, which we sometimes use with our students, is to develop a contract or memorandum of understanding at the outset of a project stating that the primary purpose of evaluation is to improve care and that the evaluator has final authority over decisions on data analysis and reporting. This can prevent later problems if a program's staff members are unhappy with their results.

The level of organizational "embeddedness" has been an interesting feature of my involvement with the nurse call-center adherence program. I developed and evaluated this program first as an employee of a private-sector telehealth company and more recently as an outside contractor in a tenure-track faculty position. The program itself started and remained within a clinical organization with a mission to improve individual patients' care. My own role changed from internal to external, which might have meant a shift from program evaluation to research, and I did, in fact, ask my local IRB to review the activity as research with de-identified data analysis. On the other hand, I was integral to the program's development and essentially remained an "insider" with the program's clinical leadership despite my external role. The program arose out of internal needs of the organization and those needs drove the evaluation process, so it may be equally reasonable to view the activity as program evaluation throughout. Single aspects of a project can suggest whether it is research, program evaluation or QI but there are probably few hard-and-fast criteria and a consideration of the total picture is needed.

To assess many elements that may serve as indicators of a project's intent, the CTSI in Madison, Wisconsin developed a helpful checklist (Cobb & Moberg, 2008) with characteristics typical of research, program evaluation and QI. For instance, in addition to the criteria described above, research occurs mainly in the context of individual career goals or requirements, while clinical or funding needs would probably drive evaluation whether or not the evaluator's personal goals were served. Another checklist tool is available online at http://www.ahfmr.ab.ca/arecci/tool, from the Alberta (Canada) Research Ethics Community Consensus Initiative (Flaming et al., 2009). These tools have important practical uses: Our local IRB views their mandate as reviewing *only* projects defined as "research," even though they agree that QI and program evaluation must still protect human subjects' welfare (Scheetz & Oman, 2008). On the other hand, IRB processes are not a good match for QI practices like ongoing intervention refinement (Lynn et al., 2007), and may be time- and cost-prohibitive. Our college has therefore developed an agreement with our IRB to define QI and evaluation based on the Cobb & Moberg checklist, and to review such studies internally for human subjects concerns.

Differentiating Modalities Based on the Focus or Goal

Because intent is subjective, methods are ambiguous differentiators (with the possible exception of RCTs), and generalizability can be open to debate, the same

study can sometimes be framed in multiple ways (Newhouse et al., 2006). This raises concerns about scientists describing a research study as QI, for example, just to avoid IRB review.

I'd like to propose another strategy for differentiating the three types of science based on a study's *focus* or *goal*. QI has the goal of improving a particular program at the level of systems, program mechanics, or logistics. While QI focuses solely on improvement, program evaluation is designed to make value judgments, and in fact "valuing is the *sine qua non* of evaluation" (Fitzpatrick et al., 2004, p. 5). Although program evaluation does assume some benefit to participants, its goal is to determine whether a particular program *should* continue based on its outcomes. The line between research and program evaluation can be the most difficult to draw because both may focus on intervention outcomes. I argue that the goal of research is not to evaluate a *particular* program, but rather to evaluate the *theory* on which that program is based. In this view, a program is an outward manifestation or operational definition of important theory elements, just one of many possible interventions aligned with an underlying theory base. The focus of research is on that underlying theory itself. A good research study allows the researcher to confirm or disconfirm some aspect of theory, or better yet, compares two competing theories to determine which one better matches the available data.

The role of theory came through strongly in our faculty survey about PhD versus DNP projects. Faculty were more likely to consider a project appropriate for the PhD if it was designed to "develop and test new interventions or clinical programs." On the other hand, they were more likely to consider a project appropriate for the DNP if it was intended to "design processes or programs to improve over standard care." Interestingly, both of these options involve designing and testing new programs! Similarly, Lynn et al. (2007) suggested that "quality improvement activities are generally based on existing knowledge about the enduring nature and function of human beings and their environment, rather than designed to create new knowledge of that sort" (p. 670).

The role of theory is the main reason that I consider most of my medication adherence studies to be program evaluation rather than research. In fact, my very first study of the telephone adherence counseling program was a small-scale pilot designed as an RCT (Cook et al., 2000), but I still consider it a program evaluation because its innovation was technological rather than theoretical. The basic intervention methods – cognitive-behavioral and motivational interviewing techniques – have been evaluated time and again with multiple populations. Simply delivering them via a new technology (telephone counseling) or applying them to a new problem (adherence to antidepressant medications) wouldn't, in my view, qualify this study as "research."

If we look at the three scientific modalities through a lens of theory, many of us might find that we have really been doing program evaluation when we thought we were doing research. The aims of research should not focus on the effectiveness of a specific program, unless that program is based on a completely new theoretical proposition – in my field, a theory about human behavior and how to change it. Such studies do exist, but they are few and far between. In recent years, for example, studies of Acceptance and Commitment Theory (ACT: Hayes, Strosahl, & Wilson, 1999) are interesting because they propose a dramatically different view of human behavior and change than the dominant cognitive-behavioral model. But eventually even studies of ACT will become program evaluations, as the basic tenets of the theory are established and simply get applied to new problems or delivered using new methods. Of course, a theory is never "proven," but is always subject to modification. Yet new studies that

examine very similar questions using very similar methodologies are probably not paradigm-shifting research that will lead to theory modification. It seems more appropriate to consider them program evaluations that add slightly more weight to a theory's existing base of support.

Although much of my previous work has been in the modality of program evaluation, my colleagues and I have been able to address some research questions in secondary data analyses. In several telehealth adherence counseling programs, we studied the frequencies of various adherence problems and found interesting differences between the problems reported by adherent and nonadherent patients (e.g., Cook et al., 2007). In recent studies on HIV (Cook et al., 2009) and ulcerative colitis medication adherence (Cook et al., in press), we asked about participants' self-efficacy for taking medication and found that self-efficacy predicted adherence. These findings support a theory that patients' psychological reactions to treatment, rather than side effects or treatment complexity, are the main determinants of adherence and therefore the best targets for intervention.

Another research question has focused on *intervention matching*: Which specific counselor interventions, under what circumstances, are most helpful in promoting adherence for which patients? In a secondary analysis of data from two programs, we found that patients' adherence improved most when nurses had different theoretical perspectives on adherence problems than the patient's own (Cook, 2008). This finding is related to a theory base from social psychology predicting that novel perspectives generate behavior change. In new research, we are pursuing the ideas of matching and discrepancy in a slightly different way. That study will assess participants' everyday beliefs and experiences with an in-the-moment survey delivered on a smartphone, which then will be used to tailor a text message promoting HIV medication adherence. We theorize that certain matches between patient states and message wordings will be more effective than others in promoting behavior change. All of these questions are "research" because they speak mainly to theoretical propositions.

Conclusion

My experiences studying medication adherence illustrate the generalizability gap between QI or program evaluation and research: The primary evaluation results demonstrate that I had a good telephone counseling program (maybe, once we get past some discussions about methodological limitations). The secondary research and future message-matching study might reveal what *general principles* someone else could use to design a similar program, or a quite different one, to promote adherence. It is theory, not data, that allows research findings to generalize across time, person, and place. Because of its generalizability, research often has broad value to society. Nevertheless, I have often found it easier to publish program evaluation results! I think we have been unfortunately conditioned to look at all new studies through the lens of drug trials. Theory-based studies without the typical features of RCTs may be less accessible to readers, leading us to undervalue theory-based research.

QI and program evaluation are valuable in other ways. Outcomes are the basic criteria for funding in our increasingly evidence-driven environment (if you doubt this, visit www.expectmore.gov to look up your favorite Federal program). Evaluation also helps to identify best-practice programs that can be copied elsewhere, to test the application of existing interventions to new settings or populations, and to test the use of new technology as in my telehealth example. Furthermore, new CER initiatives are designed to study novel research questions using the traditional methods of program evaluation. This hybrid of evaluation and research will provide important information

that is not currently available. For example, evidence on moderator variables is more likely to emerge from large-scale studies of actual practice data than from smaller-scale RCTs with limited patient variability.

Despite these benefits and a clear ongoing role for program evaluation in my own work, I still suggest that major advances in science are most likely to come from research that explicitly sets out to test theoretical propositions. QI and evaluation are here to stay; they, therefore, should be better funded, better designed, and more consistently implemented as routine components of all programs that provide a service or address some problem in healthcare. But we have a limited amount of time and research dollars as well. Let's not put those efforts into RCTs spinning out old interventions in new ways, but into higher-risk, theory-testing studies that might truly revolutionize the science of health care.

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TOWARDS ESTABLISHING A QUALITATIVE EVIDENCE

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TOWARDS ESTABLISHING A QUALITATIVE EVIDENCE

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Thank you for providing me with the opportunity to speak on this important topic: moving towards a qualitative evidence.

I will start by outlining our problems with evidence in general: discussing evidence according to the Cochrane criteria, and discussing problems of fit between the Cochrane criteria and nursing. Next, I will discuss what I call technical-system problems of implementing evidence in the clinical arena, and discuss our own values as inhibitors to the establishing evidence base and creating a solid discipline in nursing.

Having outlined our problems, I will then discuss what qualitative evidence is, and the role of qualitative inquiry in the development of evidence. Then, I will outline models of qualitative evidence used to determining evidence in other disciplines, and the contribution and role of QI in establishing evidence in nursing.

The context of evidence, according to Cochrane

Established for medicine, by medicine, the Cochrane Criteria (1972/98) is considered by medicine to be the approved way to improve care, with the clinical drug trial considered the ultimate and awarding itself the "Gold Standard" of evidence (Sackett, 1993). A huge expenditure—and effort— has been made to create the Cochrane library, to conduct meta reviews and to build an evidence-based practice for medicine. The criteria used and recommended by Archie Cochrane places clinical drug trials at the top, and "mere opinion" at the lowest level.

Qualitative Research as Evidence?

Over the years qualitative inquiry has suffered a beating. Qualitative methods blatantly violate many of the sacred tenets of quantitative inquiry. As a result, we have been told that our methods are not generalizable, not replicatable, not valid, not reliable, and even not useful.

Unfortunately, many of my colleagues seem to agree, although often avoiding the issue by stating that "reliability [or what ever the problem is] is not the intent of qualitative inquiry". At various points I have argued against each of these accusations, stating that if any of these points were correct, we may as well "fold up our tents and go home". So I am most appreciative of the opportunity to address these perennial problems under the rubric of "evidence." For, if any one of these accusations is correct—qualitative inquiry is *not* generalizable, or replicable, or valid, or reliable, or useful—then we should not be teaching qualitative inquiry, doing qualitative inquiry, publishing qualitative inquiry or even talking qualitative inquiry.

Cochrane Inquiry Ranks Qualitative Inquiry

Now, I doubt if Archie Cochrane knew anything of qualitative methods when he published his criteria in Britain in 1972, but because of qualitative inquiry's utilization of narrative interviews, qualitative inquiry was—appropriate or not—ranked at the lowest level (Sackett, 1993). This ranking held ramifications for qualitative methods as a discipline, for the Cochrane criteria were used by some granting agencies to award

funding (for instance, by the Medical Research Council of Australia in the 1990s), and by some medical journals for review criteria for submission. Thus, this use of the criteria as a standard essentially disqualified qualitative inquiry from the normal rights and privileges of other sciences. Qualitative researchers found themselves not eligible (or ranked outside the fundable range) when they submitted research grants, and articles submitted for publication were scored as "not rigorous," and rejected by medical journals. Programs did not teach qualitative methods—and some still do not—because "they were preparing competitive scientists."[1]

Remnants of this problem continue. Recently a Canadian conference of urologists blatantly excluded qualitative inquiry (Morse, 2008), confirming that stigmatization of qualitative inquiry and denigration of qualitatively-derived knowledge continues in pockets at some level. Qualitatively-derived findings are brushed aside with: "Its only a *qualitative study!"*

This stigma created problems for qualitative inquiry with the Cochrane reviews itself. Not only was qualitative research excluded from the Cochrane reviews because of issues of rigor, but also the *form* of qualitative research does not easily conform to synthesis. In Britain, Jenny Popay and others are still valiantly trying to find a place for it as *context*, and Margarete Sandelowski's (Thorne, Jensen, Kearney, Noblit, & Sandelowski, 2004) efforts to develop techniques for quantitative inquiry meta synthesis did not result in integration of our methods into the reviews. Qualitative research is compartmentalized in its own review.

Qualitative Problems as "Evidence"

Qualitative research problems are not entirely methodological, but also arise from the nature of inquiry. Research that uses 'real' evidence must be of a particular type, and have the following characteristics:

The population must be delineated;
The problem must be consistently delineated;
Must use textbook experimental design;
Must use cookie cutter (i.e., standardized) interventions;
Must have impeccable methods; and
Have measurable outcomes.

It is these features that make the research standardized and replicable. It is these features that make it ideal for studying disease, doses, prescriptions, lab values and so forth. BUT these features, essential for performing clinical drug trials, are not *usually* necessary characteristics of nursing research, and certainly not applicable to qualitative research. We work with nursing problems, social problems, and illness problems. Instead of populations, our care is with INDIVIDUALS. Our research problems are rarely consistent, our interventions are rarely cookie cutter, and our outcomes, behavioral changes or whatever, are difficult to measure. Our outcomes may be transient, and/or subjective.

The fit of the Cochrane Criteria with Nursing Research

One aspect of this subject that is not commonly spoken about, is the fit between the Cochrane criteria and the type of problems we study in nursing research. As noted, to be included in the Cochrane criteria, research must be standardized and replicable. Yet the outcomes from nursing research may be transient, subjective, behavioral changes, and so forth and our soft outcomes are sometimes difficult to measure. Much expert practice is informal knowledge in the hands of expert nurses, not described in a stepwise manner in

[1] I was last told this by Johns Hopkins University School of Nursing in 2006. In their PhD program, the only qualitative methods taught were those that were included in a mixed-method class.

the texts, not taught in the classroom, but rather learned informally in the clinical setting. Our interventions are NOT a prescribed dose (measure), but it is often a behavior to learn, it is knowing something—a procedure that is relationship-based. . . that elicits a subjective response, a behavior change, a subjective difference. Even if we measure the difference that our research makes, it may be an indirect measure. Now, while these characteristics are true for nursing research, they are compounded for research using qualitative inquiry.

Technical-System Problems of Implementing Evidence in the Clinical Arena

Now, before we get too depressed, we know that the utilization of qualitatively-derived evidence is not faring too well. Recently Green (2008) published a very nice diagram of the process, complete with a timeline. Between the completed *medical* research project and the patient there are many problems interfering with utilization. The peer review process for grants - low funding levels, lack of synthesis, and publication lags—all interfere and delay science, even before the process of knowledge transfer with clinicians can commence. The worst news is, we find that, after 17 years, only 14% of research—all research—has reached the bedside. (Green, 2008, p. 65-70; Balas, Boren et al., 2000). It seems that medicine, with everything going for it—the funding, the political and educational push—is not faring too well. So perhaps, we should be asking the question, "does it matter?"

"Does it matter that qualitative inquiry is excluded from the evidenced-based scenerio."

DOES IT MATTER?

I will argue that it does not matter that Nursing is excluded from the Cochrane inquiry. Remember—nursing phenomena is a poor fit, and trying to make it fit is a waste of time. Let us leave the study of disease, doses, prescriptions, lab values and so forth—and their implementation— to our colleagues in medicine.

But it does matter if we exit from the evidence-based game altogether. Luckily, for us, if we look to other disciplines, we find there are other models of evidence that are applicable to the conditions of qualitative health research, and applicable to the nursing phenomena that we study. So, we do not have to create our own criteria, and we find that the team on our side is actually quite large. We also find that our models of evidence are powerful because they are logical, evident, embarrassingly simple—and therefore, convincing.

If we have been guilty of anything, it was to have bought into the tunnel vision of medicine. For evidence is a political game. In 2004, Larner noted

> This "political economy of evidence . . . is not a question of evidence or no evidence, but who controls the definition of evidence and which kind is acceptable to whom." (Larner, 2004, p. 20)

So then, let's change the rules of the game: Today, let's take a new look at evidence—new kinds of evidence, new criteria for evidence, largely based on qualitative principles: An evidence-base for nursing; an evidence-base using qualitative inquiry.

An Evidence Base for Nursing Phenomena

Evidence, whether it be for qualitative or quantitative research, is based on two aspects: (1) the rigor of the inquiry; and (2) the nature of evidence itself (that is Larner's politics of evidence). First, I will tackle the rigor issue; and then second, we will look at alternative models of evidence better suited to nursing phenomena than the Cochrane offering from medicine. I hope to convince you that our models are solid and sane, so we can move forward beyond our present roadblocks.

Rigorous Qualitative Inquiry as Evidence

Now this is a tricky part of my presentation: I am going to explain to you in a few minutes, all about rigor in qualitative inquiry—something that even many of those who call themselves qualitative researchers are not very clear about. So lets see how it goes:

1. Building Rigor: The Responsibility of the Researcher: As with all research, the first responsibility for the integrity of the project lies with the researcher. Qualitative research has many principles to be followed to ensure the integrity of the project (Morse, Swanson, & Kuzel, 2001). These have to do with purposeful sampling, ensuring saturation, and so forth. Basically the researcher has the responsibility to move forward inductively in baby steps, verifying and re-verifying every inch of the way. Qualitative inquiry is slow, takes much time, backtracking, cogitating, and conceptualizing. These methods are described in many texts; but one thing they do not tell you is that you should get yourself a mentor, a sounding board, someone to who helps you hear yourself think. And you are not finished with your work until this person is satisfied that all of the small ends have been neatly tied up, for the greatest threat to validity is evident when the sample is small, data are thin and the analysis obvious and simplistic.

The second way to ensure that your project is good and has integrity, is in the generalizability. In qualitative inquiry we attain generalizability by increasing the level of abstraction—we have interesting and exciting concepts and have developed innovative and pragmatic theory. This theory, in itself, makes the project generalizable, for the theory may then be recontextualized, and applied to another setting. But an even greater and more important generalization is to show how the concepts and theory link with other concepts and theory, adding to present knowledge, and expanding the scope of the work. And if it "works" then it is probably right.

2. Demonstrating Rigor: The Responsibility of the Reviewer/User: Let's move on to the external evaluation of the work itself, as evaluated by a journal reviewer, or a critique-er, often a doctoral student on assignment.

First, there are two classes of qualitative research, each with its own criteria for determining rigor, and each one different. Basically there is *descriptive* and *interpretive* qualitative inquiry (Morse, Swanson, & Kuzel, 2001).

Descriptive qualitative inquiry: Descriptive qualitative inquiry, as its name suggests, is simply reporting on what is. Because it is straight reporting, it often tells us what we all know. So qualitative researchers make descriptive work more interesting by reporting on whatever as a different level of analysis (I will use an example later using micro-analysis) of choosing something uncommon, unfamiliar and often with great intrigue (such as the whatever happens in a brothel).

- The important feature of descriptive qualitative inquiry is that, unless the phenomenon is very transient, we have an external referent with which to compare the description ("Does this represent that?"), so evaluators can compare—you can have 2 or more raters and establish inter-rater reliability.
- A second feature is that, because the phenomenon is concrete and often stable, you can go back and check.

Interpretative Qualitative Inquiry: Research that is interpretative is a little more difficult, and often the results are the careful insights of the researcher's alone, and even the participants may not be aware of the researcher's conclusions. Because of the role of insight, the researcher cannot and should not use a colleague to conduct inter-rater reliability checks. If I read this piece of text—and code it as thus and so on the basis of all of my knowledge of the previous interviews and this interview—the code is more symbolic than the rather obvious categorizations that my assistant will use to code it. It

is not coded on the knowledge of that piece of text alone. Therefore, if you are working interpretively, inter-rater reliability will not assist you—rather it will keep your analysis superficial and trite, "perfectly healthy but dead" (Morse, 1997).

Researchers who are using interpretive inquiry must therefore, a) ensure that their study is rigorous, and 2) rely on their writing logically, richly, and step-by-step to present a cogent argument for the reader. Of course you may use external referents and the published work of others to support your observations, but all in all, you are on your own.

Generalizability and validity checks are conducted in the discussion of the report. You must logically link with, extend, or contradict the work of others. The greater the level of conceptual and theoretical development, the greater the scope of the generalizability, and the greater the impact of your research.

BUT we are not out of the woods yet.

The problem— and this is one Erin Rothwell, Chan Suk Jung and I have just written extensively about—is that methods are rarely all interpretative or all descriptive. Let's take ethnography as an example. Generally, ethnography is descriptive, as the methods of ensuring rigor descriptively may be used. This will ensure that the kinship charts are correct and so forth. *Except*, of course, some ethnographers are interested in cultural beliefs and values, and these may be analyzed very interpretively. This means that the appropriate evaluation of the ethnography depends on the researcher's question and the mix of descriptive and interpretative strategies used.

Same for phenomenology: This is an interpretative method. Phenomenologists like to use the "phenomenological nod" as a major mechanism for determining validity—that is indication or recognition of the description by others. But, of course, there may be a descriptive piece in the phenomenology that could be externally verified. So, parts of a project may be verified in different ways.

Alternative and Appropriate Models of Evidence

Now that we have a solid product to use as evidence, what other ways are there to evaluate evidence? In this section, we will redefine/rethink "evidence", formal designs of evidence, that are compatible with qualitative inquiry, and are also used in other disciplines such as engineering, anthropology and biology. Some of these designs are so embedded into other disciplines—they are the accepted norm for doing research—that they may not even be titled.

Qualitative microanalysis

This first group I have classified as *Qualitative microanalysis.* These are characterized often by a single case, by abduction, and by attention to detail.

1. Forensic designs. This research is conducted 'detective-style' on a single case or incidence, usually following a serious incident or major disaster, including loss of life. The goal of these methods is to identify causation, and hence prevent recurrence, rather than, as in police work, to convict.

At the QHR conference in January, 2004, Linda Connell's keynote address described one aircraft accident after another, and the role of qualitative inquiry in identifying cause —"Black box cockpit recordings are qualitative data." From such research, there are invariably changes of policy and procedure, changes of design of the aircraft, or further investigation into human limitations that may have contributed to the incident. A qualitative design that produces evidence that indisputably saves lives.

Forensic designs are used by many disciplines—obviously by police at crime scenes, in cases of sexual assault, domestic violence, missing person, fraud

investigations, and audit procedures. There are also fields of forensic engineering, in anthropology, archeology, and epidemiology. Of course, when a building has collapsed, or a mummy discovered, qualitative design is the only sensible method to use, and these techniques are accepted as standard practice. In my own work, this is the kind of inquiry conducted after a patient falls, but in hospital incidents, these methods are often not considered *research.*

Nevertheless, according to Connell, the methods used by NASA to 'diagnose' aircraft error were transposed into hospitals in the US to investigate drug errors. This is perhaps the most basic of applied research, for it is from examination of these single cases, that pattern recognition and principles emerge. This focus on patient safety makes this one of the most expanding areas of qualitative inquiry, yet we have to officially embrace these techniques into our repertoire.

2. Data-less inquiry: Closely associated with these methods is a new branch of NASA that investigates "near misses". In this case the incident has not actually occurred, but from a single report of "almost"—a close shave—the circumstances are investigated, warning bulletins are released and policy changed. In other words, an intervention is in place before the problem becomes an actual, real problem. How to demonstrate efficacy? Just as avoiding a pedestrian at the last minute does not create a statistic, or dodging another vehicle and avoiding a fender-bender does not result in actual cost savings, except at the population level, and over time, such proven efficacy remains hypothetical.

Because the researchers are not waiting until there is loss of life—they are responding to a hypothetical case—this is the converse of statistical significance—it is hard to claim credit. These researchers are working from a theory of causality that states if something almost happened once, it could really happen again; they are using logic and experience, not experimental design. Their data relies on anonymity in reporting and a guarantee of 'no reprisal' to those who report the incidents. These conditions ensure that the researchers both receive the near miss data and that the data are as complete as possible; such conditions ensure reliability and validity, and conditions of evidence that are hopefully devoid of the quantitative criteria of replication.

Connell's example of a *failure* of this design was a United Airlines aircraft that was misinterpreting air traffic controllers' instructions and was prematurely descending into a Washington airport, at the last moment ascended, missing a mountaintop by 50 feet. This incident did result in a warning bulletin being released to all United pilots; but because it was a single case of a 'non–incident,' it was not released to other airlines. But then, another plane (from another airline) repeated the mistake and also descended too soon and actually crashed into the mountain. A Congressman, responding to the comment that one near miss was "not statistically significant", asked with sarcastic sadness: "And how many bodies on the runway is statistically significant?" (Connell, 2004).

3. Deliberate trial or testing of n=1 research. This method has tremendous potential in health care for the examination of rare events or new high risk procedures—such as heart transplantation or the separation of conjoined twins. In this research design, permission is obtained to conduct ONE case of the experiment. An example of this type of research is the first heart transplant, and may or may not be happening today with human cloning. The design is usually experimental, and outcomes unknown or uncertain, and the nature of the trial demands qualitative microanalysis, perhaps combined with some repeated quantitative measures design. Case study design is an inadequate description of this type of research.

Are the findings of such research important? I believe Piaget used this design

when he observed his infants and took careful notes. This is the style of research used in medicine. It was practiced by Oliver Sacks, so well exemplified in *Awakenings,* and I believe, it is from this type of observation of research that the compendium of medical signs and symptoms were developed in the 18th and 19th Centuries, and that new diseases, such as AIDs, were recognized.

4. Simulation: This is the "crash test dummy" type of research. In order to reduce risk, simulators replace people in certain high risk situations. Despite the use of models used in teaching, I do not know of a single case of this type of research being used in qualitative research. This does not mean, however, that we should forget that option exists.

5. Microanalytic, videotaped description. This is classic qualitative inquiry, which is not used enough. It is the method most in need of development in qualitative inquiry. The use of video enables micro-analysis of movement, touch and talk and examination of the pacing of the care, so that behaviors, interactions and responses can be examined. It enables the generation of hard evidence that is irrefutable.

Video is often used for conducting research with nonverbal patients, (such as with patients with advanced Alzheimer's), exploring infants' responses to pain, or the breastfeeding dyad, and so forth. But its potential is much greater. Observational methods could be used to explore—and provide evidence of— caregiver intuition. If Benner is correct that nurse intuition is predictive of an impending patient code, then let us *describe* this particular "look" that patients get before they code, so we can formalize this knowledge, teach it, and use it in our daily practice. Evidence from such research would have an impact on the survival rates, particularly in ICUs and CCUs.

Another example: Most (i.e., 50-80%) patient falls occur at the bedside, when the patient is getting in and out of bed. As falls constitute the third leading cause of death in people over 65 years of age, and as most falls occur at the bedside, this research should be of high priority. The bed as a causal trigger for patient falls has to be considered. Qualitative research can provide us with data about where and how the biomechanical imbalances and slippages occur when climbing in and out of bed, so that bioengineering solutions, in the form of a safer bed, can be developed and trialed.

Thus, the use of qualitative analysis using videotapes is powerful. It enables us to document, to illustrate our practice, and to communicate our findings, and it certainly should be used more often.

Rules of Evidence for Qualitative Research

Thinking in reverse: As quantitative evidence is built on large samples, huge samples, most of the fit is found huddled around the mean, with "incidents" as outliers. The interpretation is then considered safe for most—with 1% or 5% error. That is, the procedure is SAFE, if it is safe for most.

On the other hand, qualitative evidence is built around small samples, sometimes only an $n = 1$. And the criteria are much more stringent. A problem with 1 case, may declare the entire trial as unsafe.

Such an approach is more appropriate for nursing phenomena, when we have little control of who, for instance, will be placed in a particular bed, and the manufacturing philosophy is "one size fits all". Any variation in bed design arises from changes in function.

Therefore the principles of qualitative evidence are as follows:

Use logic and common sense and methodological tools

1. Our rule is that an innovation must be safe for all, and our search in the sample is for the one case that is not safe. This will enable us to describe the characteristics of to the case or the conditions that were NOT safe.

And related to this: If something has happened once, it may happen again.

2. Because we are studying evidence using smaller samples, our trials can be conducted more quickly and more cheaply. More importantly than that—our "trials" may be conducted imposing less risk and harm.
3. The smallest samples are those with no real data at all (and no hard 'evidence"). May not have any data at all—just the possibility of data. The acceptance of such an approach means that we much value common sense, logic and a belief that an "almost" may turn out to be an actual event next time.
4. Use logic and common sense as methodological tools

Adherence to these points all require a change in our values, our perspective and our attitude towards evidence. They enable us to control of our discipline. We owe it to our patients, our profession and, at this time, to our nation to provide a sensible safe mode of evidence-based practice.

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DIGITAL HEALTH CONSUMERS: TRANSFORMING THE CLINICAL RESEARCH LANDSCAPE

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Introduction

Approximately 40% of the premature deaths due to chronic conditions can be accounted for by individual behaviors such as smoking, physical inactivity, and unhealthy diets and nearly three quarters of health care spending in the United States is for the management of these chronic conditions.[1] [2] Unlike acute illnesses where individuals have a more limited role in their treatment, what matters most for chronic conditions is active patient participation in their own self-care. Patients ultimately decide what to eat, whether to exercise, and how often to take their medications. These decisions are embedded within social, physical, and economic environments that often times present formidable obstacles to successful self-care. While efforts to address conditions for optimal health must be multi-factorial in nature, complementary novel approaches such as the use of information and communication technologies (ICT) to translate and disseminate effective evidence-based health promotion and disease management programs to health consumers of the digital age continues to be of great importance.

The Internet, a global system of interconnected computer networks is one example of a pervasive and dominant ICT platform. As of 2009, nearly 80% of adults in the United States use the Internet and 63% have broadband Internet access from home.[3] Although Internet use by older adults (>65 y/o) remains relatively low at 42%, "baby boomers" who are the immediate cohort most affected by chronic conditions are as much represented online as younger cohorts (79%). The Internet and World Wide Web ushered in a new era of democratization in information access for the masses. Health consumers had easy access to the same information about diseases and treatments that were previously in the sole purview of health professionals. The Internet has become the default destination for finding health information; eight out of ten Internet users search the web for health information with the majority searching for information on specific diseases and treatments, followed closely by diet and exercise topics.[4]

The advent of second generation Web tools, also known as Web 2.0 or social and participatory media circa 2004 has completely transformed Internet users from passive consumers of health information to active participants in generating and disseminating personal content across large virtual social networks.[5] Social media tools such blogs, wikis, social-networking sites, and video-sharing sites enable ordinary individuals without specialized knowledge to easily create, organize, and share personal health information and leverage the collective wisdom of their social networks to manage their health and cope with their illnesses like never before.[6] Many of these activities are also quickly shifting from desktop computers that keep users tethered to the always on mobile devices such as cell phones, now used by nearly 90% of US population.[7] These innovations have enormous potential to re-engineer how health consumers of the information age interact with the health care system and how they participate in their health care.[8]

The purpose of this paper is to highlight methodological research issues related to the study of ICT-mediated health promotion and disease management interventions in the setting of "disruptive innovations" where technologies constantly change and patients who have evolved to be sophisticated consumers *and* producers of health knowledge. Issues regarding the conceptualization of the research question, study design, recruitment, measurement of intervention exposure and co-interventions, attrition, and data collection will be addressed. Examples from our work focused on testing an Internet-based dyspnea self-management program in patients with chronic obstructive pulmonary disease (COPD) and selected work of others will be provided to illustrate both methodological and practical issues that arise with trials of Internet-based interventions.

Conceptualizing the Research Question and Study Designs

Comparisons across Delivery Modes. Not since the introduction of the telephone has any other communication innovation radically changed our culture as the advent and rapid diffusion of the Internet and other digital technologies. As with any innovation that is inextricably embedded in the fabric of everyday life, there is no going back. Yet questions regarding the comparative effectiveness of interventions provided via different delivery channels (e.g. face-to-face, mail, telephone, Internet, or cell phones) continue to dominate inquiry. Health consumers of tomorrow, often referred to as "digital natives", are already and will continue to demand flexibility in how they participate in their health and health care. Controlled randomized studies that test packaged health interventions across different delivery channels are counter to these trends and run the risk of generating data and knowledge that are irrelevant for practice. Moreover, there is no clear evidence to suggest that face-to-face or telephone based interventions are gold standard comparison groups for studies of Internet-based interventions. The reality is that responses by research subjects to "conventional" interventions are often heterogeneous.

A paradigm shift in how we conceptualize technology innovations, such as the Internet, is in order. Similar to the telephone or cell phone, the Internet in its simplest form is a connectivity tool that facilitates the delivery of theory-driven substantive content. The connectivity that ICTs enable can reduce intervention delivery costs, increase convenience and timeliness, and overcome geographical barriers to dissemination of evidence-based interventions.[9] The distinction between traditional telephones and Internet telephony is already blurred, as is the use of video web conferencing to create presence in virtual face-to-face interactions. These technologies will only evolve and converge to further enrich remote communications in the future, thus making the findings of studies that focus on testing a particular communication innovation quickly obsolete.

For instance, Internet-based behavioral interventions developed for desktop computers will soon evolve to include mobile versions to accommodate the majority of health consumers who will use cell phones as the primary mode of communication and information exchange over the next decade and onward. This is the first technology where a "digital divide" is in the reverse, i.e., 84% of Latinos have cell phones vs. 75% of Caucasians.[3] Cell phone mediated interventions have the potential to address health disparities by effectively engaging traditionally difficult-to-reach populations not just in the US but globally. A search in December 2009 of the National Institutes of Health funding database showed 95 current projects totaling nearly $40 million that included the use or testing of cell phones for data collection, surveillance, or intervention--a sign that cell phones in their current and future form as a personal, always-on device will be another indispensible platform for the research toolkit.

Our program of research which is focused on dyspnea self-management (DSMP) in patients with COPD serves as an exemplar on both the technical and methodological challenges to testing the Internet as a channel for providing education, skills training, and ongoing support to individuals with a chronic condition.[10-14] Similar to many other health interventions, the DSMP started as a traditional blended face-to-face and telephone-based intervention[11] that was first adapted to the Internet (eDSMP version 1.0) in 2001 and pilot tested for three months in 16 patients.[12] Feedback from these participants informed the enhancements for eDSMP v.2 (most notably, the addition of a mobile device for data entry and prompts since participants desired a convenient way to enter their exercise and symptom data on a daily basis) and was launched in early 2005 after significant delays in the software development. This randomized trial compared the traditional blended dyspnea self-management program (DSMP) to the eDSMP in 50 patients with COPD.[13] It is important to note that the eDSMP is also a blended intervention with an initial assessment and consultation visit in the participant's home.

This study design was motivated by the goal of providing an equally effective alternative for patients to conveniently access support resources at a distance. As such, both programs provided similar content and contact time and only differed with regards to the mode that was used for education, collaborative self-monitoring, reinforcement, and peer interactions. We found that 66% of the sample expressed a clear preference for one program over the other. Those who preferred the eDSMP tended to be younger, lived further away from the clinical sites, and had more advanced computer skills but were otherwise not different on any other characteristics from those who preferred the DSMP. Although all participants used the Internet on a regular basis, many expressed clear preferences for how they wanted to participate in the group education sessions and communicate with the study nurse; some who preferred telephone communication deliberately ignored email follow-ups since they knew the nurses would call if they did not reply. While these observations may be unique to our older sample, it calls into question whether comparisons across communication modalities is a valid and meaningful practice question when people have preferences for and will use the modality they are comfortable with. We found that, for 39 subjects who completed the 6 month study, the magnitude of reduction in dyspnea with activities of daily living was comparable between the two programs. Since these findings are preliminary and the study had methodological weaknesses, we are continuing to test the effects of the eDSMP in a larger longer trial.[10]

Insights gleaned from our studies[12 13] and those of others[15-19] suggest that moving forward, the focus should not be about the comparative effectiveness of behavioral health interventions delivered across different modes because fundamentally, next generation health consumers will demand the flexibility of using multiple channels and platforms to communicate and exchange health information. Efforts should focus on understanding what intervention component, through what mechanism, for whom, and under what conditions will produce the most optimal health outcome.[20] These questions are not unique to studies of ICT-mediated interventions and the answers will likely not come from traditional research designs to determine causality.[21] However, if we are agnostic about the channel of delivery, we can focus on using unique features of ICTs and novel experimental designs to advance the theoretical base for more robust multicomponent behavioral interventions.

Designs to Build Behavioral Theory for Internet-based Interventions

It is more critical than ever to understand the most active ingredients and who responds to which component of multi-component interventions in this era of cost-

constrained, personalized, preemptive, and participatory health care. Finding the right balance between the proper program ingredients that provide sufficient exposure to relevant content and structure on the one hand while encouraging greater user participation and engagement is the immediate challenge for this fledgling field.[22] Comparative effectiveness designs have been used to tease out the active components or features of Internet-based multi-component interventions.

In a study of hypertension management, Green et al[23] compared the effects of a Internet-based hypertension management program that included home blood pressure (BP) monitoring and training on a health plan's web portal and a second program that included the above components plus pharmacist care management to usual care (access to a health plan's web portal). The most intensive intervention resulted in the greatest reduction in blood pressure. Tate et al.[24] tested the efficacy of a self-directed Internet weight loss program compared with a similar program that was supplemented with behavioral counseling either from an automated expert system or a human counselor. While weight loss was comparable between the two active arms at 3 months, the group that received feedback from a live counselor had significantly greater weight loss at 6 months. Donker et al.[25] are currently testing five different doses of human coaching to an Internet-based self-help depression/anxiety management intervention. A number of studies have compared the effects of tailored automated Internet-based self-help interventions targeted at common behavioral risk factors, such as physical activity (PA), smoking and management or depression and anxiety that include little to no human interaction.[26-28]

Marcus et al.[26] compared the effects of three different PA interventions in healthy sedentary adults: (1) an automated motivationally tailored Internet-based PA intervention, (2) a similar intervention provided via print; or (3) were recommended six highly reputable, publicly accessible web sites that provided general information on PA. Self-reported PA improved across all groups with no significant differences between groups at 6 or 12 months. While it is possible that the tailored PA interventions were weak because of insufficient personalization, the results suggest that at least in healthy sedentary people, freely accessible web-based health promotion materials from reputable sources are effective at increasing PA and should be considered first line resources for digital health consumers who are motivated to change; sophisticated expert decision support applications like that tested in this study may be superfluous. These findings are in contrast to the body of work on Internet-based smoking cessation programs by Strecher et al. who have the most mature evidence base supporting the superiority of tailored behavioral programs.[27 29]

A limitation of traditional approaches to dismantling the active components of multi-component interventions as described above is the number of treatment arms that can be compared in a randomized trial. Collins et al.[30] proposed a method adapted from engineering to address this limitation, the Multiphase Optimization Strategy (MOST); this approach involves three phases, screening, refining, and confirming, all relying on separate randomized trials. The goal of the first phase is to quickly and efficiently screen a large set of potentially important treatment components using a fractional factorial experimental design. This design allows for testing theory-driven combinations of intervention components rather than crossing all possible combinations. The refining phase includes additional experiments to determine optimal dosage. The final phase consists of a confirmation trial to compare the optimized intervention with a gold standard. Strecher et al.[29] used the MOST approach to quickly screen for active components of an Internet-based smoking cessation program. Smokers (n=1,848) were randomized to one of 16 experimental conditions in which each condition was a dif-

ferent combination of psychosocial and communication components. Abstinence was most influenced by high-depth tailored success stories and a highly personalized message source; greater tailoring depth was associated with higher cessation rates. The next phase will focus on refining the active components. This study illustrates that dynamic experimental approaches are more suited than traditional design strategies for intervention discovery in a rapidly evolving ICT landscape.

Unlike the relatively short-term public health oriented health promotion interventions which are focused on modifying one behavioral risk factor at a time in mostly healthy populations, interventions for management of chronic conditions are often multi-dimensional in nature, targeting multiple lifestyle risk factors simultaneously, therapeutic management, and care coordination across providers and systems of care. Since 1999, Medicare has conducted seven large scale disease management demonstration projects across several high costly conditions and yet none of the multi-component care models have materialized in cost savings.[31] While factors such as an unrealistic assumption of avoidable care or targeting strategies that are a poor fit with a fee-for-service population could explain these negative findings, attention to refining the intervention components, including the role of ICTs for ongoing management may be a promising strategy. It is unclear if the MOST approach is practical or appropriate since it is likely that no individual component of disease management programs has a detectable (or weak) effect but which together produce an aggregate, measurable effect.[32]

Selection of Control Groups. Randomized controlled trials (RCT) provide key evidence for the efficacy and effectiveness of health interventions relative to a control condition. What the RCT reveals about the efficacy of an experimental treatment is dependent as much on the control condition as on the experimental treatment.[33] Control conditions in published trials of ICT mediated interventions vary considerably and there is little consistency in how to design or select them. The "right" control condition will nonetheless be a moving target since the state of the science in a particular area and standards of practice constantly evolve. Comparisons to active controls require large samples to ensure sufficient power to detect differences between groups if they indeed exist or in the case of non-inferiority trials, to definitively declare the treatments comparable. Yet large scale RCTs are increasingly difficult to conduct due to persistent challenges to timely subject accruement. Campbell et al.[34] found that 33% of conventional trials fail to reach their desired sample and that studies in which interventions were only available from the trial were more successful in achieving their recruitment targets. The challenge for studies of behaviorally-based ICT-mediated interventions is that many competing applications and resources already exist and are easily accessible via multiple channels to health consumers who have Internet access.

Contributions of Consumer Social Networks to Research. Web 2.0 (social media) is about the move away from static web sites towards continually evolving web services that allow users to exert a high degree of control over their data. Users have new ways to store, view, manipulate, share and experience their personal data using interfaces that are graphically rich and engaging. Tools such as blogs, tweets, wikis, and social networks are all about speeding up and enriching communication and the development of collective wisdom. The old model of one-to-one communication is replaced with one-to-many or from many-to-many communication. Among all Internet users, approximately 27-47% are engaged in some form of social networking activities whereas nearly 75% of 18-24 year olds use such tools on a regular basis.[35] While use of social media is mostly limited to younger cohorts at this time, there is no doubt that social media and other communication innovations that follows will continue to change how we interact as a society, shape our health and health care, and raise many new ethical, social and legal issues.[36]

PatientsLikeMe.com™ (PLM) was one of the first global online social communities that leveraged Web 2.0 tools to support patients with a variety of complex life limiting illnesses such as amyotrophic lateral sclerosis (ALS) and Parkinson's disease.[37] In addition to a standard set of social networking features, such as forum posts and personal profiles, patients and caregivers can access tools to track and share their personal experiences with medications and other therapies, as well as symptoms, functioning, quality of life and side effects in a standardized format. These structured data are then aggregated and graphically displayed in real-time for other site members for review and discussion. Members are empowered to contribute to and utilize the collective wisdom and experiences of their peers to become more informed about their own condition. Users are able to filter the data according to characteristics of other patients who are similar to them based on demographics, illness profiles, or geography. The power of knowledge sharing seems to be most evident for illnesses where treatment options are limited and experiential knowledge garners greater significance.

The dramatic shifts in the willingness of patients to trade-off their privacy in the interest of the collective to accelerate the discovery of new, more effective treatments is in stark contrast to deep seated concerns about privacy protection in the health care sector.[38] What health consumers decide to do with their data was evident in 2008 when news broke of a small Italian study of 44 subjects showing Lithium had slowed disease progression over 15 months of follow-up.[39] These findings ignited immediate interest by patients and caregivers alike to follow the outcome of Lithium use in the ALS online community at which time had a membership of 1400 and 50 members who were already on Lithium.[40] What followed was the first ever real-time, real-world, open and non-blinded, patient-driven quasi-observational trial with patients and their caregivers on the forefront, driving research translation.

Patients with few options will not wait for the conventional, lengthy scientific process to take its course. In the case of ALS and Lithium, patients are using Web 2.0 tools to organize and aggregate their own experience base for discovery and translational research. The real-time graphical summary on PLM as of December 2009 suggests that, in approximately 250 ALS patients who have logged their functional data over a mean of 12 months, Lithium did not slow functional declines, in contrast to the positive findings from the Italian paper. The unintended consequences of consumers' active participation in knowledge generation and negative findings from this particular study could have tremendous implications for future clinical research, e.g., inherent biases and data quality concerns with an un-blinded study and consequently, lack of perceived treatment equipoise in the patient community and thus inability of future studies to recruit unbiased participants to conduct larger controlled studies to replicate earlier findings.

A limitation of networked communities like PLM is the potentially unrepresentative sample of individuals who feel comfortable sharing their most intimate information with the public. PLM's flagship ALS community which has over 2200 registered patients, account for only 7% of the ALS patients in the US; members of the ALS community tend to be younger and have longer survival. Placed in perspective, however, is that size of the PLM ALS community is more than twice the number of the largest ALS trial in history. Other recurring concerns include the quality and credibility of user-generated content within large social networks that could easily spread misinformation. Pundits have argued that sufficiently large communities conduct their own peer-review and misinformation are promptly corrected by other members.[41] Esquivel et al.[42] reviewed two months of postings from an un-moderated online breast cancer community of approximately 500 participants and found that only 10 of 4600 post-

ings (0.22%) were false or misleading; seven of these postings were corrected by other participants in less than 5 hours after the initial posting.

The importance of leveraging existing networked informatics infrastructure like PLM to connect directly with individual health consumers will be increasingly critical for powering large epidemiological and genetic studies of the future. Similarly, web-based applications such as Microsoft HealthVault and Google Health that allow health consumers to connect, store and share their health information on an open platform, without being tied to a siloed database is another enormous untapped potential for clinical research. Health consumers can gather, store and manage health records obtained from diverse sources and also have access to tools to track their health and wellness. This information can easily be shared with their healthcare team or researchers in a structured format.

Recruitment and Reach of Internet-based Interventions

Recruitment. Since many studies of Internet-based interventions rely on convenience samples recruited from online and offline sources, estimates of the actual reach across different interventions, target audiences, and settings are limited. However, more data are emerging regarding effective recruitment approaches and the real-world uptake of Internet-based behavioral interventions targeted at common risk factors, such as smoking cessation and weight loss interventions within defined populations. For population-based sampling studies of members within health plans or employees of large corporations, proactive, targeted individual-level recruitment appears to be more effective than passive strategies.[22 43-45] Although the proportion of the target audience reached is relatively modest across studies, the absolute number of individuals who participate in automated Internet-based behavioral interventions show the potential for broach reach.

Reach. Members from two large health plans were invited to participate in a tailored smoking cessation program. Recruitment efforts included proactive invitation letters mailed to 34,533 likely smokers and passive population-level study advertisements targeted to all plan members (>560,000 adults that included approximately 98,000 smokers). An estimated 1.6-2.5% of adult smokers from each health plan enrolled. Among likely smokers who were proactively recruited, 7% visited the website and 4% were eligible and enrolled.[44] In another study conducted across three health plans, Glasgow et al. reported that an invitation in the form of a personal letter from the prevention director to members to participate in an Internet-mediated weight loss intervention attracted 2.4% of healthy members, 10% of those with coronary artery disease, and 7% of those with diabetes.[22] Males, those over age 60, smokers, and those with higher medical expenses were significantly less likely to enroll. Response rates were slightly higher in a study that mailed an invitation letter with a $2 bill to 28,460 members between the ages of 21-65 from five health plans for a dietary intervention; 15% accessed the study web site and 9% were randomized. Those who enrolled were more likely to be older, female and live in census tracts associated with higher socioeconomic status and education levels.[46] Graham et al. tested the effectiveness of an Internet smoking cessation program among 131,592 IBM employees during the annual benefits enrollment period. Among 8688 identified smokers who were incented to participate with a reduction in their benefits premium of $132/year, 19% chose to use the Internet interventions.[43]

While online advertising approaches such as email marketing, search engine optimization, geo-marketing, and social media are increasingly leveraged for subject recruitment, very little is known about the reach and representativeness of these recruitment approaches. We found that a geographically targeted email recruitment campaign

directed at previous users of a publicly available COPD decision support tool resulted in a response rate of 10% for our studies of the eDSMP.[10 13] Approximately 50% of enrolled patients in this study were recruited from various online sources.[10] We recently conducted a brief web-based needs assessment survey by sending an email to a database of previous research participants and posting a recruitment invitation to three COPD online support communities. We received 201 responses from individuals with self-reported COPD from across the US over a two week period. A large number of the respondents (63%) had not participated in any COPD research study. These individuals were more likely to experience significantly greater functional disability with their dyspnea compared to those who reported participating in any previous COPD studies. This finding suggests that, at least for severe, chronically ill patients, studies that rely strictly on the Internet and does not require participants to travel long distances to a clinical center for testing may actually include more representative, understudied, "research-naïve" participants.

Co-interventions are Common in Internet-Based Studies

Individuals in the digital age use the Internet in all aspects of their lives including work, communication, and socializing and they are no less likely to harness their web searching and "foraging" skills when it comes to their health.[29 47] However, the vast majority of published studies testing Internet-based interventions fail to acknowledge, report, and account for the prevalence and impact of co-interventions on study outcomes. In studies of self-help or minimal contact Internet-based smoking cessation interventions, approximately 25-33% of participants sought other non-assigned smoking cessation therapies or aids on the Internet.[29] These figures are surprisingly similar to conventional trials of medical and surgical treatments for common problems.[48] Anecdotal reports from participants in our studies of the eDSMP suggest that co-interventions are common, especially participation in online patient networks and use of video sharing web sites, e.g. YouTube™, for their information and emotional needs.

The use of non-assigned treatments is probably related to the extent to which treatment options are well-publicized, thought to be effective, and readily available for use. For digital health consumers, finding credible and attractive online behavior-change resources and programs requires minimal work and effort and is often only a few mouse clicks away. It is, however, important to note that unlike pharmaceuticals, Internet-based health applications are not regulated. Thus, the majority of publicly available health applications have not been subjected to rigorous testing. In one study of an Internet smoking cessation program, participants who used other non-assigned Internet smoking programs were twice as likely to stop smoking.[47] Interestingly, there was no relationship between the level of participant exposure to the program being tested and participant use of non-assigned treatments. It is impractical to require research participants to refrain from using alternative treatment programs or to avoid treatment-seeking from other sources. Only through asking participants about non-assigned treatments they may have used and/or treatments they may have sought will it be possible to determine whether such activities have a positive or negative effect on study outcomes. As well, participants' decision making on whether to engage in other resources would inform future iterations of the intervention itself. The timing for assessing co-inventions might be best done at the end of the study to minimize reactivity, though accurate recall may pose a challenge for studies with long follow-ups.

Measuring Intervention Exposure and Study Attrition

Intervention Exposure. An advantage of Internet-mediated studies is the ability to

objectively measure dose or exposure to the intervention based on database tracking or detailed date and time stamped web server logs. Process data such as number of sessions logged in, time on the web site, number of pages viewed, frequency of tracking health information, or number of messages posted and viewed on a forum are useful in understanding the association between level of exposure and outcomes. However, there are a number of caveats to valid and standardized measurements of exposure. Counts of web page views can be difficult to interpret since the information architecture greatly influences the order in which users move through a web site.[49] New software tools that allow program content to change without refreshing a web page makes page views obsolete since one can no longer assume that a web page displays a fixed amount of information. In addition, the shift towards dynamic, user-generated content makes exposure assessment even more challenging due to the fluidity of the content.[50] Measures of viewing duration can be affected by the speed of network connectivity as well as common user behaviors such multi-tasking which is when users concurrently view other web sites, watching TV or talking on the phone, or leaving their computer unattended; a priori decisions to truncate web page viewing time may be helpful for the latter situation. While composite measures such as the product of the number of logins and duration per login have been used, none are perfect and all will require modifications as the Internet evolves. Despite the clear advantage that automated Internet-based intervention have in delivering standardized "expert" content with high fidelity over human interventionists, the tremendous variability in uptake and engagement by study participants themselves undermine the value of automation. Program usage is typically high in the first few weeks of enrollment in a study followed by a predictable precipitous drop-off in the number of logins in the remaining weeks or months regardless of whether the intervention includes some or no interactions with a human interventionist.[13 51] Clarke et al[28] found that adding postcard or telephone reminders to an Internet-based depression skills training program resulted in greater use and reductions in depressive symptoms compared to a previous trial that did not include reminders.[52]

Other incentive schemes based on behavioral economic principles could be employed to enhance subject participation and potentially, improve lifestyle behavioral outcomes if that is the target of the intervention. Monetary incentives which provide individuals immediate and tangible feedback can help make it easier for them to do in the short term what is their best interest in the long-term.[53-55] Small incentives can have a large impact if delivered with great frequency and are proximally linked to the positive behavior. Conventional studies of behavioral interventions typically provide a small honorarium to participants at infrequent intervals mainly to acknowledge their time and efforts for participating in the study, but no rewards are paid in real time. Mechanisms that allow for real-time behavioral tracking via a mobile device coupled with performance based financial rewards through automatic payment systems, such as PayPal or other payment vendors, may be particularly suited for digital age health consumers with little tolerance for delay.

Study Attrition. High rates of participant attrition are fundamental characteristics of automated Internet-based self-help interventions that have limited to no human interaction.[56] Many of these public-health oriented translational interventions which focus on behavioral risk factors, such as smoking, diet or mood management for large populations have attrition rates of anywhere from 40 to 85%.[22 47 56 57] Dropout attrition is a threat to internal validity because it may introduce a selection bias. Intention-to-treat analysis, where all dropouts are assumed to have negative or neutral outcomes is one strategy to address this bias. However, a high attrition rate and intent-to-treat

analysis assumption of treatment failure for drop outs could greatly diminish the power to detect differences between groups. Lack of program use may not necessarily be indicative of failure or a negative outcome. In a study of an Internet-based weight loss intervention, individuals who had higher baseline self-efficacy for losing weight were significantly more likely to drop out.[22] Individuals who have the capacity or are successfully changing their behavior may correctly believe that continued use of a program is no longer important or relevant. Smokers who have successfully quit may stop using a program since they may not want to be reminded of their smoking behavior. People who have been able to establish a regular exercise regimen may not feel a need or value to tracking their exercise information daily on a web diary nor receive feedback about their steady performance.

The primary source of attrition in Internet-based intervention studies was thought to be due to participants' loss of interest over time, competing priorities, or replacement discontinuance—participants found a better application elsewhere.[56 58] However, few studies actually had the resources to follow-up with drop-outs to confirm if these were the reasons and also to understand if those who remain in the study are similar to drop outs. Couper and colleagues[57] conducted the first non-respondent follow-up study of a Internet-based weight management intervention where 85% of the randomized participants were lost to follow-up at 12 months. Follow-up measurements were conducted strictly via web surveys. A sample of 700 non-respondents was randomly assigned to be followed-up via mail which included a $5 bill incentive or via telephone which did not include an incentive. Response rates were 59% and 55% and response times were 8 vs. 10 days for the telephone and mail follow-up, respectively. More than 50% of the respondents reported having technical difficulties with completing the survey or did not receive the email survey notification. This suggests that the medium of communication (email) for follow-up assessments in Internet-based trials may be as much if not more of a factor in attrition as the intervention. Weight loss at 12 months was comparable between the original online respondents and those who completed the non-response follow up. Non-response bias did not appear to be a significant factor in the conclusions drawn from responders.

Data Collection

A long-standing concern in survey methodology has been the reliability and validity of measures administered via various modes, e.g. in person, telephone, mail, web, self- or interviewer administered. While these questions continue to be raised with the introduction of any novel survey administration mode, studies have generally reported comparable findings across data collection modes regardless of the phenomena being studied.[59-61] In fact, there is actually more variability in the content and visual design of surveys administered via a particular mode, e.g. web, than across modes.[62] The broader goal of reaching representative samples and increasing response rates appear to outweigh concerns of non-equivalence and measurement errors with mixed methods of data collection though efforts to develop models that correct for biases such as social desirability continue.[57] The trend towards more individuals relying completely on a wireless telephone connection and its impact on epidemiologic surveys is an example of how research methods will need to evolve with technological innovations. Nearly 20% of US households have traded in their residential phone service for wireless service.[63] Epidemiologic studies that strictly rely on random digit dialing to residential phone lines may have unrepresentative sampling frames if these trends are not considered. A study funded by the National Cancer Institute is determining if differences actually exist between individuals with residential phone service and those who only use cell phones.

Practical Considerations for Developing ICT-mediated Interventions

The software development life cycle, which begins with formative research to gather user requirements, coding, usability testing, and implementation, is often a lengthy iterative process. The maintenance and refinement of any application require significant technical and content expertise, ongoing effort and expense that are often grossly underestimated by many researchers. Delays related to development or enhancements/adaptation to an existing application for a trial is not uncommon. Crossing the chasm from research prototype to a real-world scalable and sustainable product is an enormous endeavor. Many applications, such as those built for mobile devices, are not device agnostic since standards are not in place. These constraints limit the population available for sampling or the number of individuals who can participate in a particular study if a study provides the equipment and wireless service for participants.

Even if an application is officially released for testing in a controlled research study, many remain in "perpetual beta status", e.g., decision support tools that assist patients with making decisions about medical therapies needs updating over the course of a 5-year study due to a fluid and evolving evidence base of risks and benefits, critical modifications to an interface or feature to address significant usability challenges etc. It is unclear how mid-course changes to an interface, content, or functionality affect subject exposure to the intervention and consequently, study outcomes since few if any studies ever report this information; in situations where significant usability challenges require extensive modifications that could result in a completely new intervention, investigators have chosen to stop the study early.[13 64] However, when refinement of applications and tools are unavoidable, harnessing the global marketplace through crowd-sourcing is one such efficient and cost-effective approach used in other sectors for software testing and obtaining instant structured feedback. One such service is Amazon's Mechanical Turk, which provides an always-on, always-available global army of "workers" who perform various technical Internet-based tasks for literally pennies. These forums could be considered the Internet version of community-based participatory research if the target end users of an application are included early on and throughout the life of the application.

Conclusions

Recent advances in ICTs from Web 2.0 social media tools to the ubiquitous use of cell phones have led to profound changes in the way we interact as a society. While these developments have undoubtedly ushered in renewed hope for, and promise that, such tools will facilitate positive changes in individual and population health, it remains to be seen whether these potentials are actualized. The goal of this state-of-the-science paper was to highlight current and emerging methodological challenges and opportunities in research on ICT-supported interventions within a constantly evolving technology landscape. Rapid adoption of these innovations by increasingly sophisticated and empowered health consumers who are more than ever expected to engage in and be responsible for their own health and health care presents novel challenges to traditional research and evaluation paradigms and approaches. As an applied science, nurse researchers will need to be nimble in evolving our scientific approaches to address these methodological and practical issues if our goal is to produce practice-based evidence that is needed five to ten years from now.

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Distinguished Research Lectureship

BRIDGES ON THE RIVER WHY

Ginette A. Pepper, PhD, RN, FAAN
Professor and Helen Lowe Bamberger Colby
Presidential Endowed Chair in Gerontologic Nursing
Associate Dean for Research and PhD Programs
Director, Hartford Center of Geriatric Nursing Excellence
University of Utah College of Nursing
Salt Lake City, UT

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Few things bring as much peace and wonder to me as gazing on a bridge. Consistent with this resonance of the soul, my favorite geologic feature in my adopted home state is Utah's largest concentration of natural bridges in the world, many of which are accessible to the casual hiker. When I am mentoring new nurse scientists or advising predoctoral students to develop of a coherent program of research, it is not uncommon for them to point out that my own career is distinguished by seemingly isolated and disparate islands of scientific activity. While I characterize my program of research as *adverse drug effects on the functional status of older adults*, my research activities have extended from the molecular to the health system, across the life span, from hospital to community to long term care, and across the disciplines of pharmacology, nursing, and gerontology. Yet throughout my career it is the bridges and not the crevices and islands that sustain passion and give meaning to my endeavors. Thus, this presentation is framed in the context of bridges that characterized my career as a nurse scientist, and the significance these bridges have for the profession and discipline of nursing. These bridges span four divides:

1. Diverse disciplinary perspectives
2. Mind-body dichotomy
3. Service-education gap, and
4. Quality chasm

Bridging Disciplinary Perspectives

The nurse practitioner role originated during the time I was an undergraduate student at the University of Colorado School of Nursing. I recall watching with incredulity as one of the students in the first Pediatric Nurse Practitioner cohort did absolutely nothing in the newborn nursery for an entire hour, except observe an infant, which I was subsequently told constituted "advanced assessment." Five years later Dr. Vera Brand, a pioneering program director at the University of Utah, offered students in my medical-surgical nursing Master's program the option to focus our clinical courses in primary care, preparing for this emerging nurse practitioner role rather than the clinical specialist role. The nurse practitioner skill set, which largely consisted of assessment at that time, seemed equally useful in critical care and rehabilitation, the two specialties I was contemplating. As a result, I pursued both clinical options, fully intending to focus my career in the hospital and classroom. However, when I was offered a nurse practitioner position in a nursing home demonstration project upon graduation, I reconsidered my career trajectory. Though I was none too thrilled that the job required taking care of old people in nursing homes, the salary and the opportunity to be part of a research team counterbalanced my reluctance. That was how I came to love working with older adults, and became the first Geriatric Nurse Practitioner, although at the time I was unaware of the distinction of being the first of an enduring role in the profession.

However, I was acutely aware of several other dubious distinctions. There was no doubt that I had crossed a major disciplinary fissure. Many leaders in nursing believed that nurse practitioners had defected from the profession and were virtually traitors to nursing (Rogers, 1972). This was compounded by the fact that it rapidly became obvious that the nurse practitioner role in nursing homes required medication management skills, so I also was one of the first nurse practitioners to have broad scope prescriptive authority. Paradoxically, it was evident from the analysis of data from the journal I kept during my first year in the role that nursing skills, including teaching and patient counseling, were as integral to the role of the geriatric nurse practitioner in nursing homes as the expanded medical functions (Pepper, Kane, & Teteburg, 1976).

Robert Kane, MD, was the principal investigator of the research study we conducted with this federally funded demonstration project. Those of you in gerontology recognize Bob and his wife, Rosalie Kane, MSW, PhD, as prominent gerontology researchers. This was Bob's inaugural study in the aging field, and while you can clearly see Rosalie's influence in the design, she was not yet specializing in aging or research. The study was a randomized comparison of three models of care delivery within the nursing home for patients of the University clinics: social services only (a social worker in visiting the nursing home with usual clinic care), medical services delivered in the nursing home (team of nurse practitioner backed by consulting clinical pharmacist and physician), and combined care (the medical team and social worker). Outcome variables included functional status measures, costs of medical services, and staff knowledge and attitudes. Using survival analysis, the combined team had the best outcomes, but the social services only model provided more cost-effective care than the medical team only model (Kane, Jorgensen, & Pepper, 1974). We also demonstrated that it is possible to decrease polypharmacy and limit the use of psychotropics in nursing home patients using a combined care model with a nurse practitioner and social worker as core providers. A significant component of the combined team was the clinical pharmacist who was a graduate of the first class of the PharmD program at University of Southern California. Not only was the value of interprofessional care for complex older patients demonstrated in this study, but also the benefits of interdisciplinary research teams for every component of the investigation from design, through instrument selection and interpretation of results. Since that time every major research team I have led has been interdisciplinary and I continue to lobby for the mandatory inclusion of clinical pharmacists in healthcare for older adults.

When the time came to pursue doctoral education, this experience led me to seek dual majors in pharmacology and nursing with a cognate in gerontology. In current parlance, my education was a transdisciplinary doctoral program (Nash 2008) at the University of Colorado Health Sciences Center. The goal of transdisciplinary education is to develop scientists who synthesize the theoretic and methodologic approaches of two disciplines in order to address the complexities of health problems, an approach particularly appropriate to consideration of problems experienced by older adults.

The Team Science Bridge. When I was pursuing transdisciplinary training there not only was not a name for the endeavor, but also absence of roadmaps on how to help students synthesize the disciplines and avoid regressing back to more comfortable single-discipline approaches. Several dedicated mentors helped me to learn the language and culture of the disciplines and to navigate within and between the disciplines: Dr. Antonia Vernadakis in pharmacology, Drs. Jurate Sakalys, Michael Carter, and Beverly

Baldwin in nursing, and Dr. Mary Quayhagen for gerontological nursing. In spite of many intervening years, few mentors in nursing or other disciplines seek the challenge of mentoring transdisciplinary scholars. The future of transdisciplinary research in nursing depends in part on risk-taking mentors who can help students traverse the ambiguity of operating between disciplines, even though they cannot travel there with the student, and to push students back into the ambiguous space between disciplines when they seek the comfort of the single disciplinary approach. As Nash noted, this is the uncharted territory where constructs are poorly defined, methods are yet to be established, and training objectives are unspecified (e.g., content to know, skills to be acquired), but as a result the transdisciplinary scientist develops ways to integrate concepts and approaches to define new knowledge free of the limitations of any one discipline.

Rosenfeld (1992) distinguished levels of research integration based upon the degree of explicitness by which team members integrate the disciplinary and analytic levels. While transdisciplinary approaches are the most explicitly integrated, complex health and biobehavioral problems can be addressed by multidisciplinary and interdisciplinary teams. Over the past two decades there has been a tremendous surge in interdisciplinary research characterized by larger research teams. The National Institutes of Health, National Science Foundation, and other funders have promoted the development of integrated research over the past decade. Just as in clinical care where there is a mantra in patient safety that we should train in teams those who are expected to work in teams, so doctoral nursing education must consider how to train in teams those who will research in teams. This includes bridging not only diverse disciplinary perspectives, but also the roles of those holding Doctoral of Nursing Practice and Doctor of Philosophy degrees in nursing. With a growing number of PhD students coming directly from the baccalaureate degree ranks, there is danger of nursing research losing the perspectives of the advanced nursing clinician and advanced practice nurses. The knowledge accumulating in the science of team science (Sokols, Hall, Taylor, & Moser, 2008) will be essential to designing research training programs of the future.

Bridging the Mind-Body Dichotomy

Although the University of Colorado School of Nursing is long known for many innovations in nursing, few remember that for a couple years in the late 1970s, long before transdisciplinary science and biobehavioral nursing were conceived, CU admitted a few students to a PhD program in psychobiological nursing. The program ultimately had three graduates and was the perfect fit for my interests in aging, pharmacology, and nursing. We were encouraged by the faculty to develop concepts, frameworks, and methods for this new field. As a pharmacologist, the Model of Drug Action was sufficient to make sense of everything relevant in the pharmacology world. This model posits that three processes intervening between the dose and effect (pharmaceutics, pharmacokinetics, and pharmacodynamics) mediate the variability in drug response. As a nurse and gerontologist, the Model of Drug Action left too many phenomena unaccounted for, such as medication adherence, the placebo effect, and the effect of social support on drug response. Florence Nightingale was the nurse theorist I chose to study, and a representation of her world view by a forgotten author as a triangle with physical, psychological, and social dimensions provided the simple, but elegant, Psychobiological Model of Drug Action (Figure 1) that was necessary to bridge the disciplinary approaches.

After a brief retreat into the comfortable realm of the singular disciplinary world with

a dissertation proposal to study nurse decision-making regarding pain medications, I was firmly kicked back into the transdisciplinary world by my chair. My ultimate dissertation was based on a clinical phenomenon I had observed that many elderly nursing home residents were taking multiple medications with anticholinergic properties. At the same time, many of the problems that troubled this population and their caregivers were those that are anticholinergic, caused by blockade of the central and peripheral muscarinic receptors, such a blurred vision, dry mouth, confusion, sedation, ataxia, cardiac dysrhythmias, constipation, urinary retention and overflow incontinence. I wondered whether these problems were in part due to the anticholinergic medications. With funding from an individual NRSA fellowship, I proposed a descriptive comparative study of five anticholinergic adverse effects: two central effects (cognitive impairment and ataxia) and three peripheral effects (drug mouth, tachycardia, and constipation). Cognitive impairment was measured by the Mini Mental State Examination and ataxia was measured by postural sway (Pepper, 1989a). Dry mouth was measured using the dental swab technique, tachycardia by apical pulse, and constipation by an investigator developed scale (Pepper, 1989b). Residents of five nursing home were randomly selected from those taking none, low, medium, and high levels of anticholinergic medications. Groups (N=11/group) were compared on the five adverse effects using MANOVA. Additionally, correlations were determined between interval level adverse effect scores and serum anticholinergic activity determined by a radioreceptor assay. Consistent with the conceptual model, data were collected on biophysical (age, body mass index), psychoemotional (personal beliefs about medication, psychiatric diagnoses) and sociocultural (education, referent group beliefs about medications) variables (Pepper, 1987).

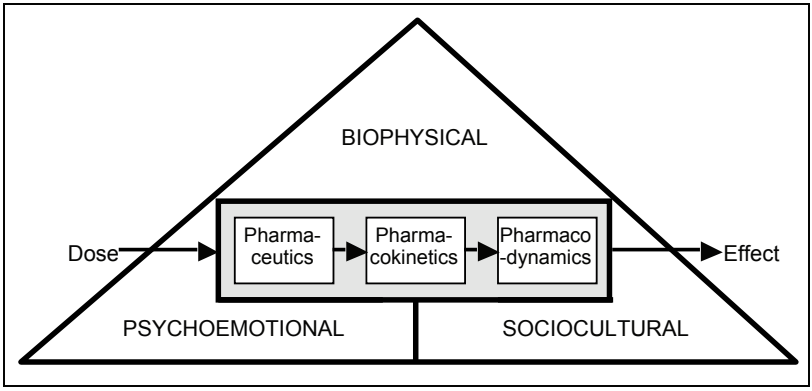

Figure 1 Psychobiological Model of Drug Action

Anticholinergic drugs were used daily by 41% of nursing home patients with 11% taking two or more agents daily. Serum anticholinergic concentrations did not correlate with prevalence or severity of any adverse effects. However, anticholinergic dosage estimates, computed from the relative anticholinergic potency cumulated across agents, was associated with cognitive function, dry mouth, and constipation. MANOVA demonstrated significance for dose on postural sway and apical pulse (Pepper 1991). A discriminant function of the biologic, psychoemotional, and sociocultural factors correctly classified 85% of subjects on presence or absence of three of the adverse effects, demonstrating substantial relationship of psychosocial factors on drug response, particularly referent group opinion (Pepper, 1990).

Table 1. Exemplars of Clinical Research Studies 1987-2000

Date/Authors/Clinical Agency	Project Title and Brief Description
1987 West, E. Denver VAMC	*Improving Adherence to Intravenous Line Insertion, Change, and Documentation Standards* IV sites are a major source of hospital acquired infections, and compliance with CDC standards was low. Using a pretest-post-test single group design, an educational intervention improved knowledge and guideline adherence.
1988 Scott, G. A. Denver VAMC	*Nurse Attitudes Toward the Application of Hospice Philosophy in the Medical Intensive Care Unit* Using qualitative methods, nurses identified reasons for, and effects of, admitting patients with advanced cancer metastases to MICU on "full COR" status. Nursing strategies to promote family autonomy and interprofessional dialogue were identified and implemented.
1988 Stiffler, D. Pepper, G. A. Denver VAMC	*Comparison of 8 and 12 Hour Shift Length in Critical Care Units.* Using a quasi-experimental design, nurses preferring extended shifts were randomly assigned to 12 hour (N=17) and 8 hour (N=15), while nurses preferring 8 hour shifts (N=9) retained that assignment, following 4 weeks of baseline observations. Using repeated measures MANOVA analysis we found no differences among the groups on job satisfaction, productivity, fatigue, and accuracy of reasoning at shift end. However, nurses assigned to their preferred shift length had less stress and fewer symptoms of circadian disruption.
1989 Henderson, S. Pepper, G. A. Denver VAMC	*Comparison of Bedside and Taped Shift Change Report.* Employing a single case experimental design using the ABABA format, the study was conducted on a 15 bed surgical unit with each phase lasting one week. The pre-post survey indicated equal proportions of staff preferred each report format. Based on analysis using within group repeated measure ANOVA, it was concluded that report quality and patient sense of inclusion in their care was higher for bedside report, but taped report (6.6 min) was more time efficient than bedside report (9.2 min).
1989 Floores, S. Denver VAMC	*Evaluation of a Fall Risk Prevention Program* A fall prevention program was initiated on all medical-surgical units, consisting off a risk assessment and prevention strategies for high risk patients. After intense staff education, surveys revealed improvement in fall risk awareness (87% day shift; 100 % evening and night shift), but time series analysis revealed highly variable fall incidence and no trends indicating improvement.
1989 Floores, S. Denver VAMC	*Evaluation of a Fall Risk Prevention Program* A fall prevention program, consisting of risk assessment and prevention strategies, was initiated on all medical-surgical units. After intense staff education, surveys revealed increased fall risk awareness and policy adherence. However, time series analysis revealed highly variable fall incidence and no trend indicating improvement.

Table 1 (continued)

1991 Rosse, P. Swedish Medical Center	*Readiness for Adoption: Development of an Instrument* Reliability (stability, internal consistency), content validity, and construct validity were estimated for a tool to predict the readiness of couples in fertility treatment to consider shifting goals to adoption.
1991 Goebel, K. Swedish Medical Center	*Development of a Nursing Database for Epilepsy* Development of an archived database to assess the type and effectiveness of nursing care for patients undergoing continuous video and electroencephalographic monitoring,
1991 Vice, K. Swedish Medical Center	*Evaluation of Implementation of Unit Assistant Program* To address increasing patient acuity and the nursing shortage, unlicensed assistive personnel were assigned to a unit with a primary nursing model to perform "non-nursing tasks". Using a case study menthodology, pre-post implementation measurement demonstrated substantial increase in RN interruptions and duplication of effort.
1995 Hoeffler, K. HealthONE, Inc.	*Walk a Mile (?) in My Shoes: Distance Walked Each Shift by Emergency Department Nurses* To predict the impact of a new, spacious Emergency Department facility on nursing workload and efficiency, ED nurses wore pedometers during the work shift for one week. Mean distance walked per shift was over 4 miles. Based upon a mathematical predictive model, time required for distances traveled was considered in a staffing model for a new unit.
1995 Pepper, G. Ross, L. HealthONE, Inc.	*Evaluation of a Patient-focused Work Redesign* This comprehensive evaluation of a work redesign project involving transition from primary nursing to care partner teams of RNs and unlicensed assistive personnel used a descriptive comparative design to evaluate economic, administrative, quality outcome, and stakeholder satisfaction. Costs increased but were ascribed to changes in acuity. Productivity in terms of time on direct care increased 58% and continuity of care improved 30%. Process intensity decreased but turnaround time increased. Quality and patient satisfaction was unchanged but nurse and physician satisfaction declined.
1998 Stobbelaar, C. Devine, D. Pepper, G.A. HealthONE, Inc.	*Outcomes of a Pain Resource Nurse (PRN) Program* Implementation of a PRN program in a multi-hospital system resulted in improvement in percent of patients with increased proportions of those with persistent pain receiving around the clock analgesia, higher percent of patients who stated their pain was controlled, decreased numbers of older patients receiving merperidine and higher levels of pain management knowledge of nurses.
2000 Pepper, G. A. Erickson, V. Univ. Colorado School of Nursing	*Antibiotic Prescription by Nurse Practitioners for Acute Otitis Media* Descriptive study using chart review in a nurse practitioner faculty practice to determine antibiotic prescribing practices for AOM. Response rates to first course of antibiotics was high in this low income sample.

There was serendipity in this study, as well as barriers, many of which did not resolve for over a decade. That a British researcher had called his device for mechanical measurement of postural sway the "ataxiameter" helped to give credence to the clinical observation that anticholinergic drugs may be associated with falling (Pepper 2004; Pepper, Towsley, Dudley, Bassett, Jasti, 2007). Increased postural sway prospectively predicts falling and many anticholinergic drugs increase sway. On the other hand, four of the subjects with the highest serum anticholinergic concentrations were taking no medications known to be anticholinergic, though all four were taking digoxin and furosemide. Both agents were subsequently shown to have anticholinergic activity with digoxin being a potent muscarinic blocker. Several of the subjects on higher doses were incidentally noted to have substantial fear of falling, a concept not then in the research literature. Fifteen years later many of the barriers and issues that had been resolved. The National Institute for Nursing Research funded the study I will report this afternoon, which considers the hypothesis that anticholinergic activity is the mechanism for medication-related falling.

The increasing emphasis on genetics and genomics offers another tool to debunk the mind-body myth. As a 2007 fellow in the Summer Genetics Institute supported by the National Institute for Nursing Research, I had the opportunity to explore the interaction of genomics and pharmacology in the progression of mild cognitive impairment to Alzheimer's dementia. Cholinergic activity in the brain affects the manifestation of characteristic extracellular amyloid plaques, neurofibrillary tangles, and neuronal cell loss. Incidence of falls is high in those with Alzheimer's disease and those taking anticholinergic drugs. Thus it is possible that the prevalent use of anticholinergic drugs not only leads to falls, but also may accelerate the progression of dementia by exacerbating pathologic neuronal changes in those who are genetically predisposed to the condition (Pepper, 2008).

Crossing the Cartesian Bridge. Many consider the Cartesian mind/body split to be a decisive philosophical moment in the Western scientific tradition and few would admit to this philosophic legacy. Yet so few nurse scientists include a biologic component in their research that it almost seems to be reverse dualism: the psychosocial is real and the biologic is merely vestigial appendage. However, throwing in a cytokine panel or a cortisol level does not make biobehavioral research. The complexities of collecting even a "simple" salivary cortisol sample are not appreciated by most nurse scientists and trainees. How to adequately prepare nurse scientists for biobehavioral research is a problem that needs serious consideration.

Bridging the Service-Education Gap

My first postdoctoral position was as a clinical nurse researcher at the (then named) Denver Veterans Administration Medical Center with a joint appointment to the (then named) School of Nursing at the University of Colorado Health Sciences Center in Denver. The two institutions are now the Denver Veterans Affairs Medical Center and the University of Colorado at Denver College of Nursing (located in Aurora, Colorado). The functions of the Associate Chief of Nursing for Research were (then named) research utilization and facilitating research by staff nurses. Research utilization has been differentiated from evidence based practice, but the endeavors have a common purpose of providing care with the best scientific evidence to a patient population, and documenting its effectiveness (Melnyk, Fineout-Overholt, Stone, & Ackerman, 2000; Nicoll & Beyea, 2000).

The 1980s and 1990s was the golden age of clinical nursing research. At one time

there were five active clinical nurse researchers in the Denver Nursing Research Collaborative including Dr. Maureen Keefe at The Children's Hospital, Dr. Martha "Marty" Stoner at University of Colorado Hospital, Dr. Gene Marsh at Rose Medical Center, Dr. Dana Epstein at the Denver VA, and me, after I relocated to (then named) Swedish Medical Center which became a part of HealthONE, Inc. The Network offered workshops for staff nurses in proposal development, held conferences where nurses from hospitals across Denver collaborated to develop evidence based policies on topics of shared interest, and staged sub-regional research conferences sponsored in conjunction with Sigma Theta Tau chapters. There were so many clinical nurse researchers in the West that the Western Institute of Nursing (WIN) interest group had as many as 25 attendees with such illustrious researchers and leaders as Drs. Nancy Donaldson, Marie Driever, and Karen Kirchhoff serving as co-conveners at various times. A substantial number of the Research Information Exchange posters at WIN meetings during this time came from staff at clinical agencies. For the 25th Anniversary Book of the Communicating Nursing Research Conference I introduced the paper representing the story of service agencies in WIN with a futurist view of research in the service setting in 2017, the 50th anniversary of the conference (Pepper, 1992). While the vision seemed far-fetched at the time, most of it has come to pass and is even old news in 2010.

With as many as 45-50 research and evaluation projects in progress at an agency at any given time, the clinical nurse researcher role proved an opportunity to impact patient care and the career trajectory of nurses much more directly than academic research. Some of these projects are summarized in Table 1 to give a flavor of the scope of activity. The nurses who first tasted research in the Denver Nursing Research Collaborative went on to advanced education, leadership and research careers. These clinical researcher positions fostered and bridged shared values in academic and practice settings to enhance nurses and nursing toward betterment of the care provided to patients.

Bridge to Clinical Scholarship. While evidence-based practice is essential to clinical scholarship, clinical scholarship is more than evidence based practice, which can be applied rigidly without passion or creativity. Under certain circumstances, evidence based practice can even be a barrier to innovation. As noted by the Sigma Theta Tau International Task Force (1999) "Clinical scholars are characterized by a high level of curiosity, critical thinking, continuous learning, reflection, and the ability to seek and use a spectrum of resources and evidence to improve effectiveness of clinical intervention. (p. 4)". While we are unlikely to see clinical nurse researchers as the sole promoter of clinical scholarship again in the future, there are numerous new models emerging to facilitate clinical scholarship such as the faculty grand rounds program at New York University and clinical fellowship programs at Indiana and other sites. Increasing concentration of DNP graduates in the service setting will undoubtedly bring new awareness of scholarship to practice settings. One scholarly attribute that has not received sufficient attention in DNP programs in general and in Magnet hospitals is dissemination of knowledge, specifically through peer-reviewed publication. Without publication, the goal of clinical scholarship is not realized.

Bridging the Quality Chasm

While nothing in my formal education prepared me to be a patient safety or health services researcher, ten years as a clinical nurse researcher certainly provided essential skills. In fact, I had successfully avoided getting involved with medication errors

or teaching dosage calculations for over 20 years, even though many seem to equate being a nurse pharmacologist with these activities. Regrettably, my participation in this area of research was ordained when a lethal error occurred in a hospital where I was the Director of Research and Education. The state Health Department mandated that we provide training to all 600 nurses in the hospital on the Five Rights within three weeks. The man who died was frail and elderly man with chronic heart failure. The physician believed he was probably on his final hospital admission. The physician ordered 40 milligrams of furosemide (Lasix) IV to ease his dyspnea, and the nurse was so concerned about his breathing that she grabbed the medications and syringes and took them into the room instead of her usual routine of preparing and labeling them in the medication room. As she was completing the injection the nurse realized she had given 40 milliequivalents of potassium chloride instead of furosemide. She called a Cor Zero but he did not survive. Now I wasn't sure what had caused the mistake. I hadn't heard of the field of human factors or the fact this same mistake has occurred dozens of times in various hospitals. Nonetheless, I was sure the error was not attributable to the fact the nurse did not know that she was supposed to give the right drug---so I was off again to build a bridge on the River Why. At that time I was convinced of two things: nurses need more pharmacology knowledge (probably wrong) and that punitive administrative responses were not helpful (definitely right). We implemented a variety of educational strategies such as factoid posters, quick self-tests, and talking points for staff meetings. Remarkably, these modest activities rocketed my status as one of the top national experts in medication administration errors and I was asked to help the United States Pharmacopeia to develop an educational offering, to consult for companies wanting to market error-prevention products derived from research, and to represent ANA at national forums.

In spite of career advice to avoid "negative" research topics, I was convinced we could learn through research how errors occur and how to prevent them. However, the biggest issue was valid and reliable measurement of error, so I determined to call Ken Barker at Auburn to see if he would teach me to use his observational method. My recollection is that I had barely finished writing "call Ken Barker" (whom I did not know) on my To Do list when the phone rang and it was Dr. Barker asking if I would be interested in being the site PI for a (then called) Health Care Financing Administration funded grant.

Using stratified random sampling, 36 sites were selected, equally representing location (Georgia and Colorado) and facility type (accredited hospital, unaccredited hospital, and skilled nursing facility). In a crossed factorial design three types of data collectors (RN, LPN, Pharmacy Technician) were randomly assigned to a data collection method each day. Observation method identified 373 of 456 pharmacist-confirmed errors in 2, 557 doses, while chart review detected 45 and 1 was identified by incident report. Of these 8% were determined to be potentially harmful by expert review. Because Colorado had a higher error rate than Georgia, the local news stations were at the door to my office and a nationally syndicated cartoonist did an editorial cartoon on the results, which Linda Aiken says is the highest indicator of research impact (Pepper, Barker, & Flynn, 2001; Barker, Flynn, Pepper, Bates & Mikel, 2002a; Barker, Flynn, Pepper, Bates& Mikel, 2002b).

Building on observational method, I partnered with Mary Blegen to develop a successful grant application to the Agency for Healthcare Research and Quality (AHRQ) to study nurses' working conditions effects on medication administration error (Pepper,

Blegen, Dudley & Williamson, 2007). Observational method has also been used in nursing homes (Scott-Cawiezell, Madsen, Pepper, Vogelsmeier, Petroski, Zellmer, 2009), assisted living, (Young et al., 2008) and the California Nursing Outcomes (CalNOC) project (Klinger, Blegen, Gootee, & O'Neil, 2009). The Hospital Unit Safety Climate survey developed in the working conditions study addresses a different unit of analysis than other instruments and has been used in several studies (Chiang & Pepper, 2006; Blegen, Pepper, & Rosse, 2005).

Another important area of quality and safety is pain management. Soon after the first pain management guidelines were released, summer interns collected data indicating that pain management in the hospital was suboptimal. Katherine Jones secured funding from AHRQ to develop a multifaceted program to improve pain management in 12 rural and urban nursing homes in Colorado. The goals of this project were to improve care providers knowledge and attitude, increase pain assessment, and increase appropriate use of pharmacologic and non-pharmacologic interventions (Hutt, Pepper, Vojir, Fink, & Jones, 2006.

The Berwick Bridge. Early in the patient safety movement Donald Berwick (May 31, 2001) provided four Lessons from a Novice that not only bridge the quality chasm, but are relevant to bridging many aspects of a research career:

1. I thought the problem was error–I learned the problem is harm.

2. I thought rules create safety–I learned rules and breaking rules create safety.

3. I thought reporting is necessary–I learned stories are necessary.

4. I thought technology is the mainstay of safety–I learned conversation is the mainstay of safety.

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The Carol A. Lindeman Award for a New Researcher Paper

COMPARING LEARNING OUTCOMES BETWEEN TWO EXPERIENTIAL TEACHING STRATEGIES

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Introduction

Kolb's (1984) definition of learning describes knowledge as being generated through experience. This concept of experiential learning provides a theoretical foundation for many teaching strategies used in nursing education. Experiential learning activities, including case-studies and, more recently, human patient simulations (HPS), have been used extensively to help students apply abstract concepts in realistic patient-care scenarios. Both case-studies and HPS incorporate interactive approaches and constructivist principles to engage learners. However, little research has been completed to compare learning outcomes between these two experiential teaching strategies.

Technological advances, including the expanding use of high-fidelity HPS could change the face of clinical nursing education. However, research has not adequately compared emerging, high-tech teaching strategies, such as HPS, with other, more traditional teaching strategies (Jeffries, 2005). In order to improve nursing education and to improve patient care for the future, studies about the use of HPS and other innovative teaching strategies in nursing education must focus on learning outcomes (Decker, Sportsman, Puetz, & Billings, 2008). The body of literature documenting the benefits of HPS in nursing education is growing (Starkweather, Kardong-Edgren, & Ward, 2008; Melnyk, 2008). Yet, there is a gap in the literature of rigorous, experimental studies comparing learning outcomes from HPS with learning outcomes from other, more traditional, teaching strategies.

Case-studies have been used in medical education since the 1700's (Tomey, 2003) and have more recently gained popularity in nursing education. This approach has been praised for helping students practice critical thinking skills, providing context for applying theoretical knowledge, and providing a safe environment where students can practice problem-solving (Rowles & Bringham, 2005). Various authors have developed derivations of case-studies including case-method and un-folding case scenarios for teaching and evaluating in nursing education (Oremann & Gaberson, 2006). Problem-based learning and the use of case-based teaching was extensively praised in the Carnegie Foundation's most recent report (Benner, Sutphen, Leonard, & Day, 2010). Howard (2007) measured and compared learning outcomes, including knowledge acquisition and critical thinking skills, from interactive case-study teaching with learning outcomes from HPS.

Researchers have measured learning outcomes from HPS in varied ways including the acquisition of individual clinical skills, such as medication administration, (Bearnson & Wiker, 2005) and improvement in safe patient handling (Beyea &Kobokovich, 2004). Learning outcomes have been described by unstructured student evaluations (Arundell & Cioffi, 2005), author-designed evaluation tools (Arundell & Cioffi, 2005; Bearnson & Wiker, 2005; Oermann, 2009), measures of student

perceptions of learning (Schoening, Sittner & Todd, 2006) and measures of student satisfaction ratings of simulation experiences (Block, Lottenberg, Flint, Jakobsen, & Liebnitzky, 2002, Schoening, Sittner, & Todd, 2006). However, these studies, and others like them, have not addressed the more global learning outcomes that are relevant to nursing practice: the development of knowledge, skills and values in the affective, cognitive and psychomotor domains.

Statement of the Problem

In order to enhance research related to the effectiveness of teaching in nursing education, investigators must measure how experiential teaching strategies, including case-studies and HPS, contribute to the overarching goal of nursing education- to prepare nurses for practice. By comparing learning outcomes from two experiential teaching strategies, this study may help build the evidence base for teaching in nursing by revealing if one is superior to the other for teaching complicated medical-surgical content such as the care of a patient experiencing Acute Coronary Syndrome (ACS). The knowledge, values and abilities that are essential to nursing practice require aptitude in the affective, cognitive and psychomotor domains. Therefore, research aimed at assessing the effectiveness of teaching strategies in nursing education should address how they impact learning outcomes in each of these domains.

Statement of the Purpose/ Specific Aims

The purpose of this pilot study was to compare cognitive, affective and psychomotor learning outcomes between two experiential teaching strategies: human patient simulations (HPS) and case study clinical conferences (CCC). These two teaching strategies were chosen for comparison because they both apply experiential learning theory. They are similar with the exception of the physical activity involved in the HPS strategy. Both teaching strategies involved the use of a patient scenario including a hypothetical patient chart (with history and physical, cultural information laboratory values, recent assessment findings, etc.) and students in both groups interacted with the instructor and other students.

Research Design

This quasi-experimental, non-equivalent comparison group study used a Solomon four group design. This design allowed the effects of the intervention (HPS or CCC) and the potential effects of the pre-tests to be separated. Approval for the study was obtained through the University's Institutional Review Board prior to initiation of recruitment or study procedures. The sample included 14 second semester senior students who were enrolled in a senior practicum course in Spring 2009- the final course in the BSN program. Participation was voluntary and informed consent was obtained from all participants.

On the day of the study, all of the participants completed a demographic questionnaire and then participated individually in a computer-based, self-directed learning module related to the content of the HPS and CCC. The self-directed learning module was peer-reviewed as an award winning case study (Burns & Poster, 2008). The participants were given 45 minutes to independently complete this self-directed learning module in the college computer lab. After completing the self-directed learning module, the students were separated into randomly assigned groups (A, B, C & D) (see Figure 1).

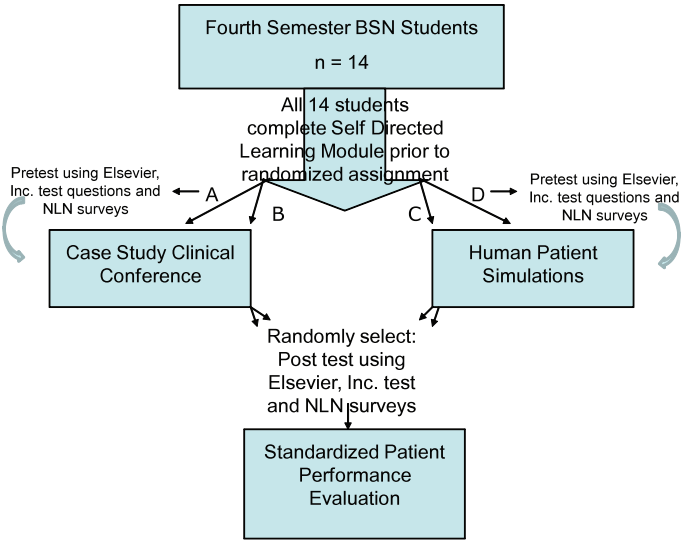

Figure 1

Participants in two of the four groups (A & D) completed a knowledge pre-test. The test questions were supplied by a national testing corporation (Elsevier, 2009); all questions had established reliability and validity. Participants in groups A and D also completed the Student Satisfaction and Self-Confidence in Learning Survey (The Satisfaction and Self-Confidence in Learning Scale©, National League for Nursing, 2005). This survey was provided with permission by the National League for Nursing; the Cronbach's alpha for the satisfaction scale was 0.94. and the Cronbach's alpha for the self-confidence in learning scale was 0.85. While the participants in groups A and D were completing the pre-test/ pre-survey procedures, participants in groups B and C completed the CCC Activity and the HPS Activity respectively. The content for the HPS Activity and CCC Activity were developed by a group of nursing faculty and were peer reviewed by nursing instructors and researchers who are considered to be reputable experts in the medical/surgical nursing content relevant to the scenarios. The patient scenario for each group was the same, the only difference between the HPS and CCC Activities was the teaching strategy. Both the CCC and HPS Activities for groups B and C were conducted in groups including three participants and one facilitator.

When the participants in groups B and C had completed their respective learning activities, they completed the knowledge post-test and Student Satisfaction and Self Confidence in Learning Survey. While they were completing the post-test and post-survey, the participants in groups A and D completed the CCC Activity or the HPS Activity respectively. For groups A and D, the CCC and HPS Activities were conducted in groups including four participants and one facilitator. When the participants in groups A and D were finished with their respective learning activities, they completed the knowledge post-test and Student Satisfaction and Self Confidence in Learning Survey. The post-test Knowledge Exam and Student Satisfaction and Self-Confidence in Learning Survey were the same as the pre-intervention test and survey that was

given to groups A and D. In order to test overall learning and the students' ability to transfer that learning into a mimicked patient care scenario, students were randomly selected to participate in an individual standardized patient student performance evaluation. Due to time and resource constraints, not all students were able to participate in the standardized patient encounter.

Seven participants (4 from the pre-tested group and 3 from the non-pre-tested group) were randomly selected to participate in a follow on standardized patient encounter with a lab preceptor serving as the patient, and exhibiting CHF symptoms. The encounters lasted approximately 15 minutes and were video-archived for later evaluation. Students were expected to apply the information learned in their previous educational strategy to interview and assess a cardiac patient. The content or 'script' for the standardized patient encounter was developed by the nursing preceptor and peer reviewed by another nursing expert.

Data Analyses

All of the pre/post tests and surveys were manually scored. A nurse educator who is experienced in human patient simulation, but not involved with the study to this point, scored the standardized patient performances using the Seattle University Evaluation Tool ©, The Clark Simulation Evaluation Tool, and the Quint and Kardong-Edgren Simulation Evaluation Tool. Data were entered into Excel 2007 and SPSS 16. Descriptive statistics were used to analyze the data from the demographic questionnaires. Pre/post-test and survey data were explored for normality and group differences. The data were found to be non-normal with non-equivalent groups. Therefore, a non parametric test (Mann-Whitney-U) was used to determine the level of significance in the differences between groups. The differences in scores between pre-tested and non-pretested participants were found to be non significant. Therefore, data from these two groups were compiled and comparisons were completed using the variable of teaching strategy (HPS or CCC).

Results

Table 1 describes participant characteristics.

Table 1. Participant Characteristics

	Overall n = 14	Simulation groups n = 7	Case-study groups n = 7
Female, n (%)	14 (100%)	7 (100%)	7 (100%)
Average age, mean years (SD)	24.64 (5.51)	22.86 (1.57)	26.42 (7.48)
Semester in Nursing School	86% 4th Semester 14% 5th Semester	100% 4th Semester 0% 5th Semester	71% 4th Semester 29% 5th Semester
Nursing School GPA Mean (SD)	3.64 (.30) missing case replaced with mean	3.76 (0.13)	3.5 (.37) missing case replaced with mean
ACLS Certified	29%	43%	14%
Currently Working in Healthcare	14%	0%	29%

Table 2 describes the results of the study. No significant differences in cognitive, affective, or psychomotor learning outcomes were detected between the groups.

Table 2. Study Results

	Overall	**Simulation group**	**Case-study group**
Pre-test knowledge score Mean (SD)	7.87 (2.30) n = 8	9 (2.16) n = 4	6.75 (2.06) n = 4
Post-test knowledge score Mean (SD)	7.57 (1.50) n = 14	8 (1) n = 7	7.14 (1.86) n = 7
Pre-test Satisfaction score Mean (SD)	18.63(3.50) n = 8	17.5 (3.79) n = 4	19.75 (3.30) n = 4
Post-test satisfaction score Mean (SD)	21.93 (4.71) n = 14	20 (6.08) n = 7	23.86 (1.57) n = 7
Pre-test self-confidence score Mean (SD)	28.88 (5.38) n = 8	29 (5.48) n = 4	28.75 (6.13) n = 4
Post-test self-confidence score Mean (SD)	32.29 (6.50) n = 14	31.42 (8.85) n = 7	33.14 (3.39) n = 7
Standardized patient performance score Mean (SD)	74.59 n = 7	75.41 n = 4	73.50 n = 3

Discussion and Implications: Strengths and Limitations

Strengths of this study included a rigorous experimental design using the Solomon four way to rule out pre-test post-test effects. The use of pre-tested teaching and evaluation tools that measured a broad range of learning outcomes enhanced the strength of the study. The self-directed learning module was an award-winning peer-reviewed teaching tool. The HPS and CCC Activities were provided by a respected nursing publisher, further developed and delivered by experienced medical surgical nursing faculty. The facilities, including computer lab, testing rooms, simulation lab and case-study rooms, and the exam room with A/V capabilities that was used for the standardized patient encounters were state of the art. The knowledge test and Student Satisfaction in Learning Survey had established validity and reliability. The variety of tools used to score the standardized patient encounters provided a standardized method for evaluating student performance. Like many studies investigating the effectiveness of teaching modalities, the major limitations of this study was the small sample size. One strategy that needs to be explored in order to overcome this problem is collaboration between universities and colleges (Bradley, 2006).

Discussion and Implications

Although researchers are prone to show little interest in non-significant findings there is much to be learned from the design, methods, analyses and results of this study. As a pilot, this project tested the feasibility of coordinating and executing the complex study procedures. In order to maximize efficiency of instructor time and resources, a great deal of care was taken in scheduling the activities of the day. In the future, the

same design may be utilized. The study design holds the potential to be doubled, with 8 instead of 4 groups participating concurrently. This pilot also provided a platform for testing the HPS and CCC activities that were created for use in this venue. The nursing faculty, instructors and the lab preceptor who played the standardized patient expressed that they felt the study procedures went well. However, they also suggested ways to improve various components for the future. These modifications will be incorporated to enhance future studies.

The analyses from this pilot study also provide food for thought. The insignificant differences between pre-tested and non-pre-tested groups indicates that the Solomon four group design may not be necessary. However, the ease of dividing groups in this way and the expanded options for data analyses and potential use for establishing the rigor of the study may persuade this researcher to recommend using this design for future studies. Conversely, if all study participants are pre-tested, the ability to complete data analyses including GLM repeated measures would expand the potential findings of the study. Using the post-test knowledge scores, a power analysis was completed. In order to power the study at 80%, at the alpha = .05 level, the future study will require 35 participants in each group.

Finally, the non-significant results suggest the need for further research in order to discover the most effective evidence-based pedagogy for nursing education. Oermann (2009) calls for nurse researchers to conduct and replicate rigorous studies to provide an evidence base for making curricular and pedagogical decisions for nursing education. The wealth of literature linking HPS and case studies with varied learning outcomes is necessary, but not sufficient. Further, the abundance of small, limited studies and the lack of larger, more rigorous studies is not without cause. The resources for studies that focus on easily measured outcomes and utilize small sample sizes are readily available. However, the tools and resources for conducting larger, more rigorous studies that measure multiple learning outcomes are much more difficult to access. Funding source: Washington Center for Nursing, Washington State University OGRD #109099. The authors would also like to acknowledge Elsevier, Inc. and the National League for Nursing for providing instructional and evaluation resources for this study.

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The Satisfaction and Self-Confidence in Learning Scale©, ©National League for Nursing, 2005 Information for use obtained from: www.nln.org/research/toolsandinstruments.htm.

The Patsy A. Perry Biological Nursing Research Award

fMRI & MOOD RESPONSES TO PLEASANT & UNPLEASANT ODORS IN FEMALES WITH IBS

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INTRODUCTION

Irritable bowel syndrome (IBS), a common stress-sensitive functional syndrome, has a prevalence rate of 10-15% in industrialized countries, and preferentially affects women by a 2:1 ratio. IBS is characterized by abdominal discomfort and an alteration in bowel habits. Mood is a significant component of patient distress and comorbidity, with up to 60% of patients with IBS having a concurrent diagnosis of depression, anxiety, and somatoform disorders.

Patients with irritable bowel syndrome (IBS) experience visceral hyperalgesia, but it is unknown whether this hyperresponsiveness can be generalized to all senses. Cutaneous hyperalgesia was observed in subjects with IBS and fibromyalgia. An ERP (event-related potential) study also noted an enhanced responsiveness to auditory stimulation. The sense of smell, with its contribution to taste and its evolutionary connection to the gastrointestinal track, seems particularly relevant for this patient population. Response to odor has not been studied in this patient group.

CONCEPTUAL BASIS

IBS is best conceptualized as a brain-gut dysregulation characterized by a hyperarousal state and an inability to inhibit pain. Activation of emotional arousal circuits (e.g., the anterior cingulate cortex, amygdala, and insula) in IBS literature have been associated with central pain facilitation, while cognitive prefrontal regions (e.g., the orbitofrontal cortex [OFC], and the dorsolateral prefrontal cortex [dlPFC]) are associated with pain inhibition (Mayer, Naliboff et al. 2006). The olfactory system is unique. The olfactory bulb connects to the amygdala, the fear center of the brain, which then connects directly to the orbital frontal cortex (OFC). Therefore, the sense of smell potentially influences both emotional and cognitive circuitry in as few as two synapses.

Odors have been shown to impact pain, cognition, and emotion. Diverse psychological diagnoses correlate with odor deficits (e.g., schizophrenics, obsessive compulsive disease, Alzheimer's disease, and depression). While IBS subjects have shown enhanced amygdala activations to stressful stimuli and evidenced a more anxious mood, those with depression demonstrated diminished amygdala activations. It is unknown if the gating of sensory stimuli significantly influences mood via an enhanced or diminished threat or pleasure appraisal.

PURPOSE/HYPOTHESES

This study seeks to understand the role of olfaction in the modulation of brain circuits in women with IBS, as well as its impact on mood. We investigated the functional magnetic resonance (fMRI) responses of women with IBS and healthy women in response to an emotional faces paradigm known to produce emotional arousal (Match Emotions task) and emotional modulation (Identify Emotions task), while smelling a pleasant odor, an unpleasant odor, and clean air. We also assessed their perception of the odors and their mood. Our hypotheses were as follows: 1) Pleasant odors will

evoke more positive moods, and downregulate arousal circuits. 2) Unpleasant odors will evoke more negative moods, and upregulate activation in arousal circuits. 3) These changes will be more pronounced in the IBS group).

METHODS

Design: A quasi-experimental behavioral and physiological study using a cross sectional two group design.

Setting: Initial eligibility was determined over the phone. Session 1, the screening session, took place at the UCLA Center for Neurovisceral Sciences and Women's Health, and consisted of a history and physical, and administration of questionnaires and the Structured Interview for DSM (SCID). Session 2, the neuroimaging session, took place at the UCLA Ahmanson-Lovelace Brain Mapping Center.

Sample Size/ Power Analysis: There is currently no acceptable method for determining optimal sample size based on power analysis for fMRI endpoints. Sample size was based on similar fMRI studies that have examined group differences.

Sample Selection: Inclusion criteria: For the IBS Group: subjects received a diagnosis of IBS according to Rome III criteria. All subjects had a normal sense of smell as determined by the test for gross olfactory dysfunction. Exclusion criteria: any current addictions (e.g., smoked within the last year, a positive urine drug screen, or daily alcohol intake>2 servings), major surgeries or medical illnesses, morbid obesity, metal implants, or large tattoos. No subjects met the criteria for an Axis I or II diagnoses as measured by the SCID.

Subjects: 18 right-handed female subjects aged 18 to 50 were recruited from the UCLA campus. One IBS subject was dropped due to significant MRI signal drop out secondary to dental work. None voluntarily dropped from the study. Therefore IBS=8; Control=9.

Instruments:

A. Psychological assessment

1. *Early Life Trauma Inventory Short Form (ETI-SR).* The ETI-SR is a 29-item yes/no questionnaire that assesses childhood trauma across four domains: general trauma (11 items), physical (5 items), emotional (5 items), and sexual abuse (6 items), with 2 questions regarding a feeling of helplessness or an out-of-body dream like sensation. Cronbach's alpha ranged from 0.70 to 0.77 for women; validity showed adequate correlations with the Clinician Administered PTSD Scale (CATS). Currently there are no established scores or cutoff numbers to indicate the intensity of trauma or whether someone is considered "traumatized" or "non-traumatized".

2. *Structured Clinical Interview for DSM IV (SCID.)* The SCID is a widely used semistructured interview designed to detect Axis I and II diagnoses. It was administered by a masters prepared psychologist trained and certified to administer this interview. The SCID-I/NP (Non-patient Edition, 2007) was used as these subjects were not identified as psychiatric patients. It contains modules that assess for: 1) mood episodes, 2) psychotic screening, 3) mood disorders, 4) substance use disorders, 5) anxiety disorders (including PTSD), 6) somatoform disorders, 7) eating disorders, and 8) adjustment disorders. When the SCID is performed by trained interviewers, it has demonstrated high interrater reliability for DSM-IV criteria.

B. Assessment of gastrointestinal symptoms for IBS patients

1. *Bowel Symptom Questionnaire 4th Edition (BSQ 4).* This self-report questionnaire measures chronic gastrointestinal symptoms. There are fifty items designed to diagnose IBS according to Rome III criteria, determine severity of symptoms (e.g., most bothersome symptoms, flare ups, length between symptoms), treatment strategies, and

health care service practices. Reliability, validity and internal consistency with other GI symptom scales have been demonstrated with women.

2. *Visceral Sensitivity Index (VSI).* The VSI is a self-scoring questionnaire which reflects the interaction of anxiety and bowel symptoms. It is a unidimensional 15-item tool which uses a 5-point ordinal scale to measure worry, fear, vigilance, sensitivity to symptoms, and avoidance of provocative situations. Piloted and tested on the IBS population, the Cronbach's alpha is 0.93, and the mean inter-item correlation is 0.47. Predictive validity, when compared with the Hospital Anxiety and Depression Scale (HADS) and the Anxiety Sensitivity Index, revealed the VSI to be the strongest predictor of current IBS symptom severity. Although there is currently no established cutoff scores to indicate symptom severity, a lower score indicates more severe symptoms. The lowest possible score is 15, and the highest is 90.

3. *Visual Descriptor Visual Analog Scale (VDVAS).* The VDVAS assesses the intensity and unpleasantness of GI symptoms experienced by IBS subjects over the past 24 hours (acute symptoms) and over the past 1 and 3 months (chronic symptoms). Subjects are asked to place a mark along a 20-cm line, yielding a scale score. These scales have been validated as providing interval level measurement.

C. Mood and Odor Ratings:

1. Positive and Negative Affective State (PANAS-X). The PANAS-X consists of 60 words describing a positive or negative inner state or emotion, that are rated on a scale of 1 to 5 from "very slightly or not at all" ("1") to "extremely ("5"). Individual subsets assessing fear, sadness, guilt, hostility, shyness, fatigue, joviality, self-assurance, attentiveness, serenity, and surprise were summed to produce a final score for positive affect and negative affect.

2. Odor ratings for intensity, hedonics, and familiarity. *Odor intensity* was rated on a VAS scale of 1-100 (from extremely mild to extremely strong). *Odor hedonics* was rated -100 (extremely unpleasant) to 100 (extremely pleasant), and anchored by a 0 (neutral) (Chen et al., 2005). *Odor familiarity* was rated 1-100 (not at all familiar to extremely familiar.

D. MRI scanner. Brain images were acquired on a 3.0 Telsa Siemen's MRI scanner (Siemens Trio) with a 32 head coil. A sagittal scout was used to position the head, and a magnetization-prepared rapid-acquisition gradient echo pulse sequence was used to obtain a three-dimensional structural T1-weighted image (resolution, 1.0 x 1.0 x 1.0 mm) that covered the entire brain.

Functional T2 weighted gradient-recalled echo-planar images with blood oxygen level-dependent (BOLD) contrast (repetition time=3000 ms; echo time = 28ms; flip angle = 90°; slice thickness= 4mm (with 1 mm skip); matrix=64 x 64; in-plane resolution =3.12 mm) were acquired during each of the three runs. Thirty-eight axial slices were recorded for each of 148 whole-brain volumes.

E. Olfactometer. The Knosys olfactometer (Bethesda, MD) is an MRI-compatible machine to deliver multiple odors via a computer-controlled generator. Odorized air travels through independent 10-m Teflon-lined tubes at a rate of 0.4 l/min. Lingering odors between presentations are prevented by an exhaust fan. Bi-rhinal stimulation was achieved using a Y-shaped glass piece secured beneath the patient's nostrils (Villemure, Wassimi, Bennett, Shir, & Bushnell, 2006).

fMRI Protocol

Scans were obtained during a single 90 minute session. All participants were asked to refrain from using alcohol, or medications 24 hours prior to testing, and food 2-4 hours prior to the scan. They were asked not to change their daily ingestion of caffeine, or engage in strenuous activities differing from their usual routine.

Subjects were positioned in the MRI scanner on a cushioned headrest. Earplugs were given to reduce scanner noise, and an earphone headset with microphone was fitted to allow two-way communication with the experimenters during scanning. A birhinal glass tube connected to the olfactometer was fitted into the subject's nostril and taped in place. Goggles were used to display the tasks. Each subject had a button box placed in their right hand to make their selections for the tasks.

In the scanner, subjects were given a practice session for the faces tasks prior to initiating the first of 3 runs. Each received a pleasant aroma (full strength [FS] snow berry essential oil), unpleasant aroma (FS valeric acid), and clean air, presented in randomized order. Each run lasted 7.67 minutes, and consisted of 30s fixation cross, sixteen 24s blocks, and a final 30s fixation crosshair. The odor was presented continuously at 0.4 ml/min during the run. After each run, the subjects rated their mood (using the PANAS-X), and odor hedonics, intensity, and familiarity.

Emotional Faces Protocol

Subjects viewed emotional faces displaying fearful and angry expressions or shapes, and were asked to perform four tasks (e.g., Identify Gender, Identify Emotion, Match Emotions, and Match Forms). A target face or form at the top of the screen was matched with one of the two choices placed on the bottom of the screen. For Match Emotion, the face on the bottom was matched to the target emotional face at the top, while for the Match Form task, forms on the bottom are paired with a target form. During the Identify Gender task, subjects chose a gender-appropriate name from a pair of names located at the bottom of the screen. For the Identify Emotions task, one of the two words at the bottom of the screen was selected to identify whether the subject was either "angry" or "scared". The Match Forms task is a control for the Match Emotions, and the Identify Gender is a control task for Identify Emotions.

RESULTS

Demographics: There was a total of 17 women in the study (47% IBS; N=8; 53% control; N=9). Their ages ranged from 18-50 years (41.2% were age 19 [N=7]; 82.4% were between 19 and 30 years of age [N=14]; mean age 24.41 [SD 9.125]). An independent t-test showed no significant age differences by group. Three of the 8 IBS subjects were constipation predominant, and 5 alternated between constipation and diarrhea.

IBS Symptoms: *BSQ4:* Severity of symptoms over the past week were rated 4-14; M=7.9 (scale of 1-20), indicating mild-moderate symptoms. *VDVAS* (over the past 24 hours) Session 1: intensity M=8.16 (SD=3.80); unpleasantness M=6.94 (SD=3.42) Session 2: intensity: 7.81 (SD=4.50); unpleasantness M=7.19 (SD=4.54). This indicates mild-moderate symptoms.

Mood: *PANAS-X: ANOVA:* Group Comparison of PANAS-X (Hostility + Guilt + Sadness) Odor Conditions: Unpleasant Odor F=5.926 p=*.02; Pleasant Odor F=3.925 p=*.05; Clean Air F=3.541 p=.07.

Odor Ratings: Although not statistically significant, the IBS group gave higher ratings for all odors parameters (e.g., intensity, hedonics, and familiarity) for both odors, and was more accurate in detecting the clean air condition. The mean score ratings for pleasantness was **17%** higher in the IBS group (IBS M=48; Control M=13), but did not reach significance (Kruskal-Wallis nonparametric test [X^2(2, N=17) =3.60, p=.058]). Unpleasant odors were given higher ratings than the pleasant odors for all parameters in both groups. However, the mean ratings for IBS were **29.7%** more unpleasant than those by the Control group (IBS M=-30; Control M= –0.24). This did not reach significance.

fMRI Results: When engaged in a more emotionally evocative situation (Match Emotions faces task), women with IBS had more brain activations than controls. Conversely, when women with IBS were placed in a less emotionally evocative situation involving a more cognitive task (Identify Emotions), they showed less brain activations than the control group. The hypotheses were confirmed for IBS subjects. Pleasant odors enhanced activations in cognitive areas, including the ventrolateral (vl) prefrontal cortex (PFC) (IBS: right[R] *p*=*.021) and dorsolateral (dlPFC) (Control: R *p*=.092)(Figure 1). Unpleasant odors enhanced neural activity in limbic structures only in the IBS group (e.g., bilateral posterior insula [IBS R *p*=*.02; left:L **p*=.031], midcingulate cortex [R *p*=*.047; L *p*=*.011], and periaqueductal gray [brain stem] [R *p*=*.029]) (Figure 2). There were no significant activations in the unpleasant odor condition for the Control group.

Figure 1: Pleasant minus Unpleasant *Figure 2:* Unpleasant minus Pleasant & Clean Contrast: IBS & Controls Air Contrast: IBS Only

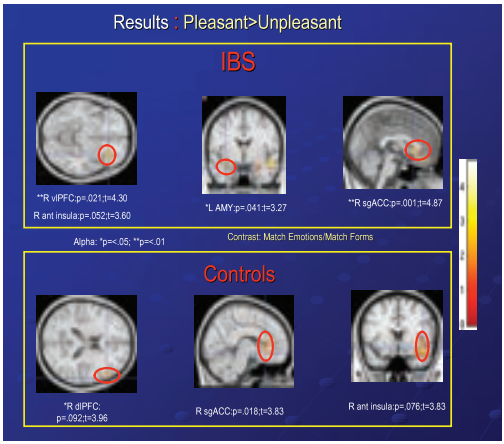

Figure 1

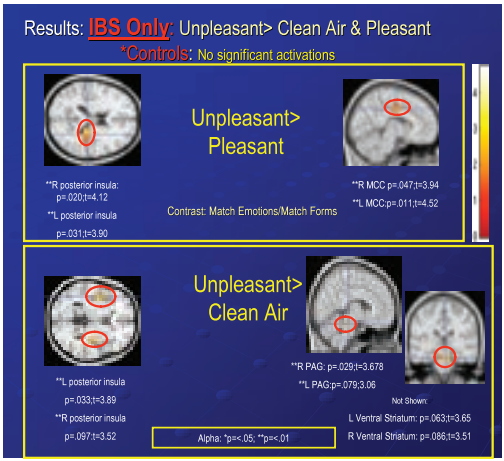

Figure 2

IMPLICATIONS

This study represents a first step into the investigation of odor as a potential tool for mood modulation in women with IBS. As with other sensory systems, odor was perceived more intensely in this patient population. They exhibited more brain responses to both odor conditions, and rated the odors as being more pleasant or unpleasant than controls. They were also more accurate in identifying the odor and clean air conditions correctly. It is unknown whether this enhanced sensory processing contributes to their interoceptive hypervigilance (e.g., enhanced attentiveness to perturbations within the gastrointestinal track), a more prominent response to food ingestion, or their higher prevalence of anxiety. It is noteworthy that the IBS group responded with a more negative mood (as measured by PANAS-X) to both the pleasant and unpleasant odors, suggesting a bias toward more unpleasant moods. It is unknown what role odor played in conditioning patient responses to foods or the experience of eating.

As this study was limited by a small sample size and constricted subject profiles, this study could be repeated using a larger, more diverse group. Additionally, food odors might provide more insight into managing this difficult syndrome. This study is in line with the ANA mission supporting a multidisciplinary team to investigate biobehavioral questions using basic science, as well as the American Holistic Nurses Association to investigate the role of aromatherapy using a scientifically sophisticated approach.

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Abstract of the Western Academy of Nurses Panel

IMPACT AND OUTCOMES OF MAGNET DESIGNATION: PATIENTS, NURSES, AND ACADEMIC PARTNERSHIPS

Moderator:
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IMPACT AND OUTCOMES OF MAGNET DESIGNATION: PATIENTS, NURSES, AND ACADEMIC PARTNERSHIPS

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In this panel discussion, three nursing leaders will discuss with each other and the audience the influences and implications of magnet designation on patients, nurses, and academic partnerships. This annual panel organized by fellows of the Western Academy of Nursing for all participants is focused on a cutting edge issue that crosses academics, research, and practice. Panelists representing clinical, academic, and patient perspectives will provide a description and brief history of the magnet model and movement and identify connections between magnet designation, evidence based practice, and research. Issues in researching patient outcomes in magnet designated hospitals will be discussed and opportunities identified for academic-clinical partnerships.

Emerging policy implications of the magnet movement will be identified. Exemplar magnet programs and partnerships will be highlighted and patient perspectives voiced. A Q&A opportunity will facilitate discussion of research, academic, and clinical strategies and identify implications for policy, partnership development, and public inclusion in the dialogue.

ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Moderator:
Ruth Bindler, RNC, PhD
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OVERVIEW: ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Ruth Bindler

EARLY ADOLESCENT SCREEN TIME IN THE TEAMS PROJECT

Kenn B. Daratha

ADOLESCENT SLEEP CHARACTERISTICS IN THE TEAMS PROJECT

Barbara Richardson

EARLY ADOLESCENT DIETARY INTAKE AND HEALTH ASSOCIATIONS

Katie Anne Adamson

URIC ACID, OBESITY, AND HYPERTENSION IN ADOLESCENTS

Aaron Huston

ADOLESCENT CARDIOMETABOLIC CHARACTERISTICS IN THE TEAMS PROJECT

Ruth Bindler

ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Overview: Adolescent Health in TEAMS (Teen Eating and Activity Mentoring in Schools)

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Purpose: The long-term goal of this integrated project was to improve the health of middle school students and prevent development of obesity during adolescence.

Rationale: Overweight and obesity are the most prevalent health conditions affecting children and adolescents in the United States; more than 16% of US youth are obese and another 15% are overweight. Rates of overweight have increased 45% in the last decade and three-fold since 1980. Many deleterious health consequences result from excess childhood weight. Most interventions aimed at reducing childhood obesity have yielded only modest and unsustainable results. Efficacious environmental and behavioral interventions must be designed to address this issue.

Methods: This project applied the bio-ecologic model and self-determination theory. Pre- and post-testing included body measurements, blood pressure, serum biomarkers, fitness testing and an array of questionnaires (sleep, screen time, activity, dietary intake, self efficacy). The impact of multi-level interventions designed to enhance and sustain improvements in student health achieved were measured. The collaborative project of university extension, multi-disciplinary faculty, and community public schools included two levels of intervention and measured the effect of single versus combined levels of intervention. The levels of intervention and major activities included:

- *Individual*: Opportunities for guided goal-setting using motivational interviewing techniques by mentors (TEAMS leaders) in the schools; school-based fitness centers, after-school nutrition and fitness activities.
- *Family*: Regular parent newsletters to foster parental support of their students' health goals, school-based fitness centers in evening sessions, and quarterly family nights to support student after-school nutrition and fitness activities.
- *Environment*: Modification of school environment by elimination of a la carte and vending options while concurrently increasing healthy food alternatives (fruits, vegetables and whole grain products).

Results: TEAMS student participants were drawn from four public middle schools in the inland Pacific Northwest; total N=237 (58% female, 42% male) with ages ranging from 11-15 years (M_{age} = 12.6 years, *SD* = 0.47). The sample represented moderate socioeconomic status as indicated by the Hollingshead index (M_{ses} = 37.34 years, *SD* = 17.29). Selected health measurements and correlates will be described through the symposium presentations.

Implications: The interdisciplinary team successfully engaged youth in TEAMS. Lessons learned included information about curricular development, youth engagement, program evaluation, and collaborative research. This symposium focuses on findings related to youth screen time, sleep, dietary intake, serum uric acid, and cardiometabolic outcomes.

This project was supported by National Research Initiative Grant 2006-04637 from the USDA National Institute for Food and Agriculture.

ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Early Adolescent Screen Time in the TEAMS Project

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Purpose: The aims of this study, which is part of the larger Teen Eating and Activity Mentoring in Schools (TEAMS) project, were to: (1) measure recreational screen time in early adolescence, and (2) examine factors associated with excessive recreational screen time among early adolescents.
Rationale: Nearly a third of early adolescents spend four or more hours every day in sedentary behaviors including playing computer games and watching television; this is twice the recommendation by the American Academy of Pediatrics of two hours or less. The prevalence of obesity in adolescents has been steadily increasing in the United States. It is hypothesized that sedentary behavior may be associated with early adolescent obesity. Sedentary behavior can be described as "productive" or "recreational" depending on the purpose of the behavior. School work and reading are considered productive, whereas video games and television viewing are recreational behaviors. The focus of this research was recreational sedentary activities. The study hypothesis was that a positive relationship existed between sedentary behavior and obesity.
Methods: Following university and school district IRB approval, students from four public middle schools were recruited to participate in the TEAMS project. Physical measurements, assessments, and behavioral questionnaires were administered at baseline as research participants entered 7th grade. Five questions related to television viewing (school day, weekends and summer time) were selected from the TEAMS physical activity and screen time questionnaire. Principal component analysis (PCA) explored the factor structure of a measure designed to assess television viewing to determine the components of this construct. Independent samples t-tests were used to explore group mean differences of the aggregated measure for television viewing and gender, weight status, activity status and school lunch status (i.e., free and reduced lunch program).
Results: Participants included 7th grade middle school students (N=165, 58% female, 42% male) with an overall moderate measurement of socioeconomic status (mean Hollingshead index 38.9). PCA indicated a single factor termed "television viewing" that was comprised of all five television viewing questions with all loadings greater than 0.8. This single component explains 71.86% of the variance in this dataset. Cronbach's alpha, a measure of the internal consistent reliability of this measure was .901. Those who participated in free and reduced lunch ($p<.01$) and those with obesity status measured at the 95th body mass index percentile ($p<.05$) had higher aggregate television viewing. No differences were observed by activity status and gender.
Implications: Many adolescents exceed recommendations for amount of television viewing. Interventions addressing reductions in screen time should be targeted to sub-groups most likely to exhibit excessive amounts of television screen time, namely obese youth and youth of lower socioeconomic status.

This project was supported by National Research Initiative Grant 2006-04637 from the USDA National Institute for Food and Agriculture.

ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Adolescent Sleep Characteristics in the TEAMS Project

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Purpose: The aims of this exploratory study, using data collected as part of the Teen Eating and Activity Mentoring in School (TEAMS) project were to: (1) describe typical school night and weekend night sleep patterns of young adolescents, (2) examine the association between chronic shortened sleep duration and increased risk for overweight and obesity, (3) describe the relationship between short sleep duration and various indicators of health, and (4) describe the association between self-reported total sleep time and feelings of daytime sleepiness.

Rationale: In the past decade, researchers have gained a better understanding of adolescent sleep needs. A growing concern has emerged for the chronically insufficient quantity and quality of sleep experienced by many of today's youth. While tolerance for inadequate sleep varies across individuals, a growing body of scientific evidence demonstrates that inadequate sleep results in varying degrees of increased daytime sleepiness and places youth at risk for serious health, behavioral, emotional, and cognitive consequences.

Methods: Following university and school district IRB approval, students from four public middle schools were recruited to participate in the TEAMS project. Students were asked to complete a 10 question survey about their typical sleep habits. Participants also completed the 16 question Cleveland Adolescent Sleepiness Questionnaire (CASQ), which measures feelings of alertness and daytime sleepiness. Anthropometric measurements and blood pressure were recorded following Centers for Disease Control and Prevention (CDC) protocols. Serum biomarkers were obtained from a fasting blood draw.

Results: Students (N=110) ranged in age from 12-14 years (mean=12.34, SD=.512); 44% were male and 56% were female. Average total sleep time (TST) on school nights ranged from 7.5 hours to 10.5 hours (mean=8.57, SD=0.68); 63.6% of participants did not receive the recommended 9 hours per night, and 11.8% received ≤7.5 hours per night. Students, particularly those with sleep debt on school nights, demonstrated changes in sleep patterns on weekend nights characterized by staying up later at night and sleeping later in the morning. Short sleep duration was associated with overweight and obesity ($X^2(1)=1.413$. $p<.05$). Mean CASQ score = 38.48 (60 possible points, SD=4.94), illustrating that most students do not report excessive daytime sleepiness in spite of chronic sleep debt. Further associations of TST and CASQ with health indicators will be described.

Implications: The underlying causes of insufficient amounts of sleep or poor sleep quality may be related to behavioral, environmental, and/or physiological factors. Regardless of the etiology, insufficient sleep may lead to increased daytime sleepiness, increased risk for overweight or obesity, and other health outcomes. Understanding sleep patterns and their relationships to adolescent health informs healthcare providers of potential interventions to implement with teens.

This project was supported by National Research Initiative Grant 2006-04637 from the USDA National Institute for Food and Agriculture.

ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Early Adolescent Dietary Intake and Health Associations

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Purpose: The purposes of this study were to: (1) describe the dietary intake of a sample of 7th graders enrolled in the Teen Eating and Activity Mentoring in Schools (TEAMS) study, and (2) explore health, demographic, and lifestyle indices associated with macro-nutrient intakes that were significantly out of the recommended range.
Background: Healthy nutritional intake during early adolescence contributes to optimal growth and development. The nutritional intakes of children and adolescents in the United States are a growing public health concern. In order to design, implement, and evaluate appropriate interventions for improving dietary intakes of adolescents, it is important to describe their dietary intakes and investigate health, demographic, and lifestyle factors associated with nutritional intake out of recommended range.
Methods: A convenience sample of 7th grade students from four public middle schools were recruited and assessed as part of the TEAMS study. Data collected from 24-hour dietary recalls were entered into a nutritional analysis software program, Food Processor (EHSA, Oregon), to evaluate the nutritional intake of TEAMS research participants. SPSS 17.0 was used for analyses. Descriptive statistics addressed the first purpose of the study. Health (weight status, systolic BP, diastolic BP, total cholesterol, LDL-C, HDL-C, triglycerides), demographic (gender, free and reduced lunch status), and lifestyle (activity level) indices were dichotomized in order to explore indices associated with macro-nutrient intakes that were significantly out of recommended range.
Results: Diets of 173 students were analyzed (45% male, 55% female). More than 50% of students' intakes were below the recommended values in several micronutrients: calcium (79.5%), vitamin D (94.4%), vitamin A (82%), Vitamin C (55%), vitamin B6 (61%), and folate (72.7 %). Seventy-seven percent of students' sodium intakes were above the recommended value. For macronutrients, most students' fat and carbohydrate intakes were within the recommended values. However, 61.5 percent of the students' protein intakes exceeded the recommended level by more than 10 percent. Male participants consumed significantly more protein and were more likely to consume protein in excess of the recommended intake for their height, weight, and activity level.
Implications: Adolescents' nutritional status has life-long health implications and researchers are continuing to document ways in which nutrition early in life influences the individual's risk for obesity, cardiovascular disease and diet-related cancers later in life. It is of concern that a significant number of micronutrients associated with health were consumed at deficient levels by the adolescents in this study. Further research is needed to explore factors that may be associated with consumption of protein that exceeds recommended intakes. Further, as protein consumption continues to rise in the United States, it is important investigate the health implications of this trend.

This project was supported by National Research Initiative Grant 2006-04637 from the USDA National Institute for Food and Agriculture.

ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Uric Acid, Obesity, and Hypertension in Adolescents

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Purpose: The purposes of this study were to: (1) describe serum uric acid levels, weight status, and blood pressure in a sample of middle school adolescents, and (2) investigate associations between the variables of weight status, serum uric acid, and hypertension in the study sub-sample of obese adolescents.
Rationale/Background: The prevalence of obesity in children is increasing at an alarming rate. Several serious physical and emotional consequences of childhood obesity have been well documented, including an increased risk of hypertension. While elevated uric acid in adults has been positively associated with cardiometabolic risk, the relationships are not well delineated in youth. The Teen Eating and Activity Mentoring in Schools (TEAMS) study was designed to investigate and prevent the development of obesity during adolescence. This study examines the relationship between serum uric acid, weight status, and blood pressure in adolescent subjects.
Methods: After university and school district IRB approval, assessments were completed in 2007-2009 with middle school students enrolled in the TEAMS study. Height was measured on a standing stadiomenter to the nearest 1/10 inch with the students' shoes, hair ornaments, hats, jewelry or braids removed. Weight was measured on a Seca digital scale to the nearest pound with shoes, coats and other heavy clothing removed. Body mass index (BMI) was calculated as kg/m^2. Fasting serum blood samples were obtained by phlebotomists and transported to Pathology Associates Medical Laboratory for analysis. Blood pressure was measured three times on the right arm according to the protocol of National Heart, Lung and Blood Institute.
Results: Data were obtained for 135 adolescents; 59 (43.7%) were male and 76 (56.3%) were female. Mean serum uric acid was 4.9 and 4.8 mg/dL for males and females respectively. One-way ANOVA was completed using serum uric acid as a dichotomous variable and systolic blood pressure as a dependent variable. Adolescents with elevated uric acid levels ($\geq$5.5 mg/dL) had significantly higher systolic blood pressure. Forty-four percent of subjects were either overweight or obese ($\geq 85^{th}$ percentile for BMI) (35.6% of males, and 51.3% of females), while 27% of subjects (12 male and 25 female) were obese ($\geq$95th percentile for BMI). Descriptive and correlational statistics will be provided, demonstrating the effect of obesity on uric acid levels and blood pressure.
Implications: Our study indicates that there is a significant association between serum uric acid and blood pressure in obese adolescent subjects. Application of findings to the practicing nurse, as well as additional needed research, will be discussed.

This project was supported by National Research Initiative Grant 2006-04637 from the USDA National Institute for Food and Agriculture.

ADOLESCENT HEALTH IN TEAMS (TEEN EATING AND ACTIVITY MENTORING IN SCHOOLS)

Adolescent Cardiometabolic Characteristics in the TEAMS Project

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Purpose: The aims of this study, which is part of the larger Teen Eating and Activity Mentoring in School (TEAMS) project, were to: (1) describe selected demographic, anthropometric and laboratory values of TEAMS middle school students; (2) contrast differences in rates of cardiometabolic markers in early adolescence for youth at or above the 95th percentile for body mass index (BMI) with those below the 95th percentile; (3) examine rates of exceeding cardiometabolic cut-off points by weight status; and (4) predict the odds ratio of manifesting one or more cardiometabolic outcomes for adolescents with obesity.

Rationale: Child and adolescent obesity and overweight prevalence have increased alarmingly in the last three decades. Nearly 1/3 of youth now have a BMI over the 85th percentile. Excess weight in childhood is a major health concern, associated with adult obesity, as well as increased cardiometabolic risk and chronic health problems in both childhood and into adulthood. While studies have identified relationships of BMI with cardiometabolic risk, the predictive ability of BMI in early adolescence has not previously been quantified.

Methods: Following university and school district IRB approval, students from four public middle schools were recruited to participate in the TEAMS project. Anthropometric measurements were taken, including height, weight, and waist circumference. BMI and Waist to Height ratio (WHtR) were calculated. Systolic and diastolic blood pressure (BP) were measured following Centers for Disease Control and Prevention (CDC) protocols. Serum biomarkers were obtained from a fasting blood draw.

Results: Participants included middle school students (N=153**,** 56% female, 44% male) with ages ranging from 11-15 years ($Mage$=12.6 years, SD=0.47). Mean BMI was 22.34 and mean BMI percentile was 70.87. Youth at or above the 95th percentile for BMI were significantly more likely (ρ=<.01) to have low HDL-C, and elevated triglycerides, BP, WHtR, and HOMA-IR (homeostasis model of assessment for insulin resistance). Youth at or above the 95th percentile for BMI were nearly 8 times more likely to have one cardiometabolic risk factor than those in other BMI percentile groups.

Implications: Exceeding the 95th percentile for BMI significantly increases the likelihood of having cardiometabolic risk factors, such as low HDL-C, and elevated triglycerides, HOMA-IR, and BP. Findings are pertinent to healthcare settings since providers can view BMI percentile as an excellent reflection of cardiometabolic status and the youth's likelihood for future chronic disease. Interventions can then be implemented to intervene with youths and their families.

This project was supported by National Research Initiative Grant 2006-04637 from the USDA National Institute for Food and Agriculture.

BIOBEHAVIORAL MODELS FOR MATERNAL-NEWBORN HEALTH RESEARCH

Moderator:
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OVERVIEW: BIOBEHAVIORAL MODELS FOR MATERNAL-NEWBORN HEALTH RESEARCH

Nancy K. Lowe

A BIOLOGICAL MODEL FOR CERVICAL RIPENING

Marie Hastings-Tolsma

A MODEL OF THE RELATIONSHIP OF ACUTE MATERNAL STRESS AND OBESITY TO UTERINE DYSTOCIA

Nancy K. Lowe, Elizabeth J. Corwin

A PSYCHONEUROIMMUNE MODEL OF POSTPARTUM DEPRESSION

Elizabeth J. Corwin, Kathleen Pajer

MATERNAL/NEWBORN STRESS AND INFANT GERD

Madalynn Neu

BIOBEHAVIORAL MODELS FOR MATERNAL-NEWBORN HEALTH RESEARCH

Overview: Biobehavioral Models for Maternal-Newborn Health Research

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Maternal/infant development and issues related to the intense psychophysiologic processes and experiences during the childbearing year and first year of an infant's life are the foundation for the trajectory of human well-being and health promotion throughout the lifespan. Despite the normalcy of the physiology and developmental milestones of this period for both mother and child, significant vulnerabilities exist that may impede or interrupt normal processes and result in significant morbidities for mother and/or child. While the traditional biomedical approach to the study of these processes has resulted in some progress in understanding difficulties and morbidities that arise, a biobehavioral approach encompassing interactions among the physiologic, psychologic, and social components of these problems may advance clinical knowledge and suggest alternative pathways for intervention. The contributors to this symposium are engaged in designing new models for systematic investigation into common problems of pregnancy, parenting, and infancy.

This symposium will highlight four specific areas in maternal/newborn health: cervical ripening as a prerequisite to normal labor, the development of uterine dystocia during first labors, postpartum maternal mental health, and gastroesophageal relux disease (GERD) in young infants. Each paper will present a theoretical model supporting biobehavioral study of the specific clinical problem. In the first paper, the author discusses a model of the known physiology of cervical ripening for labor, highlights areas requiring further basic science investigation, and concludes with implications of the model for the study of alternative and complementary strategies to traditional pharmacologic approaches when enhanced cervical ripening is indicated. In the second paper, the authors propose a model for the development of uterine dystocia during the labors of first-time mothers that incorporates the psychophysiology of acute stress and obesity in the etiology of this contemporary clinical problem. Hypotheses for clinical and laboratory investigation are proposed. In the third paper, the authors describe a psychoneuorimmunological (PNI) model of postpartum depression, a perplexing problem with serious implications for both mother and infant, that is currently being tested in a longitudinal study. In the fourth and final paper, the author will present findings from a preliminary study on stress markers in both mother and infant in relation to infant symptoms of GERD. Together these papers demonstrate how biobehavioral models of investigation may advance the science of maternal/newborn health.

BIOBEHAVIORAL MODELS FOR MATERNAL-NEWBORN HEALTH RESEARCH

A Biological Model for Cervical Ripening

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Purpose: Cervical ripening—the process whereby the cervix becomes shorter, softer, and more pliable—is not well understood but is a measure that improves the likelihood of successful parturition. Understanding the mechanisms regulating cervical ripening remains obscure despite countless efforts to clarify tissue dynamics. The purpose of this paper is to (1) describe the biological mechanisms thought responsible for change in cervical architecture in late pregnancy, (2) detail studies of targeted therapies used to hasten cervical remodeling, and (3) outline important areas in need of nursing research.
Description: The process of cervical change in preparation for parturition is a developmental process which occurs across gestation with dramatic and rapid change in late gestation. Successful cervical ripening or remodeling is of particular significance as it influences normal biologic processes and the physiologic onset and progression of labor. Arguably the most important problem in perinatology, cervical remodeling impacts efforts to induce labor as well as halt parturition at earlier and undesirable endpoints. Processes which control cervical ripening are thought to involve lipopolysaccharides, steroid hormones, cytokines, prostaglandin, and nitric oxide synethesis enzymes. These molecular paths lead to changes in vascular permeability, with changes in metalloproteinases, gycosoaminoglycans, collagen remodeling, and apoptosis. While the exact mechanism is unknown, overexpression of genes involved in these pathways has been noted. The cascade responsible for cervical ripening is likely stimulated by inflammatory processes. An interactive biochemical model for cervical ripening is presented and highlights these proposed processes.
Implications: Translational bedside-to-bench research is urgently needed to advance understanding of phenomena of importance in the promotion of human health. Cervical ripening is one area in need of focused investigation as clinicians deal with rapidly increasing rates of labor induction—many requiring cervical ripening efforts. While numerous studies have examined pharmacologic methods that enhance cervical ripening, sparse attention has been directed toward less invasive and more "natural" methods though the later are widely recommended for use by nurses and are likely used by many more women. Study of targeted agents that may hasten or slow cervical ripening has the potential to further understanding of the multifactorial pathways involved in successful parturition.

BIOBEHAVIORAL MODELS FOR MATERNAL-NEWBORN HEALTH RESEARCH

A Model of the Relationship of Acute Maternal Stress and Obesity to Uterine Dystocia

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Professor and Chair

Elizabeth J. Corwin, PhD, MSN, CNP
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Purpose: Surgical cesarean intervention in labor has reached epidemic proportions in the United States and the escalation continues. The total cesarean rate has risen from 20.7% in 1996 to 31.8% in 2007, an increase of more than 50% in one decade. Of particular concern is the rising rate for first-time mothers (nulliparas) at term with a singleton fetus in a head down position, i.e., childbearing women at lowest risk. In this population, the cesarean rate has risen from 18% in 1998 to 26% in 2006, continuously moving further from the Healthy People 2010 goal of 15%. For relatively obscure reasons, nulliparous women are particularly vulnerable to a diagnosis of uterine dystocia, which is the primary diagnosis leading to cesarean section. In a review of the literature, Lowe (2007) described a conceptual model of factors affecting the occurrence of cesarean section for dystocia in nulliparous women. Among the specific characteristics of nulliparous women who are at increased risk of cesarean delivery is a phenomenon also of epidemic proportions, obesity in women of childbearing age. Recent data and theoretical perspectives point to psychophysiologic mechanisms whereby maternal obesity may affect uterine smooth muscle contraction required for successful vaginal birth and predispose these women to uterine dystocia. Further, this obesity-related phenomenon likely is unresponsive to traditional medical intervention, namely intravenous ocytocin augmentation of uterine contractions. In this paper, we will present our model for how maternal obesity may be related to both the acute stress response and the ability of the uterine muscle smooth muscle to contract during labor.
Description: An acute maternal stress response to the psychological and physical demands of labor has been demonstrated previously as important to the development of uterine dysfunction in nulliparas. The primary clinical hypothesis has been that exaggerated sympathetic nervous system activation with the production of epinephrine and norepinephrine disrupts coordinated uterine contractions by binding with ß-adrenergic receptors on myometrial smooth muscle cells. Less commonly known are the effects of catecholamines on leptin and free fatty acid levels. Data from *in vitro* studies of human gestational myometrial strips suggest that myometrial contraction can be suppressed by both cholesterol and leptin, and that this disruption is insensitive to oxytocin augmentation. In addition, stress induced consequences of hypothalamic-pituitary-adrenal (HPA) axis activation have been minimally studied in relationship to disruptions of uterine function during labor. Interestingly, the output of HPA activation, cortisol secretion, also leads to increased leptin, again offering a pathway to decreased uterine contractility. Recent observational studies have documented an increased incidence of poor uterine contractility in obese women, and higher plasma levels of both cholesterol and leptin in overweight and obese pregnant women prior to labor onset compared to their normal weight counterparts.
Implications: Our model combines the consequences of both acute stress and maternal obesity as a potent pathophysiologic mechanism of uterine dystocia and proposes hypotheses for future clinical investigation.

BIOBEHAVIORAL MODELS FOR MATERNAL-NEWBORN HEALTH RESEARCH

A Psychoneuroimmune Model of Postpartum Depression

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Purpose: Postpartum depression (PPD) is a potentially debilitating disorder that develops in approximately 15% of women during the first year after giving birth and is associated with serious consequences for a mother and her infant as well as other family members. Although a number of psychosocial variables have been described that may increase the risk of PPD, including a fussy baby, low social support, and low income, psychosocial variables alone are insufficient as the sole explanatory variables. As a result, interventions focused on altering these variables alone have yielded disappointing results. The purpose of this paper is to present a psychoneuroimmunological (PNI) model of PPD wherein two other, inter-connected biological systems, both significantly altered during pregnancy and childbirth, are proposed to contribute to the onset of PPD. Specifically, we propose that PPD develops when pregnancy-related changes in the pro-inflammatory immune system response and the hypothalamic-pituitary-adrenal (HPA) stress axis become mutually dysregulated after delivery.

Description: Our model is based on extensive data indicating that pro-inflammatory immune system and HPA axis dysregulation are associated with clinically significant depression in adults who are not in the pregnant or postpartum state. First, an overview of the physiological changes in the immune and HPA systems that occur during pregnancy and the early postpartum period is presented. This is followed by a discussion of data supporting the contribution of dysregulation in the immune and HPA axis systems in the development of depression in the general, non-pregnant, non-postpartum population. This paper concludes with evidence supporting a similar role for immune system dysfunction and HPA axis dysregulation as etiological factors in the development of PPD.

Implications: Our goal throughout is to highlight the significance of these two biological systems in postpartum women in light of their known relationships with depression, in order to encourage future research to improve the health of women and their children during this vulnerable and critical period of their lives.

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BIOBEHAVIORAL MODELS FOR MATERNAL-NEWBORN HEALTH RESEARCH

Maternal/Newborn Stress and Infant GERD

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Purpose: The purpose of this study is to explore maternal and infant stress in relation to infant symptoms of gastroesophageal reflux (GER).
Rationale/Conceptual Basis/Background: GER is the passage of gastric contents into the esophagus due to transient relaxation of the lower esophageal sphincter (LES). Approximately 67% of infants at 4 months of age have GER due to immaturity of the esophagus and stomach, high liquid diet, and short esophagus. GER disease (GERD) is defined as complications of GER. Symptoms include frequent regurgitation, irritability, and feeding difficulties. Discomfort from regurgitation and irritability interferes with sleep and may result in increased infant stress. Infants with feeding difficulties may associate feeding with discomfort and become stressed when fed. Mothers with irritable infants who are difficult to feed have reported feeling frustrated, angry, and stressed. Individuals with chronic stress may display higher than normal levels of daily cortisol levels. Elevated cortisol levels also were reported in children with sleep disruption and after a stressor in adults who had GERD. Stress as a precursor and consequence of the GERD symptom cluster has not been studied.
Methods: Secondary data analysis was conducted on a study that compared physiologic and behavioral outcomes of kangaroo and traditional holding in 87 mother-preterm infant dyads. Weekly home visits were conducted for 8 weeks. We collected data about GERD for 70 of the infants (80%) during the home visits. Infants were born at 32 to 35 weeks gestational age at 5 hospitals in a mid-sized city in the Western United States. Dyads were recruited within 3 weeks postpartum.
Results: Mothers of 22 infants (31%) referred them to the pediatrician because of GERD symptoms. Pediatricians ordered anti-reflux medication for 14 of these infants (64%). Mothers reported that infants demonstrated only partial relief from these symptoms of GERD and complained of continued fatigue and worry. Mothers who referred their infants to the pediatrician had higher life event scores at week 8 of the study F (2,59)=3.7, p=.030 than the other two groups, and higher anxiety scores within 3 weeks after birth than the group without GERD symptoms F(2,62)=7.1, p=.05. A subset of 70 mothers collected salivary cortisol from their infants at 8AM, 12PM, 4PM, and 8PM for two consecutive days during week 8 of the study. Area under the curve (AUC) was calculated for aggregated daily cortisol levels for the 56 (80%) infants shoe GERD status was known. Infants seen by a pediatrician for GERD symptoms had higher daily cortisol levels than infants not referred to a pediatrician and infants without GERD symptoms F(2,51)=7.75, p=.002.
Implications: Evidence of stress was found in the early postpartum period and 2 to 3 months postpartum in mothers who had infants with GERD symptoms and at 2-3 months in infants with GERD symptoms. More research on the effects of the mother and infant stress on GERD symptoms will inform interventions addressing stress and alleviating GERD symptoms in infants.

ENGAGING PUBLIC TRUST: THE LIBBY PARTNERSHIP INITIATIVE

Moderator:
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OVERVIEW: ENGAGING PUBLIC TRUST: THE LIBBY PARTNERSHIP INITIATIVE

Charlene A. Winters, Kimberly Rowse, Sandra W. Kuntz, Clarann Weinert

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UNDERSTANDING RURAL PERSONS' RESEARCH COMMUNICATION AND ENGAGEMENT

Charlene A. Winters

COMMUNITY-BASED PARTICIPATORY RESEARCH: A RURAL PERSPECTIVE

Kimberly Rowse

DESIGNING CASE STUDY RESEARCH DATA COLLECTION TO ENHANCE STUDENT LEARNING

Sandra W. Kuntz

ACROSS THE MILES: USE OF TECHNOLOGY FOR COLLECTION AND ACCESS TO DATA

Clarann Weinert

ENGAGING PUBLIC TRUST: THE LIBBY PARTNERSHIP INITIATIVE

Overview: Engaging Public Trust: The Libby Partnership Initiative

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In 2004, Dr. Elias Zerhouni, Director of the National Institutes of Health (NIH), announced the establishment of the NIH Public Trust Initiative (PTI). Its mission is to "enable the public to understand and to have full confidence in the research that NIH conducts and supports across the country and throughout the world" (NIH, 2009). The "public" for the NIH are many different groups of people: scientists and investigators who compete for NIH funding to support their research, patients and advocacy groups for persons with specific conditions on which the different NIH Institutes and Centers focus, health practitioners, and the taxpaying public at large to which the NIH is accountable. NIH has engaged in a substantial amount of activity to inform, educate, and receive input from these groups and involve them in various aspects of NIH business. In 2007, as another means to involve the public in research, the NIH established the Partners in Research Program and solicited research grant applications from academic/scientific institutions and community organizations that "proposed to forge partnerships (1) to study methods and strategies to engage and inform the public regarding health science in order to improve public understanding of the methods and benefits of publicly funded research, and (2) to increase scientists' understanding of and outreach to the public in their research efforts" (NIH, 2009). From a pool of 200 applications, 37 were funded including the Libby Partnership Initiative.

In this symposium, research partners from the Center for Asbestos Related Disease in Libby, Montana and the College of Nursing at Montana State University will describe the Libby Partnership Initiative Partners in Research study. Specifically, the context, rationale, and purpose for the study will be presented by Dr. Winters. Ms. Rowse will describe the community-based participatory research (CBPR) principles used by the investigators, including the appointment and collaboration of two principal investigators. In the third paper, the processes used to engage local high school science students and undergraduate and graduate nursing students in case study data collection will be presented by Dr. Kuntz. To conclude our presentation of the Libby Partnership Initiative, Dr. Weinert will provide an overview of the electronic database designed to facilitate the management of data collected for the study.

Engaging community partners with academic investigators is a valuable approach to use when conducting research with vulnerable populations. Investigators engaged in or planning to use CBPR methods in their studies will benefit from the description of the Libby Partnership Initiative study and the lessons learned by the research team.

Reference: . (2009). *NIH Public Trust*. From http://publictrust.nih.gov/index.cfm
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ENGAGING PUBLIC TRUST: THE LIBBY PARTNERSHIP INITIATIVE

Understanding Rural Persons' Research Communication and Engagement

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Purposes/Aims: The purpose of this paper is to describe the context, rationale, and purpose for the Libby Partnership Initiative, one of 37 studies funded by the National Institutes of Health (NIH) as part of the Partners in Research Program.
Rationale/Background: The asbestos contamination in and around Libby, Montana (MT) was significant enough that the Environmental Protection Agency (EPA) formally placed the community and surrounding area on the National Priorities List (NPL) in 2002 and designated it a superfund site. In 2009, seven years after extensive cleanup began, a public health emergency was declared. The Public Health Emergency determination requires the federal government to provide screenings and healthcare for Libby residents with asbestos-related disease (ARD). This is the first time EPA declared a public health emergency under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Research has been conducted in Libby to understand the extent and pathway of exposure, identify the physical properties of the asbestos fiber contaminating the community, explore the physical and psychosocial affects of exposure to asbestos, and more research is planned. Participation of residents living in the community and partnerships between researchers, community members, and community-based organizations, are integral to the success of studies in this rural community.
Methods/Process: In response to NIH's Public Trust Initiative, healthcare providers from Libby's Center for Asbestos Related Disease (CARD) and nurse scientists from Montana State University College of Nursing (MSU), partnered to explore the public's awareness, understanding, and acceptance of research, and to develop a model for researchers seeking to engage residents in studies in this heavily researched community. Mobilizing community partnerships and conducting research are two essential public health services (1994) that specifically pertain to this rural community as cases of ARD continue to emerge in the exposed population. The setting and aims of this project directly relate to two Healthy People 2010 Objectives (2000) to include communities as equal partners in research and planning, and to increase health communication activities that include research and evaluation. For this pilot project, case study research methods and principles of community-based participatory research (CBPR) were used to achieve the study aims.
Outcomes/Conclusions: The study methods allowed the research team to meet the requirements specified in the request for applications, accomplish the study aims, and evaluate the effectiveness of the strategies and processes used to conduct the study. Study findings will help to improve communication about research and strategies to engage the community in research and researchers in the community.

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ENGAGING PUBLIC TRUST: THE LIBBY PARTNERSHIP INITIATIVE

Community-Based Participatory Research: A Rural Perspective

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Purpose/Aims: The purpose of this paper is to describe the community-based participatory research (CBPR) principles used by two principal investigators to conduct research in a rural community experiencing widespread asbestos contamination.
Rationale/Background: The purpose and rural context for the Libby Partnership Initiative (LPI) made the study suitable for funding from the National Institutes of Health (NIH) Partners in Research Program and the application of CBPR principles. CBPR is an orientation to research that equitably involves community members and academic researchers as partners in the research process. The approach recognizes the unique strengths that each partner brings and represents a balance between research and community empowerment. The LPI brought together healthcare providers ('insiders") from the Center for Asbestos Related Disease (CARD) and nurse researchers ("outsiders") from Montana State University College of Nursing with the common goal of increasing rural resident's understanding and participation in research. The partnership and use of two co-equal principal investigators provided the framework to successfully implement the research study while navigating the unique characteristics of a rural community designated a Superfund site.
Methods/Process: Two principal investigators (PI), one from the CARD clinic, and one from Montana State University College of Nursing, provided leadership for the LPI project. The "local" PI provided the familiarity important to rural dwellers, culturally appropriate experiential knowledge, and lent a community voice to the research team. She also provided entré to the community for team members who were unknown to the residents. The academic PI provided a perspective derived from a scientist's preparation and the professional literature, and focused on maintaining the study's rigor. The PIs had distinct responsibilities and budgets and relied upon a jointly developed leadership plan to provide direction for day-to-day activities. Regularly scheduled telephone meetings bridged the 200 plus miles that separated research team members. Input sought from a community advisory panel helped to ensure that the research was meaningful to the community.
Outcomes/Conclusions: CBPR is an effective approach for conducting research within rural communities. The collaboration of community and academic experts can increase the acceptability and applicability of findings.

Gehlert, S. (2009). *Research through a CBPR lens.* 2009 NIH Summer Institute.
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ENGAGING PUBLIC TRUST: THE LIBBY PARTNERSHIP INITIATIVE

Designing Case Study Research Data Collection to Enhance Student Learning

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Purpose/Aims: The purpose of this paper is to describe the process of engaging local community high school students and undergraduate and graduate nursing students in case study research data collection.
Rationale/Background: The Libby Partnership Initiative (LPI) was designed to increase the understanding of and participation in research by members of a rural community impacted by an environmental disaster and the complex ecological aftermath. A community-based participatory research approach was utilized to involve community members as advisors and as data collection partners.
Methods/Process: Case study research provides a strategy for understanding complex, contemporary social phenomenon including questions related to "how" and "why" (Yin, 2009) rural residents living within a superfund site choose to participate or decline participation in research. The embedded-single case design for this study required the collection of multiple sources of evidence. Three levels of students were recruited for data collection. All who participated were unified by their (a) interest in the aims of the project and (b) wish to learn more about research. First, eight Libby High School senior students enrolled in an elective science research course participated in an electronic survey conducted at a popular community location. The students completed the NIH human subjects training, provided feedback on the proposed survey, and then worked with researchers to conduct the survey. Second, undergraduate Montana State University (MSU) community health nursing students conducted a community assessment in Libby and interviewed community members. Finally, a MSU graduate student conducted a secondary data analysis of minutes from the EPA Community Advisory Group (2005-2008). Data points from each type of inquiry serve as different aspects of a chain of evidence and were entered into the case study database for analysis.
Outcomes/Conclusions: Student learning measured by satisfaction with and interest in the research process, work produced as a result of course objectives, and early development of a thesis project determined the successful integration of students as members of the research team. Seven out of eight of the Libby High School students have gone on to college. The science teacher for the high school course and the nurse researchers are continuing their relationship to enhance student learning. To date, students have been instrumental in collecting survey data from 115 community members, 19 in-depth community member interviews, and have developed a focused Libby community assessment. Case study research data collection provides an ideal opportunity to engage the next generation of scientists.

Yin, R. (2009). *Case Study Research: Design and Methods (4th edition)*. Los Angeles, CA: Sage.
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ENGAGING PUBLIC TRUST: THE LIBBY PARTNERSHIP INITIATIVE

Across the Miles: Use of Technology for Collection and Access to Data

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Purpose/Aims: The purpose of this presentation is to describe issues related to data collection and access to data with an interdisciplinary team across a large rural state.
Rationale/Background: Use of technology to collect and store data for research in rural areas presents unique issues. In a previous study with this population it was apparent that participants were often uncomfortable using a computer to fill out a survey. In the small town that is the site for this project, local technical support is often difficult to find and even more difficult to attain quickly.
Description: For this study several types of data were collected. Document data were extracted from newspaper articles, community meeting minutes, community needs assessments, reports, etc. In addition, structured interviews were conducted with key community leaders and community members were surveyed using a web-based survey. The web-based survey was given at a local grocery store, using SNAP, a survey software that interfaces with touch screen monitors. After the data were collected, an Access database was developed on a server giving access to the electronic documents to all members of the team.
Outcomes: With regards to data collection, the research team was presented with several issues: (a) participants' unfamiliarity or discomfort with using computer-based surveys; (b) the rural community often experienced "brown outs" that interrupted internet service, preventing data from being sent via the internet from the data collection site to the university research office; (c) the lack of technical support available at the survey site; and (d) the geographic distance between the research team members.
Conclusions: The research team learned that they needed to remain flexible in working with technology in a rural community. They were able to offer a paper/pencil survey as well as the electronic survey for those uncomfortable or unfamiliar with using the computer. Although the internet is an efficient way to send data, it is also unpredictable and can be unreliable in a rural area, therefore, the team learned that a backup copy of all data should be saved to the hard drive in addition to being emailed to the research office. The development and functionality of the Access database provided additional challenges, but it is a useful mechanism for storing multiple types of data and having those data available to research team members who are separated by significant geographic distance.

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FROM OVEN TO TABLE: A RECIPE FOR HELPING RURAL WOMEN ADAPT TO CHRONIC ILLNESS

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OVERVIEW: FROM OVEN TO TABLE: A RECIPE FOR HELPING RURAL WOMEN ADAPT TO CHRONIC ILLNESS

Clarann Weinert

HISTORY OF WOMEN TO WOMEN: HOW THE RECIPE CAME ABOUT

Clarann Weinert

KEY INGREDIENTS OF THE RECIPE: MATERIALS, TRAINING, & TECHNOLOGY

Amber Spring

FOLLOWING THE RECIPE: THE ROLE OF THE CLINICAL NURSE

Shirley Cudney

HOW DID THE DISH TURN OUT? CONSUMER RESPONSE TO THE RECIPE

Charlene Winters

FROM OVEN TO TABLE: A RECIPE FOR HELPING RURAL WOMEN ADAPT TO CHRONIC ILLNESS

Overview: From Oven to Table: A Recipe for Helping Rural Women Adapt to Chronic Illness

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The overarching goal of the Women to Women (WTW) longitudinal computer-based intervention was to enhance the potential for rural women with chronic illnesses to adapt better to their chronic conditions. WTW has pursued this aim nearly 15 years by providing social support and health education on aspects of psychosocial adaptation and self-management with the ultimate aim of improving the women's quality of life. Results from this research-based program have demonstrated that rural barriers to gaining support and obtaining health information can be overcome through the application of computer-based interventions.

Over the years, we have been refining a recipe for an intervention that was intended to assist rural women to live better with their chronic conditions by offering resources/ strategies for self-management of their illnesses, connecting them with one another, and improving their links with their health care providers. In the papers to be presented in this symposium, we would like to share our recipe with others who may want to help their clients adapt to living with chronic illness. The recipe has evolved from one which used complex, costly, and labor-intensive ingredients to one whose ingredients have become more user-friendly, less costly, and more applicable in the clinical setting.

In the first paper, we will tell the story of the three phases of WTW. The second paper will be focused on the logistical ingredients of putting the program together—the technological, start-up, maintenance, and closure procedures required. In the third paper, we will describe the role of the clinical nurse, the 'cook,' who might want to use the 'recipe' to initiate a clinical project modeled after WTW and the nature of her/his support role throughout the intervention. For the final paper, we will share a snapshot of our experience with the inner-workings of self-monitored group, 'the consumers,' along with examples that demonstrate the quality and insightfulness of the groups' contributions. It is our hope that those who try our 'recipe' will be able to serve technology-based support and education programs from "oven to table" so that their clients can be helped to better adapt to living with their chronic illnesses and, ultimately, improve the quality of their lives.

Funding: NIH/NINR, (2R01NR007908-04A1)

FROM OVEN TO TABLE: A RECIPE FOR HELPING RURAL WOMEN ADAPT TO CHRONIC ILLNESS

History of Women to Women: How the Recipe Came About

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Purpose/Aims: The purpose of this presentation is to describe the history of the Women to Women (WTW) Project research-based longitudinal computer supported intervention.
Rationale/Background: Adaptation to chronic health condition is a life-long challenge. For those who live in rural areas, where healthcare resources are limited, creative mechanisms are required such as telecommunications to provide peer support and health information to better position them to adapt to their chronic illness.
Description: WTW served middle-aged rural women with chronic conditions and evolved through three phases. In Phase I (1995-2000), participants were assigned to either a computer group or a non-computer group, with the computer groups participating in a 5-month, participant-focused online support group and a nurse-led interactive online health education program. The women could post messages asynchronously to the online support group and health education forums at any time of the day or night. Women in the non-computer groups had no online access. In Phase II (2002-2005), participants were randomized into intense intervention computer groups (online health teaching units with World Wide Web [WWW] access, expert-facilitated discussion of health teaching units, and a virtual support group); less intense intervention computer groups (online health teaching units with WWW access without expert intervention, and no support group); and control groups (without computer access). The intervention was streamlined for Phase III (2006-2010) and just two groups were utilized: the computer intervention group (online independent-study health teaching units and virtual social support group) and a non-computer control group. The "WTW Conceptual Model for Adaptation to Chronic Illness" was developed and a variety of psychosocial indicators and chronic illness management variables were measured. Adaptation variables were assessed via a mail questionnaire and the exchanges among the women in the virtual support groups were analyzed.
Outcomes: The conceptual model which has evolved with the project can be applied in the guidance of other studies of chronic illness management. Overall, the intervention had an appreciable effect on self-esteem, social support, and empowerment, and cautious optimism was seen in the intervention's effect on depression, loneliness, and stress. The women embraced and actively participated in the virtual support groups and online health education activities and gave enthusiastic feedback about their participation in the program.
Conclusions: Given the positive influence of the WTW intervention on the women's ability to adapt to their chronic conditions, efforts to replicate it in clinical practice by health care providers in rural areas should be supported and encouraged by providing the providers with a "recipe" that could bring the intervention "from the oven to the table."

Funding: NIH/NINR, (2R01NR007908-04A1)

FROM OVEN TO TABLE: A RECIPE FOR HELPING RURAL WOMEN ADAPT TO CHRONIC ILLNESS

Key Ingredients of the Recipe: Materials, Training, & Technology

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Purpose/Aims: The purpose of this presentation is to describe the logistical ingredients necessary to replicate the 'recipe' for implementing a computer outreach support and education intervention for rural women with chronic conditions in a clinical setting.
Rationale/Background: Throughout its evolving phases, the Women To Women Project has offered a virtual on-line support group to rural middle-aged women with chronic illnesses. Over time, a 'recipe' for administering this intervention has taken into account: (a) an increase in computer literacy in participants, (b) an increase in internet service accessibility for rural dwellers, and (c) greater access to quality health information on the world wide web.
Description: After recruitment of participants, and prior to beginning the intervention, an initial ingredient of the recipe for this web-based research was establishing the delivery platform to be used (WebCT) with an accompanying training manual and telephone orientation. Another ingredient was developing health-teaching units based on the needs of the group being served. A third key ingredient was technical support in the form of a toll-free telephone number and email for one-on-one support. The fourth ingredient was providing the participants with access to a computer and internet service, if necessary. Finally, the last ingredient was wrap-up and evaluation.
Outcomes: Over the course of the project, a decline in the need for technical support was seen, consistent with the increase in computer literacy in society as a whole, including rural areas. There was also an increase in personal ownership of computers and subscription to internet services. Participants became more adept in seeking quality health information on the internet, which lessened the need to provide them with resources. Many participants initiated their own groups, using private formats available through Google or Yahoo to continue to keep in touch with one another other at the conclusion of the intervention.
Conclusions: As with any 'recipe,' its true merit is in the testing, that is, whether the success of WTW can be replicated in real world clinical settings. As our society becomes more computer savvy, the need for technical support, equipment, and access to internet trouble-shooting services has declined, thus conducting interventions via computer technology has become far less complex and difficult. Successfully testing this 'recipe' in rural clinical settings becomes more plausible with each passing day.

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FROM OVEN TO TABLE: A RECIPE FOR HELPING RURAL WOMEN ADAPT TO CHRONIC ILLNESS

Following the Recipe: The Role of the Clinical Nurse

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Purpose/Aims: The purpose of this presentation is to describe the role of the clinical nurse in a computer outreach support and health education intervention designed to assist rural women to live better with their chronic conditions.
Rationale/Background: The Women to Women (WTW) computer outreach project served as a vehicle for nurses and other health professionals to offer support and health education to women who lived in areas isolated from medical centers and traditional health services.
Description: A clinical nurse monitor served as the 'cook' for the WTW 'recipe' (along with other research team members). Responsibilities included recruitment, preparing online teaching materials, daily monitoring of the exchanges on the online forum, giving feedback when requested, and intervening when concerns arose.
Outcomes: At the end of the intervention, participants were asked for feedback regarding the performance and presence of the nurse monitor, and the results were very positive. She was rated "about right" on the question, "How would you rate the participation level of the nurse monitor?" On the question "How would you rate the importance of having a nurse monitor," using a scale of 1 "Not at all" to 6 "Very important," the mean was 5.1 (sd=1.3) indicating that the nurse monitor was important to the participants. Comments in the computer exchanges also indicated that the women felt safe and more comfortable knowing that the nursing monitor was observing the flow of communication.
Conclusions: As a 'cook' in the recipe for helping rural women adapt to chronic illness, the rural clinical nurse who would attempt this task has a unique opportunity to reach out to women who might otherwise have few resources to support them. However, she/he must be aware of the uniqueness of the role, along with the responsibilities and risks that must be appropriately planned for, carefully executed, and routinely evaluated.

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FROM OVEN TO TABLE: A RECIPE FOR HELPING RURAL WOMEN ADAPT TO CHRONIC ILLNESS

How Did the Dish Turn Out? Consumer Response to the Recipe

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Purpose/Aims: The purpose of this presentation is to describe the evolution and nature of group participation in a non-facilitated, virtual online support group of rural women with chronic conditions.
Rationale/Background: Social support has been shown to be a key element in an individual's success in adapting to living with a chronic condition. It buffers the negative impact of life events on health and positively influences psychosocial adjustment and self-management of the chronic illness experience. Positive results have been reported with online support groups.
Description: The supportive Women to Women intervention was delivered via asynchronous, online, non-facilitated forums available 24/7 for women to share feelings, concerns, advice, health-related issues, and strategies for living with chronic illness in a rural setting.
Outcomes: With minimal guidance, the women quickly formed into engaging and dynamic groups. They were open in their identification of issues associated with having a chronic illness, intimate and forthcoming regarding feelings and emotions, and insightful and appropriate in the advice and support they shared with one another. Each group had a "unique personality" with some members who shared frequently and others who read, but were less vocal.
Conclusions: Non-facilitated, online support groups for women with chronic conditions can be effective interventions for overcoming the barriers to support that are common to this population. Clinical nurses should be encouraged to consider trying the 'recipe' for helping their rural clients find support and a better quality of life while living with a chronic condition.

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INTERNATIONAL NURSES: COMMUNICATION COMPETENCE AND QUALITY OF CARE

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OVERVIEW: INTERNATIONAL NURSES: COMMUNICATION COMPETENCE AND QUALITY OF CARE

Yu Xu

EFFECTS OF A SHORT-TERM LINGUISTIC CLASS ON INTERNATIONAL NURSES

Jay Shen, Yu Xu, Anne Bolstad

EFFECTS OF SOCIOCULTURAL COMMUNICATION WORKSHOPS ON INTERNATIONAL NURSES

Yu Xu, Jay Shen, Anne Bolstad

USING STANDARDIZED PATIENTS IN A COMMUNICATION STUDY OF INTERNATIONAL NURSES

Roseann Colosimo, Miriam Torpey, Anne Bolstad

LESSONS LEARNED FROM A COMMUNICATION STUDY OF INTERNATIONAL NURSES

Margaret Covelli, Alice Kelly, Anne Bolstad, Yu Xu, Jay Shen

INTERNATIONAL NURSES: COMMUNICATION COMPETENCE AND QUALITY OF CARE

Overview: International Nurses: Communication Competence and Quality of Care

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International nurses are an integral part of the US nurse workforce, ranging from 12 to 15.2%. This figure is even higher for Southern Nevada (about 30%). International nurses encounter unique challenges in their transition into a new work environment in the US. Language/communication deficiency has been cited as the top, persistent issue for international nurses by employers, credentialing agencies, and international nurses themselves. The issue alone or combined with other challenges poses threats to patient safety and quality of care. However, there is little intervention research on how to improve the communication competence of international nurses. Currently, most US employers provide no tailored transition programs for international nurses that are independent of the routine agency orientation for domestic recruits. Even separate transition programs for international nurses offered by a few agencies rarely address the language/communication challenge. *Speak for Success*, an evidence-based communication competence training program for international nurses, was developed to meet this need.

Based on research evidence and identified needs of international nurses, *Speak for Success* was developed and executed by a multidisciplinary research team from the University of Nevada Las Vegas in partnership with two hospitals and the Nevada State Board of Nursing. *Speak for Success* had two major components: a 10-week linguistics course and a series of workshops focusing on socio-cultural aspects of communication in the American healthcare context. The Model of Communicative Proficiency developed by the Center for Canadian Language Benchmarks provided the theoretical framework for this training program. Essentially, *Speak for Success* is a quasi-experimental study to evaluate the effectiveness of this training program. A total of 61 international nurses participated in this interventional study. Innovativeness of this study includes the linguistics course delivered by a certified speech pathologist with specific expertise in accent reduction and the use of standardized patients as evaluators of nurse-patient encounters in a controlled setting.

This symposium consists of two research-based presentations and two project presentations. The former reports research findings from this interventional study while the latter provides reflections on the experiences of using standardized patients in the study and the lessons learned during the research process. It is hoped that this symposium will provide impetus for other researchers to conduct further studies on international nurses in order to improve patient safety and quality of care.

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INTERNATIONAL NURSES: COMMUNICATION COMPETENCE AND QUALITY OF CARE

Effects of a Short-Term Linguistic Class on International Nurses

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Purpose: To test the effectiveness of a 10-session linguistic class on the reduction of phonological errors among international nurses working in two hospitals.
Background: Frequent errors in phonology, which contribute to accented speech, are the most common and challenging communication barriers for many international nurses in the clinical setting. In addition, perception of international nurses' competence by patients, peers, and other health professionals is negatively affected because of these communication barriers.
Methods: This was a quasi-experimental study. Participants included 61 international nurses (32 in the intervention group and 29 in the comparison group) from two community hospitals in the same hospital system in a Southwestern metropolitan area. The intervention was a 10-session phonological accent reduction class. Each session lasted for two hours. Each nurse in both groups underwent pre- and post-assessments, based on the Compton's Phonological Assessment of Foreign Accent (CPAFA). Two dependent variables were used. One was the total number of errors made by the individual participant based on CPAFA whereas the other was the difference in the total number of errors made by each participant between the pre- and post-intervention. Participants' age, sex, native language, age of arrival to the US, and the number of years living in the US were controlled in multi-variable analysis.
Results: No significant difference was found in the number of errors made before intervention between the intervention group (61.0) and the comparison group (54.3) ($p>0.1$). The difference became statistically significant after the intervention with the intervention group making an average of 25.1 errors and the comparison group making an average of 45.5 errors ($p<0.01$). Results from multivariable analysis indicated that the intervention group reduced 24 more errors than did the comparison group after the intervention ($p<0.01$). Furthermore, participants in both groups who made more errors in pre-assessment reduced more errors in post-assessment.
Implications: The short-term linguistics class appeared to be effective in reducing phonological errors in international nurses, thus enhancing their communication competence. However, caution is warranted to generalize the study findings because of the small sample size and other potential factors that may have magnified the magnitude of its effect. It is recommended that larger studies are needed to validate the findings of this pilot study. If the program were truly effective, not only all international nurses could improve their communication competence, but also disparities in phonological errors across international nurses could be markedly narrowed through the intervention.

INTERNATIONAL NURSES: COMMUNICATION COMPETENCE AND QUALITY OF CARE

Effects of Sociocultural Communication Workshops on International Nurses

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Purpose: To evaluate the effectiveness of four sociocultural workshops on communication competence offered to international nurses working in two community hospitals.
Background: Communication has been cited as the top challenge for international nurses in the clinical setting. Communication not only includes linguistic competence but also sociocultural competence. *Speak for Success* included a series of workshops on sociocultural aspects of communicativeness as an intervention to enhance the overall communication competence of international nurses.
Methods: Six variables were identified to encapsulate communication skills valued in nursing but not intuitive for international nurses: making eye contact, maintaining an appropriate distance from the patient, understanding American idioms, making small talk to establish rapport, listening without interruption, and summarizing message back for clarification. In addition, standardized patients (SP) scored their overall satisfaction with interactions with international nurses. Comparisons were made between the intervention and comparison groups, and the qualitative comments by standardized patients on international nurses' performance were analyzed. There were 18 in the intervention group and 10 in the comparison group.
Results: For the variable *making eye contact*, international nurses in both groups demonstrated the skill 100% of the time. The intervention group demonstrated *maintaining appropriate distance* in the pre-test (100%) and post-test (94%) but the control group remained at 90%. *Listening without interruption* mean scores for the intervention group were 4.5 (pre-test) and 4.7 (post-test) and comparison group mean scores 4.3 and 4.4, respectively. For *summarized message back for clarification*, the intervention group made notable improvement (pre-test =3.9 and post-test =4.3). The scores for overall satisfaction were better than average in both groups and highest in the intervention group (pre-test=4.2 and post-test=4.4). Scores for *understanding American idioms* are not reported here because there were too few cases. Qualitative analyses showed that SPs felt overwhelmingly positive about the personableness of all international nurses as noted their many caring behaviors. The intervention group showed noted improvement in using "small talk" to establish rapport and touch to demonstrate support. Of concern, both groups showed a lack of assessment for pain on a 0-10 scale and addressing related concerns, e.g. stress.
Implications: Neither group seemed to show much differences in the pre- and post-test values of most variables. Since most participants had lived in the US for a long time, they seemed well adjusted to the American culture. Similar programs would be more effective if offered to international nurses at the beginning of their sojourn in the US. Future studies are merited to compare international nurses with American nurses on the sociocultural aspects of communication to examine possible differences in communication patterns and styles.

INTERNATIONAL NURSES: COMMUNICATION COMPETENCE AND QUALITY OF CARE

Using Standardized Patients in a Communication Study of International Nurses

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Purpose: To describe the novel use of standardized patients (SP) in an innovative quasi-experimental communication study of international nurses.
Background: Communication skills of international nurses are of concern for patient safety and quality of care. SPs have not been used in research on international nurses. *Speak for Success* utilized SPs as an evaluative approach in the communication study.
Description: The study focused on 3 general areas of communication: establishing rapport for quality care, non-verbal communication for quality care, and therapeutic relationships. A 20-item checklist was developed to assess competencies to be demonstrated during nurse-SP encounters. Actors (SPs) were hired and trained to use the checklist for pre- and post-assessments of the socio-cultural workshops addressing verbal and non-verbal barriers faced by international nurses. The checklist was developed in concert with a patient scenario, and five actors were hired weighing their physical characteristics and ability to portray the scenario with homogeneity and consistency. Training by a hired team of SP experts from a medical school was provided to the recruited SPs to ensure uniformity in scoring. The SPs engaged in a two 2 ½ hour training before interacting with study participants and a 2 ½ hour refresher training prior to post-assessment encounters. During the study, SPs interacted with international nurse participants and evaluated their communication performance in regular hospital rooms to add authenticity to the encounters. All encounters were video-recorded. The recordings were individually distributed as learning aids and also used to verify the accuracy of data collected.
Outcomes: The SPs practiced and discussed their scenario performances until they reached consistency in scoring. The video-taped encounters were given to individual nurses as a training tool. Two members of the research team reviewed the video-taped encounters and agreement between ratings by the research team and by SPs were obtained for all measured variables. For 6 variables of particular interest, agreement ranged from 74% to 100%, with the exception of a more difficult competency ("summarizing the message back for clarification") which was 57%. Some variations were anticipated given the individuality of SPs and their newness to performing clinical scenarios and evaluating others' performance. Finally, the participating nurses felt a level of anxiety about video-taped encounters.
Conclusions: Using SPs as one of many simulation techniques has long standing in medicine; however, it is relatively new in nursing. Our experience indicates that the use of SPs holds a lot of potential to be a dynamic technique for nursing education and research. To our knowledge, this was the first time a study on international nurses utilized SPs.

INTERNATIONAL NURSES: COMMUNICATION COMPETENCE AND QUALITY OF CARE

Lessons Learned from a Communication Study of International Nurses

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Purpose: This presentation examines lessons learned from a communication study of international nurses.
Background: Verbal and non-verbal communication barriers contribute to a negative perception of quality care and services provided by international nurses in hospitals. There is little research literature on communication competence training of international nurses.
Description: *Speak for Success* was a quasi-experimental study consisting of a linguistic course to reduce phonological errors/foreign accent and socio-cultural workshops to develop and enhance verbal and non-verbal communication skills. Both study components included pre- and post-assessments.
Outcomes: Lessons learned from this study include challenges of recruiting participants, challenges of lengthy interventions (16 weeks), and challenges of scheduling classes and pre- and post-assessments in a busy hospital setting. Specifically, although nurse managers and research staff engaged in the recruitment process, different recruitment styles resulted in confusion on study activities and timeline. Additionally, weekly linguistics class attended by nurses during work hours proved problematic; most voluntarily began attending on their days off to avoid conflicts with patient care. Pre- and post-assessments were done on-site and around nurses' schedules; yet this did not provide optimal testing conditions. Start-up confusion and the length of the study contributed to participant attrition. The logistics of finding hospital space for classes and assessments created distractions and work related issues.
Conclusions: More detailed recruitment information and a restructured timeline would help retain participants in future studies. A tighter schedule of activities and testing could also reduce test weariness and improve the overall effectiveness of this or similar studies. Although many participating international nurses had been in the US for 10 or more years, they still benefited greatly from the training program, particularly the linguistics intervention. It appears that the linguistics course would be better as a stand-alone intervention. The overall pilot project would be most effective if integrated into international nurse orientations where participation does not conflict with personal and/or work obligations. Incorporating these lessons will improve the effectiveness of future research endeavors.

LATINO POPULATION ASSESSMENT: FOUNDATION, PROCESS, AND DISCOVERY

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OVERVIEW: LATINO POPULATION ASSESSMENT: FOUNDATION, PROCESS, AND DISCOVERY

Jonathan Glogowski, Dawn Weiler, Leonie Sutherland, Julie Vanty, Shawn Simonson

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THE UTILITY OF THEORY GUIDED ASSESSMENT IN THE LATINO POPULATION

Leonie Sutherland, Dawn M. Weiler, Julie Vanty, Jonathan Glogowski

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HEALTH-PROMOTING LIFESTYLE PROFILE: LESSONS LEARNED

Julie Vanty, Leonie Sutherland, Dawn M. Weiler, Jonathan Glogowski

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ASSESSING DIABETES RISK AMONG LATINO ADULTS: CURRENT VS NEW RECOMMENDATIONS

Dawn M. Weiler, Leonie Sutherland, Jonathan Glogowski, Shawn R. Simonson

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ANTHROPOMETRIC DIVERGENCE IN A LATINO POPULATION

Shawn R. Simonson, Jonathan Glogowski, Dawn M. Weiler, Leonie Sutherland

LATINO POPULATION ASSESSMENT: FOUNDATION, PROCESS, AND DISCOVERY

Overview: Latino Population Assessment: Foundation, Process, and Discovery

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Members of the Latino population are at increased risk for developing type 2 diabetes mellitus as compared to non-Hispanic whites. The population's high morbidity, mortality, and disease-associated complication rates make early identification and culturally relevant preventive strategies critical for this population that views diabetes as a "death sentence." There are several challenges in gathering population specific data, from this close-knit group who may be wary of outsiders. Language and cultural barriers can impact the development of culturally relevant intervention approaches thus accurate baseline data is imperative. Nurses are ideally positioned to provide health education and early intervention strategies. Comprehensive baseline data is instrumental for developing evidence-based identification, prevention, and treatment guidelines for nurses in both community health and the acute care setting.

The purpose of this symposium is to discuss the development of a theory-guided health assessment for Latinos, describe the challenges associated with the use of a validated research tool, and the assessed baseline biophysical markers of Latino adults related to type 2 diabetes. Papers are discussed in relation to their implications for nursing science, practice, and future research focused on diabetes in the Latino population.

Research supported by grant funding from: Boise State University Department of Nursing Faculty Research Grant & Boise State University College of Health Sciences OEF Developmental Research Grant

LATINO POPULATION ASSESSMENT: FOUNDATION, PROCESS, AND DISCOVERY

The Utility of Theory Guided Assessment in the Latino Population

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Purpose: The purpose of this paper is to describe the development of a theory-guided population health assessment for Latinos residing in Southwest Idaho. The theory based approach provided the researchers with a guide to describe the health status and identify health problems unique to this Latino population.

Description of the Model: Pender's (2006) Health Promotion Model (HPM) was the guiding framework for this population assessment project. The HPM incorporates multidimensional aspects that interact during the pursuit of health and health behaviors and is based on Bandura's Social Cognitive Theory and Feather's Expectancy-Value theory (Pender, 2006). This research project focused on the following 2 components of the model:

Individual Characteristics & Experience	Behavior Specific Cognitions and Affect:

• Prior related behaviors
• Personal factors
  ○ Biological
  ○ Psychological
  ○ Socio-cultural
	• Perceived benefits to action
	• Perceived barriers to action
	• Interpersonal influences
	• Situational influences

Process Used to Conduct the Assessment: The Health Promoting Lifestyle Profile II Survey, a 52 item instrument composed of a total scale and six subscales to measure behaviors in the dimensions of health-promoting lifestyle (spiritual growth, interpersonal relations, nutrition, physical activity, health responsibility, and stress management) was used to measure the Individual Characteristics and Experiences (except for biological factors) and Behavior Specific Cognitions and Affect. Biological factor measurement included body composition, height, weight, blood pressure, glycosolated hemoglobin, insulin level, fasting glucose and a lipid panel. Interpreters were available during all phases of data collection.

Linkage of Theory to Nursing Research: The concepts of the HPM provided the foundation for the health assessment enabling the researchers to identify culturally specific determinants of health. The HPM guided assessment also provided an explanation of why health problems in this Latino population exist and which factors contribute to the problem. This knowledge will be a key factor in designing the intervention phase of this research.

Conclusions: Using the HPM as the foundation for the Latino population health assessment will provide the basis for targeting theory-based interventions to meet the specific cultural needs of this Latino population.

Research supported by grant funding from: Boise State University Department of Nursing Faculty Research Grant & Boise State University College of Health Sciences OEF Developmental Research Grant.

LATINO POPULATION ASSESSMENT: FOUNDATION, PROCESS, AND DISCOVERY

Health-Promoting Lifestyle Profile: Lessons Learned

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Purpose: The purpose of this paper is to describe the challenges associated with the use of a validated research tool with a Latino population in Southwest Idaho.
Background: Among Latino adults, type 2 diabetes has reached epidemic proportions with concomitant devastating health complications, morbidity, and mortality. Many of these complications could be prevented through self-management techniques that promote tight glucose control. The aim of the study was to assess baseline health data that had not been captured before and give the research team the ability to compare future intervention outcomes. The objective of the research was to describe the current health behavior, health status, and health related costs of members of the Latino faith community by conducting a community health assessment at two churches in Canyon County, Idaho.
Description: One of the data collection tools was the Spanish version of the Health-Promoting Lifestyle Profile II. This tool is a 52-item survey composed of a total scale and six subscales which measure behaviors in the dimensions of health-promoting lifestyle (spiritual growth, interpersonal relations, nutrition, physical activity, health responsibility, and stress management). The instrument has validated content, construct (r=.678) and criterion (r's=.269-.491) validity. Alpha coefficient of internal consistency was .943 for total scale and .793-.872 for the subscales. Cronbach's alpha reliability coefficient equals 0.80 for the Spanish version, and 0.83 for the English version. During the data collection process, interpreters were present to assist the participants in understanding the nuances of the survey in an objective manner by clarifying the conceptual intent of each question.
Outcomes: The use of two languages inherently created discrepancies in the final product. As a result, there were several reoccurring themes that posed a challenge. First, in correlating the English and Spanish version of the tool, it was difficult to find an equivalent phrase that accurately conveyed the emotional content of some questions. Participants may have interpreted questions differently due to this language alteration. Second, Latino lifestyles were not reflected in some of the questions. Finally, for this population in a semi-rural area of Idaho, many struggled with the tool's four levels of abstraction Likert scale, which posed significant challenges. Further clarification of the meaning of these categories could have assisted participants in better understanding the survey.
Conclusion: Although the Spanish version of the Health-Promoting Lifestyle Profile II has been deemed valid and reliable, it would benefit researchers to pilot the survey tool to assess for regional or local cultural variations.

Research supported by grant funding from: Boise State University Department of Nursing Faculty Research Grant & Boise State University College of Health Sciences OEF Developmental Research Grant

LATINO POPULATION ASSESSMENT: FOUNDATION, PROCESS, AND DISCOVERY

Assessing Diabetes Risk Among Latino Adults: Current vs New Recommendations

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Purpose: To assess the current biophysical markers of Latino adults with or at risk for type 2 diabetes in two faith communities in southwest Idaho.
Background: Diabetes is one of the fastest growing disease classifications within the United States, especially among the Latino population. Nationally 2.5 million or 9.5% of all Latinos, 20 years of age or older, have diabetes. Latino individuals are 1.7 times as likely to have diabetes compared to non-Hispanic white individuals of similar age. These numbers are on a steady increase and only account for diagnosed cases of diabetes. Prevalence rates for the common complications of diabetes imply that developing strategies for early identification of those at high risk of developing diabetes and implementing prevention strategies is a critical need.
Methods: A descriptive study was carried out to gather baseline assessment data on Latino adults with or at risk for diabetes from two Faith Communities in southwest Idaho. Health behavior, demographic, baseline physiologic data including body composition measures and laboratory blood draws were collected on 148 participants (female n=84, male n=58) ranging in age from 18-75 years. Presence of diabetes was assessed and compared utilizing current fasting glucose guidelines and newly released recommendations based on hemoglobin A1C values.
Results: Based on fasting glucose (FG) criteria, 11 of 143 adults (7.7%) met diabetes diagnosis criteria compared to 17 (11.9%) utilizing hemoglobin A1C criteria. Nine individuals met diabetes diagnosis by both criteria. Using fasting glucose values, 38 of 143 (26.6%) had IFG, while 14 (9.8%) were identified as “high risk” of diabetes using A1C criteria. Diabetes diagnosis based on FG revealed statistically significant (p=.05) associations with systolic and diastolic BP, BMI, waist circumference, and waist-hip ratios. In comparison, diagnosis based on A1C criteria was significantly associated with only systolic BP, BMI, and percent body fat.
Implications: This study revealed the new A1C diagnostic recommendations identify somewhat different individuals as having diabetes or as high risk compared to the current FG criteria. Additionally, it is hypothesized that the A1C criteria identifies individuals earlier in the disease trajectory, based on physiologic associations, than the current FG criteria. Additional research is needed to further explore these findings and to evaluate differences in health outcomes based on diagnostic criteria utilized.

Research supported by grant funding from: Boise State University Department of Nursing Faculty Research Grant & Boise State University College of Health Sciences OEF Developmental Research Grant

LATINO POPULATION ASSESSMENT: FOUNDATION, PROCESS, AND DISCOVERY

Anthropometric Divergence in a Latino Population

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Purpose: To assess anthropometry (waist-hip ratio, height, weight, and body composition (skin-folds)) status of Latino adults with or at risk for type 2 diabetes in two faith communities in southwest Idaho.
Background: Type 2 diabetes has reached epidemic proportions in the adult Latino population with markedly higher rates both of incidence and complications than non-Hispanic Whites. Nationally 2.5 million or 9.5% of all Latinos, 20 years of age or older, have diabetes. It is well documented that individuals who are overweight and obese are at higher risk of developing this devastating disease.
Methods: A descriptive study was carried out to gather baseline health status assessment data on Latino adults with or at risk for diabetes Physiologic data was collected on 148 participants (59% female, 41% male) age 18-75 years. Anthropometric data included height (cm), mass (kg), circumferences (waist and hip, cm), and skinfolds (mm per Jackson-Pollock 3 sites). Body mass index (BMI), waist-to-hip ratio (W/H), and body composition (%BF, Jackson-Pollock equation) were calculated. Anthropometric measures were then correlated to standard blood panels and blood pressure. Significance was set at $p \leq 0.05$. Only moderate or greater correlations are reported here.
Results: The only strong correlations to %BF for both females and males were to body mass (0.614, 0.772, respectively) and BMI (0.660, 0.824, respectively). %BF correlated moderately with W/H in females and males (0.322, 0.400, respectively), to systolic BP (0.354) for females (ns for males), and to fasting glucose (0.315) and HbA1c (0.351) for males (ns for females). W/H provided a greater correlation than %BF for females and males to triglycerides (0.375, 0.340, respectively) and total cholesterol – HDL ratio (0.300, 0.349, respectively) with moderate correlations to mass (0.429) and systolic blood pressure (0.323) for females (ns for males). W/H correlated to BMI for females and males (0.513, 0.437, respectively). BMI is moderately correlated for both females and males to triglycerides (0.361, 0.308, respectively) and diastolic blood pressure (0.339, 0.318), but only to systolic blood pressure (0.375) for women.
Implications: Anthropometric measures do not appear to be strong predictors of health status in this Latino population as has been indicated for cardiovascular and diabetes risk in other populations. In addition there are gender differences such that anthropometric measures may be more predictive for females than males. Additional research is needed to determine if these findings remain consistent in other Latino populations.

Research supported by grant funding from: Boise State University Department of Nursing Faculty Research Grant & Boise State University College of Health Sciences OEF Developmental Research Grant

LEARNING THROUGH COLLABORATION: THE NEXUS CONSORTIUM, A WIN-NING COLLABORATIVE

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OVERVIEW: LEARNING THROUGH COLLABORATION: THE NEXUS CONSORTIUM, A WIN-NING COLLABORATIVE

J. Kathy Magilvy

ORGANIZING AND SUSTAINING AN EDUCATIONAL CONSORTIUM: THE ADMINISTRATIVE MAZE

Pauline Komnenich

THE FACULTY AND STUDENT PERSPECTIVES: TEACHING AND LEARNING IN THE NEXUS CONSORTIUM

Janice S. Hayes, Elizabeth Bossert

THE DEANS' DIALOGUE: PERSPECTIVES ON THE NEXUS INITIATIVE

Lauren Clark, Maureen Keefe, Patricia Moritz, Debra Leners, Carolyn Yucha

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EXTENDING THE COLLABORATIVE: JOINING NEXUS

J. Kathy Magilvy, Cindy Mendelson

LEARNING THROUGH COLLABORATION: THE NEXUS CONSORTIUM, A WIN-NING COLLABORATIVE

Overview: Learning through Collaboration: The NEXus Consortium, A WIN-ning Collaborative

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Purpose and Background: The Nursing Education eXchange (NEXus)[1] is a partnership among select Western universities offering doctoral programs in Nursing (PhD and DNP) to provide opportunities for students at one academic collaborating institution to take a distance accessible course or a series of clustered courses from another academic collaborating institution. NEXus is currently funded by HRSA and is administered by the Western Institute of Nursing (WIN) as the lead organization. The **purposes** of this symposium are: to describe the development and processes used in the NEXus consortium that have led to its success as a best practice for doctoral education; to identify administrative strategies that facilitate organizing and sustaining the consortium; to present the perspectives of students, faculty, and deans of participating institutions; and to describe the expansion of the project by inviting new member institutions.
Description: This symposium includes an overview of the project from guiding principles to results; a paper on navigating the administrative maze to sustain the collaborative; a description of faculty and student perspectives on their participation in NEXus courses; a panel of deans in dialogue about their schools' involvement in the consortium; and a paper describing ways interested schools and universities can join in the expansion of the project.
Outcomes and Conclusions: The NEXus consortium has been externally evaluated positively by participating students, faculty, deans of participating schools/colleges of nursing, and their universities as an innovative best practice. Distance accessible courses clustered by interest and topic area assist students and advisors in selecting electives supportive of the student's degree program or possibly substituting for a required course for off-time students. Unfilled seats in smaller doctoral courses are filled, providing financial incentive for university participation and emerging doctoral programs can augment course offerings. Many courses are open to both participating PhD and DNP students, further enriching the doctoral education experience for students, and the teaching experience for faculty. To sustain the consortium additional member institutions are invited as the project plans to expand beyond the western states.

[1] Currently funded by the US Department of Health and Human Services, Health Resources and Services Administration (D09HP09070); Developed through a grant from the Fund for the Improvement of Postsecondary Education (FIPSE), US Department of Education, (P116B040822). **www.winnexus.org**

LEARNING THROUGH COLLABORATION: THE NEXUS CONSORTIUM, A WIN-NING COLLABORATIVE

Organizing and Sustaining an Educational Consortium: The Administrative Maze

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Purpose and Rationale: Although the notion of establishing a consortium of educational programs is enticing, there are administrative challenges that are overlooked. The purpose of this paper is to synthesize barriers and facilitators in navigating the administrative maze in consortium arrangements and compare institutional challenges encountered with the Nursing Education eXchange (NEXus) Consortium to similar projects.
Brief Description: In a preliminary review of literature, issues identified with Nursing and Non-Nursing consortia at the University level, which also include distance education, are pedagogy, fiscal restrictions, technological infrastructure; resistance at all levels (faculty, institutional, sociocultural); and infrastructure management and collaboration.
Outcomes and Conclusions: Value of clear communication, strong cooperative agreements and clear fiscal arrangements leading to successful collaboration will be discussed in addition to unresolved issues such as scheduling and transfer of courses, transfer of funds, record keeping, tuition issues, and academic calendars.

LEARNING THROUGH COLLABORATION: THE NEXUS CONSORTIUM, A WIN-NING COLLABORATIVE

The Faculty and Student Perspectives: Teaching and Learning in the NEXus Consortium

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Purpose and Rationale: Incorporating NEXus students into classes as a teacher and participating in NEXus courses as a doctoral student have been described by participants as an enriching experience. The purpose of this paper is to describe both the faculty and student perspectives of teaching and learning in the NEXus consortium.
Description of Teacher Perspective: Professors are key to making this a good experience for learners. Teaching faculty must be well oriented to the NEXus program and its guiding principles. The professor, as the primary contact, can create positive impressions about the program among students. Course faculty are kept informed by the campus faculty and staff coordinators through emails and information-sharing forums varying by university. Suggestions for enhancing group dynamics within the course will be presented and examples of positive experience with teaching NEXus students discussed. NEXus student advising by faculty requires identification of appropriate courses by content and level for each advisee and referring the student to the campus and staff coordinators who assist in the registration process. The goal is to assist the student in a user friendly manner to participate in courses that will enrich and enhance the program of study.
Description of Learner Perspective: The student perspective of the NEXus experience is another key to the success of the partnership, as the purpose is to facilitate the educational options of doctoral students. Perspectives of students who have taken one or more courses through NEXus will be described with a focus on four areas of the NEXus experience. First, the process of exploring the NEXus option and registering for a course will be discussed. Second, the course experience will be explored, including joining a different cohort, participating in and completing the course. Third, the outcomes of taking a NEXus course will be examined from the perspective of participating students, including usefulness of course knowledge for program trajectory and potential networking opportunities with students and faculty outside the home university. Finally, student comments from the external evaluation of the NEXus experience are provided to answer the question, “Would you recommend this experience to another doctoral student?”
Outcomes and Conclusions: From the perspective of both faculty and students and through formative evaluation, the NEXus consortium has identified strengths of the project and issues that can be addressed to improve the quality and outcomes of this innovative consortium.

LEARNING THROUGH COLLABORATION: THE NEXUS CONSORTIUM, A WIN-NING COLLABORATIVE

The Deans' Dialogue: Perspectives on the NEXus Initiative

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Purpose: In this moderated panel presentation, four deans dialogue about the NEXus endeavor, reflecting on changes in higher education, doctoral student needs, and technology. The panel is comprised of deans from founding NEXus schools as well as deans of schools that have recently joined NEXus. Schools with new and more established doctoral programs are represented.
Background: Deans make decisions about future directions in nursing education, considering a futuristic vision of what is optimal yet operating within fiscal and institutional constraints. The NEXus opportunity is a futuristic vision that deans discuss, complete with challenges and opportunities.
Description of the Undertaking: The moderator will focus the deans' discussion on three topics. First, the deans will identify reasons for their interest in establishing a relationship between their school and the NEXus initiative. Second, the value of NEXus to PhD and DNP graduates who will become the next generation of faculty members in nursing schools is discussed. Third, lessons learned through the NEXus experience, including information about their own institution, about collaborations among nursing educators, and about contemporary graduate education are described.
Outcomes: Each of the deans on the panel chose to participate in NEXus and their reflections on this process will inform the audience about how and why they did so.
Conclusions: The session will conclude with a summary of recommendations for audience members about NEXus and educational alliances from the perspective of the deans on the panel.

LEARNING THROUGH COLLABORATION: THE NEXUS CONSORTIUM, A WIN-NING COLLABORATIVE

Extending the Collaborative: Joining NEXus

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Purpose and Rationale: In 2008 the Nexus collaborative was opened to new members. By allowing doctoral programs in nursing to join the collaborative, the new members and the original members were enriched not only by the additional availability of courses, but also by the opportunity for students to have exposure to other programs, points of view, and faculty expertise. The purpose of this paper is to describe how the NEXus collaborative has been expanded and membership extended to new academic collaborators.

Description: Although the NEXus consortium was eager to accept new collaborators, and new members were eager to join, some minor difficulties were encountered. Interestingly, most of these problems were a consequence of not being fully able to grasp in advance, the implications of the agreement on all the components of the university. The NEXus partners and staff were always available by e-mail, personal phone calls, conference calls to help problem-solve and overcome perceived barriers. The use of institutional teams at each academic collaborating institution was endorsed by participating schools as helpful to the process of developing procedures that were locally relevant and facilitative of the university's participation. More importantly, the problems that were encountered were used as lessons learned to ensure that the process of welcoming new members into the collaborative continues to improve over time. It appears that students from most of the new schools have embraced the opportunities of NEXus and the students from the initial member schools have participated in the course offerings of the new schools.

Outcomes and Conclusions: With the addition of the DNP programs and courses in the 2009-10 year and a course catalog of over 100 available PhD and DNP courses, opportunities exist for new members to join the consortium. A description of the process of joining concludes this paper and the symposium.

LISTENING TO THE VOICES OF CHILDBEARING WOMEN

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OVERVIEW: LISTENING TO THE VOICES OF CHILDBEARING WOMEN

Lynn Clark Callister

GIVING BIRTH DOWN UNDER: THE VOICES OF AUSTRALIAN WOMEN

Lynn Clark Callister, Shelly Holt, Melody Kuhre

THE VOICES OF ECUADORIAN WOMEN GIVING BIRTH

Lynn Clark Callister, Cheryl Corbett, Shelly Reed, Cassidy Tomao, Katie Thornton

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PERCEPTIONS OF GIVING BIRTH AND ADHERENCE TO CULTURAL PRACTICES IN CHINESE WOMEN

Lynn Clark Callister, Megan Cutler

POSTPARTUM DEPRESSION AND HELP SEEKING BEHAVIORS IN IMMIGRANT HISPANIC WOMEN

Lynn Clark Callister, Renea Beckstrand, Emily Litt, Cheryl Corbett, Glauco Souza

LISTENING TO THE VOICES OF CHILDBEARING WOMEN

Overview: Listening to the Voices of Childbearing Women

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Work in *The Lancet* verifies that women's wisdom represents a significant source of expert knowledge for healthcare providers (Malterud, 2006). Listening to the voices of culturally diverse childbearing women is an essential strategy to inform healthcare delivery. It is important to gain knowledge of mothers' perceptions of their experiences across the childbearing year, which will enhance nurses' ability to provide culturally sensitive care. In addition, the opportunity to talk about feelings related to a significant life event such as childbirth has been documented to be an emotionally satisfying experience for childbearing women (Callister, 2004).

Women give birth within their socio-cultural context, and it is important to document the richness of their perceptions of their experiences. The first paper describes the voices of socially disadvantaged Ecuadorian childbearing women, documenting their perceptions of giving birth in a large maternity hospital in Guayaquil, Ecuador with a birth census of 90 births per day. Their birth experiences were characterized by passivity and stoicism. The second paper documents perceptions of giving birth and adherence to traditional cultural practices in Chinese women living in Taiwan and those who have immigrated to the United States.

The third paper reports the perspectives of Australian childbearing women about their birth experiences, including those who reported traumatic birth experiences. These women valued shared power with their clinicians. Finally, the fourth paper shares results from a qualitative descriptive study of postpartum depression and help seeking behaviors in immigrant Hispanic women. Papers are discussed in relation to their implications for culturally competent nursing practice, the generation of appropriate interventions for culturally diverse women, with recommendations for future nursing research.

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LISTENING TO THE VOICES OF CHILDBEARING WOMEN

Giving Birth Down Under: The Voices of Australian Women

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Purpose: The purpose of this qualitative descriptive study was to identify Australian women's perceptions of giving birth.
Background: Women give birth within their socio-cultural context, including healthcare delivery systems. Listening to the voices of women is essential to increase nurses' sensitivity to the needs of childbearing women and inform healthcare. Australian socio-cultural trends include declining birth rates and smaller families. Some Australian women delay childbearing until after they are 35 years of age, and others are choosing to remain voluntarily childless. Since the 1970's the fertility rate has been below replacement level. Because of this declining birth rate, the Australian government has implemented a "baby bonus" incentive for having a child. The need was identified to obtain data on the perceptions of giving birth in Australian women.
Method: Following IRB approval and informed consent, a convenience sample of 17 Australian women who had given birth in the past year participated in audio-taped interviews. These interviews were transcribed and themes generated based on the rich narrative data. Member checks were done with five study participants to ensure trustworthiness of the data.
Results: Participants described themselves as "Aussies" wanting to exercise considerable control over decisions relating to their pregnancies and birth with input from their caregivers as consultants. Themes included focusing on the moment of birth, being empowered by giving birth, defining the spiritual dimension of giving birth, birth as trauma or having a diminished birth, feeling concern for the child, coming to know the child, and receiving care: nurses making a difference. One woman said, "There's nothing else like it. It's amazing—creating your own baby and then giving birth." Another said, "I experienced full-on labor, and that was just the most amazing experience. Oh my gosh, you think you're going to die. So I'm glad that I went through it and I'm amazed that I did it. My body is capable of a lot more pain than I give it credit for! Your body is amazing and is designed to give birth. Mothers all over the world have done it, and I did it!" Three study participants described their births as traumatic, with one saying, "[The birth] was a blur. The whole birth experience was overwhelming. It was just so intense. I needed to debrief. At the time I thought that I would never want to do that again."
Implications for Clinical Practice: Study findings confirm that Australian women expect and appreciate shared power with their caregiver. In the provision of healthcare for childbearing women, the importance of caring, connection, and shared power between nurses and women in order to ameliorate potential negative psychosocial outcomes cannot be overemphasized. It is essential to provide individualized nursing care that creates a climate of confidence in childbearing women.

LISTENING TO THE VOICES OF CHILDBEARING WOMEN

The Voices of Ecuadorian Women Giving Birth

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Purpose: The purpose of this qualitative descriptive study was to describe the perceptions of Ecuadorian women about giving birth.

Background: No studies could be found documenting the perspectives of Ecuadorian childbearing women about their birth experiences. With the growing influx of immigrants into the United States from South and Central America, the need for nurses to provide culturally competent care increases. A culturally competent nurse understands the importance of social and cultural influences on women's health beliefs and practices, and generates interventions to assure quality healthcare delivery to diverse populations of women.

Method: Thirty-two women who had recently given birth in a large maternity hospital were approached on the postpartum unit or in communities surrounding Guayaquil, Ecuador and consented to participate in the study. Audio-taped interviews were conducted. Interviews were transcribed and translated and analyzed as appropriate for qualitative inquiry. Members of the research team analyzed data separately to identify preliminary themes, and analysis continued as a team to finalize the results and identify the final themes arising from the narrative data. It was not feasible to contact study participants to do member checks, but other methods were utilized to ensure the trustworthiness of the data.

Results: "Enduring birth to obtain the gift" was the overarching theme. Supporting themes included caring for self and accessing prenatal care to have a healthy baby; relying on a Higher Power to ensure positive maternal/newborn outcomes; submission of self to healthcare providers because of fear, pain, and lack of education; and valuing motherhood. One woman said, "Endure it because the pains come, but then they are gone and then comes the joy because you have your baby." Another woman said, "I asked God and the Virgin that everything would turn out good and yes, they helped. The Virgin, I even saw her at my side. It helped me being by my side between her and God." The focus is on the well being of the child rather than the birth experience. It's not about the birth experience, it is about the outcome. The woman endures to obtain the gift of the child.

Implications for Clinical Practice: Understanding the importance of having a child to women from South and Central America is essential. Sensitivity to the stoicism and passivity of some women is important. Women's reliance on a Higher Power to ensure positive outcomes should be respected. The provision of education and supportive care are helpful strategies to ensure positive physiological and psychosocial outcomes in culturally diverse women. A culturally competent nurse understands the importance of social and cultural influences on patients' health beliefs and behaviors and generates interventions to assure quality healthcare to diverse populations of women.

LISTENING TO THE VOICES OF CHILDBEARING WOMEN

Perceptions of Giving Birth and Adherence to Cultural Practices in Chinese Women

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Purpose: The purpose of this qualitative descriptive study was to describe the childbirth experiences and adherence to cultural practices in Chinese women living in Taiwan.

Background: Chinese childbearing women living in Taiwan espouse cultural beliefs and practices, including the common practice of "doing the month" after giving birth. Similar practices can also be found in Japan, South Korea, the People's Republic of China (PRC), Thailand, and Cambodia. There are an increasing number of immigrants from Asia living in the United States, and it is important that nurses provide culturally competent care for Asian childbearing women and other culturally diverse women.

Method: Fourteen Chinese women living in Taiwan and four Chinese women from Taiwan who had immigrated to the western United States were interviewed following informed consent. These women had given birth in the 15 months to a healthy term infant. Audio-taped interviews were conducted in either Mandarin Chinese or English depending on the preference of the mother. Interviews were transcribed and translated and analyzed as appropriate for qualitative inquiry. Data collection proceeded concurrently with data analysis. The investigators reviewed and analyzed the transcripts, identifying themes that arose from the narrative data. Member checks were done electronically to verify preliminary themes and clarify questions of the interviews which were identified during data analysis. Trustworthiness of the data was ensured.

Results: Themes included expecting a child, defining birth expectations, experiencing giving birth, and sitting or doing the month. Although the one-child policy in the PRC is not applicable in Taiwan and women can choose family size, the profoundness of the birth experience was identified. "Childbirth is an experience of life. It makes it so you can be a mother. It helps fulfill the purpose of being a woman." Despite Taiwan being highly westernized, Chinese childbearing women practice many Chinese rituals and customs that many nurses may not be aware of including the practice of "doing the month." Although the extent to which these cultural practices are adhered to varied, almost all Chinese women in Taiwan and those living in the United States follow them to some degree to avoid getting a "month disease."

One woman said, "My mother-in-law said I shouldn't wash my hair. I heard a lot of examples of people who washed their hair and their head really hurt when they were 40 or 50 years old. During the month I was amazing. I didn't wash my hair at all."

Implications for Clinical Practice: Each culture has different beliefs and practices surrounding childbirth, and because there is such rich cultural diversity in the United States, it is important for nurses caring for childbearing women to understand Chinese cultural beliefs and practices so they can provide culturally competent care.

Postpartum Depression and Help Seeking Behaviors in Immigrant Hispanic Women

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Purpose: The purpose of this qualitative descriptive study was to describe the experience of having symptoms of postpartum depression (PPD) and identify help seeking behaviors in immigrant Hispanic women.

Background: Hispanics are the largest and fastest growing minority group living in the United States. Between 2000 and 2006, Hispanics accounted for 50% of the nation's growth. Hispanic women have the highest fertility rate of all ethnic/racial groups, comprising 23% of the births in the United States (US Census Bureau, 2007). PPD is pervasive across culturally diverse women, and while it is prevalent among disadvantaged Hispanic women, it is not readily detected by women or their clinicians. A recent study documented the incidence of symptoms of PPD in Hispanic women in a community health center in a western state. The incidence of PPD was over 50% using the Beck PPD Screening Scale-Spanish version (PDSS). This scale has an alpha reliability in Mexican women of .94, and the majority of women seen in the clinic are of Mexican descent. Many of the women declined to make appointments for mental health services, and shared with the researchers the multiple stressors they were experiencing in their lives.

Based on this study, the need was identified to gain an understanding of the experience of having symptoms of PPD in immigrant Hispanic women, and to assess why these women often decline to seek mental health services.

Method: Twenty women were recruited from a sample of 100 immigrant Hispanic women receiving services at a community health center in a western state. Inclusion criteria included having a cutoff score above 60 on the PPDSS-Spanish Version. The purposive sample included women of varying ages and educational levels, some of which were first-time mothers and others who had more than one child. Following informed consent, the women participated either in a focus group or individual audio-taped interviews with Spanish speaking members of the research team. Data were transcribed and translated, then analyzed individually and collectively by members of the research team.

Initial Results: Women sought help from their families rather than healthcare providers, but many were isolated and lacked social support and continue to experience symptoms of PPD. They stated it was not culturally common to seek mental health services in their countries of origin. Barriers identified confirmed findings in the literature, including lack of time, stigma related to mental illness and seeking care for mental illness, immigration status, linguistic and cultural barriers, and childcare issues.

Implications for Clinical Practice: Limited social networks and barriers to healthcare, including mental health services, should be addressed in order to foster positive outcomes in these vulnerable women. Focusing on the protective strength factors in these women, such as resiliency and life satisfaction, in designing interventions is essential.

NEW DIRECTIONS IN LEUKOCYTE RESEARCH IN NURSING

Moderator:
Carolyn Yucha, RN, PhD, FAAN
Professor and Dean
Schools of Nursing and Allied Health Sciences
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Las Vegas, NV

OVERVIEW: NEW DIRECTIONS IN LEUKOCYTE RESEARCH IN NURSING

Carolyn Yucha

GENE-NETWORKS OF HIV-RELATED FATIGUE IN $CD14^{+}$ CELLS ISOLATED FROM HIV INFECTED PATIENTS

J.G. Voss, A. Dobra, C. Morse, J. Kovacs, L.D. Adams, R. Raju, M.C. Dalakas

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THE ROLE OF LEUKOCYTES IN CERVICAL REMODELING

Marie Hastings-Tolsma

POSSIBLE HYPOBARIC HYPOXIA EFFECTS ON LEUKOCYTE FUNCTION IN HEALING TISSUE

Barbara St. Pierre Schneider

NEW DIRECTIONS IN LEUKOCYTE RESEARCH IN NURSING

Overview: New Directions in Leukocyte Research in Nursing

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Purpose: The purpose of the symposium is to describe new directions in leukocyte research in nursing.
Overview: US nurse scientists have increasingly incorporated biological and physiological variables into their research questions. In the last 20 years, one biological variable that has surfaced in many research questions is the leukocyte. Leukocytes are capable of ameboid movement and are therefore found throughout the body. The different cell subtypes function in various ways (e.g., phagocytosis, inter-cellular communication) to protect the body in infection and allergy, and promote healing and recovering after injury. A Pubmed search from 1950-September 2009 using "Nursing [affiliation]" AND "leukocyte" AND "research," with English language as a limit listed 148 citations. After removing studies conducted in foreign countries, the search yielded 30 articles studying leukocytes in animals, and 77 studying leukocytes in humans. All of the animal research involved rats or mice in 3-4 different laboratories and was focused on stress, infection/inflammation, or cancer/metastasis. The focus of the human studies was more widespread. These investigations centered on immune function related to stress (pain, childbirth, or surgery), and cancer. Eleven studies explored the effects of therapeutic measures (e.g., social support, education) on immune function in adults with cancer, asthma or severe burns. Earlier studies focused on number of cells and subtypes, while later studies put greater emphasis on cell activity and cytokine levels; primarily focusing on the cellular level, rather than the genomic level.

With the start of the 21st century, nurse scientists are taking new directions in leukocyte research. This symposium will provide three examples of these new directions. The acquisition of advanced training in genomics has prepared nurse scientists to apply these techniques to examine the biology of illness symptoms. In the first paper, the use of leukocytes to study gene-expression in human immunodeficiency virus-related fatigue is described. Another direction in which nurse scientists have become more interested is the therapeutic effects of herbs. The second paper will focus on the effect of the herb, red raspberry leaf, on leukocytes during cervical remodeling in late gestation. With the Department of Defense's extramural funding of military personnel health needs studies, a new research trajectory in military health is available to nurse scientists. The third paper of this symposium examines the theoretical links between hypobaric hypoxia, which wounded soldiers experience while being transported from the field to a medical facility, altered leukocyte function, and delayed healing. Together, these papers show that leukocyte research in nursing is moving forward in new directions in genomics, obstetrics, and military health.

NEW DIRECTIONS IN LEUKOCYTE RESEARCH IN NURSING

Gene-Networks of HIV-Related Fatigue in CD14+ Cells Isolated from HIV-Infected Patients

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Purpose: The purpose of this study was to examine the relationship between fatigue and genomic expression markers of mitochondrial dysfunction.
Background/Significance: HIV-related fatigue is multi-causal in origin and potentially related to mitochondrial dysfunction caused by nucleoside reverse transcriptase inhibitors (NRTIs). CD14+ cells are undifferentiated macrophages, vulnerable to HIV infection, and easily accessible for gene expression experiments in a purified cell population. Identification of genes that will let us develop biomarkers for fatigue will aid developing diagnostic and progression measures.
Methods: We utilized a novel mitochondrially-specific gene expression microarray to assess mitochondrial and nuclear genes in CD14+ cells of low and high fatigued HIV/AIDS patients (n=5 each).
Results: Novel Bayesian and liquid association network methods identified 33 genes predictive of low versus high fatigue and 32 genes predictive of healthy versus HIV infection. SULT2B1, a gene in the sulfotransferase family is relevant to both the cholesterol and testosterone pathway and like identified inner mitochondrial membrane genes predictive of fatigue status while outer mitochondrial membrane genes were predictive of HIV status. A surprising finding was that adenylate cyclase 2 (ADCY2) was a predictor of both HIV and fatigue, it had the highest Kendall's Tau association value in the HIV group but in reverse the lowest Tau value in the fatigue group.
Conclusions: Isolating CD14+ cells may provide an alternative to muscle biopsy and a minimally invasive way to study patient mitochondrial function, and Bayesian and network tools are useful to identify the link between subjective symptom perceptions and underlying biologically pathways. Fatigue status in HIV patients treated with NRTIs is linked to RNA expression related mitochondrial function. Additional studies are needed to confirm the relevance of our findings in other tissues (e.g. skeletal muscle) and to understand the significance of key genes such as SULT2B and ADCY2 in fatigue and HIV disease.

NEW DIRECTIONS IN NURSING LEUKOCYTE RESEARCH

The Role of Leukocytes in Cervical Remodeling

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Purposes/Aims: This paper examines the proposed role of leukocytes in cervical remodeling (ripening) in late gestation and the potential influence of a targeted therapy in altering leukocyte function.

Description/Definition of Theory/Concept: Cervical remodeling is a critical process that is important in successful parturition. Of the 4.3 million births each year, nearly a quarter of these births—approximately one million—are the result of labor induction that is often preceded by an attempt to ripen the cervix. Induction of labor has skyrocketed among those without medical indication and significantly increases healthcare costs as well as medical complication. Low cost, efficacious methods to promote cervical ripening are needed. There are many herbal therapies widely purported to foster cervical ripening though little supportive data exist. One commonly used herb, red raspberry leaf (RRL), is widely purported to be efficacious in fostering cervical ripening at term. Despite a long history of use, little is known about the biological mechanism of action or how use might influence cervical ripening or remodeling prior to parturition. Understanding the influence of RRL on cervical and myometrial tissue has the potential to further clarify cervical remodeling mechanisms.

Internal Consistency of the Theory/Concept: Term labor includes *both* myometrial remodeling and activation, and cervical ripening with a change in architecture of the cervix across gestation and with a dramatic functional shift through a cervical destructive process. The process is mediated by multiple factors that are not well understood. While the exact mechanism of cervical remodeling is unknown, there is growing evidence that inflammatory processes stimulate a cascade of events. There is an influx of inflammatory cells into the cervix and myometrium, along with a corresponding change in vascular and leukocyte adhesion molecule expression and increased pro-inflammatory cytokine production by transmigrated leukocytes. These cytokines are believed to mediate a variety of parturition-related processes, including cervical remodeling. A coordinated inflammatory mechanism appears to underlie the process of labor, incorporating leukocyte trafficking, activation, and cytokine expression. The role of leukocyte infiltration and matrix degradation in cervical ripening is not fully known though the signals that mediate leukocyte recruitment are likely involved. Examination of how RRL influences leukocyte activity in these tandem tissues may provide important clues in how remodeling occurs and pathways are activated and mediated.

Logic Linking the Theory/Concept to Practice/Research Problem: The immune system shifts to favor an anti-inflammatory vs pro-inflammatory profile during pregnancy with a reversal near parturition. This shift in late pregnancy is complicated but thought to promote extracellular membrane reorganization of the cervix with a profound change in architecture. Preliminary data suggests that novel active compounds influence biologic activity and alter inflammatory activity though testing of these hypotheses is yet needed.

Conclusions: To increase knowledge of cervical ripening, RRL chemical components are proposed to influence leukocyte invasion of cervical and myometrial tissues. Such description may be an important step in identifying useful biomarkers which reflect the extent of cervical ripening and treatments which foster or impair associated changes.

NEW DIRECTIONS IN NURSING LEUKOCYTE RESEARCH

Possible Hypobaric Hypoxia Effects on Leukocyte Function in Healing Tissue

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Purpose: The purpose of this paper is to describe a theory that links hypobaric hypoxia, altered leukocyte function, and delayed tissue healing.
Description of Theory: Leukocytes, including neutrophils, monocytes, and macrophages, are highly involved in tissue inflammation and healing. These cells remove cellular debris, and aid in maintaining inflammatory mechanisms and in initiating new tissue formation. It is highly possible that a hypoxic environment induced by high altitude (hypobaric hypoxia) may affect the function of these cells. Accumulating evidence indicates hypobaric hypoxia may enhance those leukocyte functions that could lead to damage or the removal of normal tissue. Alternatively, other data suggest that certain leukocyte functions are diminished, which could hamper the inflammatory response. In either case, tissue healing may be delayed. Therefore, to address the recovery of soldiers wounded overseas and transported via aeromedical evacuation, a theory is proposed that links hypobaric hypoxia, altered leukocyte function, and delayed tissue healing.
Internal Consistency of the Theory Developed: The proposed theory is internally consistent because all of the theoretical concepts are concepts at the cellular level. That is, hypobaric hypoxia can affect the functioning of cells, such as leukocytes, and the altered leukocyte function can delay healing of injured cells, such as muscle and skin.
Logic Linking the Theory to Nursing Practice or Research Problem: In the past 6 years, approximately 30,000 US soldiers have been wounded in Operation Iraqi Freedom. Many of these wounded have had to be transported via aeromedical evacuation to a medical treatment facility 12-16 hours away from the field. A major challenge of aeromedical evacuation is its hypobaric hypoxia environment. During aeromedical evacuation, the wounded soldiers' condition is likely to worsen because injured and uninjured tissues are exposed to hypoxia. Hypoxia may alter leukocyte function, which could delay tissue healing. Therefore, a better understanding of the relationships among hypobaric hypoxia and leukocyte function and healing is needed. An initial step is developing theory that links hypobaric hypoxia, altered leukocyte function, and delayed tissue healing.
Conclusions: Because aeromedical evacuation exposes wounded soldiers to a hypoxic environment for up to 12-16 hours, the condition of wounded soldiers may worsen during evacuation. Evidence suggests that hypobaric hypoxia can alter leukocyte function. By linking hypobaric hypoxia and leukocyte function, this theory offers an innovative direction for developing therapeutic strategies to improve the recovery of soldiers wounded overseas.

NURSING GENETICS: TRANSLATING SCIENCE FROM POPULATION TO PATIENT

Moderator:
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OVERVIEW: NURSING GENETICS: TRANSLATING SCIENCE FROM POPULATION TO PATIENT

Joachim G. Voss

GENE-ENVIRONMENT INTERACTION FOR HYPERTENSION AMONG AFRICAN AMERICAN WOMEN ACROSS THE LIFESPAN

Jacquelyn Y. Taylor, Yan V. Sun, Steven C. Hunt, Sharon L.R. Kardia

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IDENTIFICATION OF MITOCHONDRIAL PROTEINS IN PLASMA OF FATIGUE HIV-PATIENTS AND HEALTHY CONTROLS

Joachim G. Voss

EPIGENETIC PATTERNS IN PLACENTAL PROGRAMMING OF PREECLAMPSIA

Cindy M. Anderson, Eric Uthus

CANDIDATE GENE APPROACH TO ENHANCE BREAST CANCER SYMPTOM MANAGEMENT

Diane Von Ah, Todd Skar, Fredrick Unverzagt, Janet S. Carpenter

NURSING GENETICS: TRANSLATING SCIENCE FROM POPULATION TO PATIENT

Overview: Nursing Genetics: Translating Science from Population to Patient

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Purpose: This symposium will demonstrate the results of the first year of the genetically and symptom-focused projects of four Robert Wood Johnson Nurse Faculty Scholars (RWJ-NFS). The purpose of this presentation is to develop an understanding for translating genetic findings from a bench-to-bedside and back to a patient perspective.
Methods: Four projects will identify unique genetic and proteomic approaches to demonstrate the translational character of their work to specific patient populations. Methods discussed include genome-wide association studies, epi-genetics, mass spectrometry and symptom association studies.
Results: RWJ-NFS are expanding the science related to translating genetic and proteomic questions back to patient care. Preliminary findings are encouraging and will change the way we diagnose, treat, and follow patients long-term.
Conclusions: RWJ-NFS have the opportunity to identify critical areas of translational research to broaden the impact nurse scholars have on patient care questions. Translating basic science findings to nursing science is a critical step in the training and success of current and future specialized clinicians, researchers, and especially nurse faculty.

NURSING GENETICS: TRANSLATING SCIENCE FROM POPULATION TO PATIENT

Gene-Environment Interaction for Hypertension Among African American Women across the Lifespan

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Purpose: Hypertension and obesity disparities are prominent among African American women. This study will examine body mass index (BMI) as a partial internal environment in the gene-environment interaction for hypertension in African American women across 2 generations.
Background: African American women have the highest prevalence of hypertension and obesity than any other group in the United States. African American girls have the highest incidence of obesity than any other children in the nation and hypertension diagnosis has been rising. Because both genetic heredity and BMI are important risk factors for hypertension, this study examined the gene-BMI interaction for hypertension in 2 generations of African American women.
Methods: This study was comprised of 868 female African American participants in the parent cohort and 322 female African American participants in the offspring cohort from the Hypertension Genetic Epidemiology Network (HyperGEN) study, part of the Family Blood Pressure Program (FBPP). Genes were selected to represent biological pathways or positional candidate genes from systems known to be associated with hypertension, and previous linkage study. A total of 115 SNPs were evaluated among the parent cohort, and 491 SNPs were evaluated among the offspring cohort for tests of SNP-BMI interaction using methods of false discovery rate (<.20) and examination of minor allele frequency (>.05) and Hardy-Weinberg equilibrium (>.10).
Results: One SNP (located in the *CAPN 13* gene, rs1879282) passed adjustments for multiple testing mentioned above and had a significant ($p<0.01$) gene-BMI interaction on both systolic (SBP) and diastolic blood pressure (DBP) among African American female offspring. The rs1879282 SNP is located on chromosome 2 on the calpain (CAPN) 13 gene which is part of a family of cytosolic calcium-activated proteases involved in apoptosis, cell division, modulation of integrin-cytoskeletal interactions, and synaptic plasticity. This SNP was not available for testing in the African American parent cohort.
Implications: Identification of the CAPN13_rs1879282 SNP as a risk factor for increases in SBP and DBP in normotensive African American offspring is clinically important when considering early interventions and appropriate prevention plans. Early detection of genetic and environmental influences to hypertension development may help to reduce hypertension and obesity health disparities among African American women.

Funding: Funding for this research was provided in part by the Robert Wood Johnson Foundation – Nurse Faculty Scholars Grant 64193, and National Institutes of Health cooperative agreements (U10) with NHLBI: HL54471, HL54472, HL54473, HL54495, HL54496, HL54497, HL54509, HL54515, and 2 R01 HL55673-12.

NURSING GENETICS: TRANSLATING SCIENCE FROM POPULATION TO PATIENT

Identification of Mitochondrial Proteins in Plasma of Fatigue HIV-Patients and Healthy Controls

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Purpose: This study identified low-abundance nuclear and mitochondrial encoded proteins from healthy controls compared to fatigued HIV patients to identify "signature proteins" for fatigue. Our hypothesis is that there are distinct mitochondrial and nuclear encoded proteins identified in the plasma of fatigued HIV patients compared to healthy controls.
Background: HIV treatments have been found to induce structural and functional changes of mitochondria in various tissues, leading to tissue damage, cell apoptosis, and inflammation. We speculate that these events may contribute to the measureable release of mitochondrial proteins into the blood stream and may be related to fatigue perception.
Methods: For this study, plasma samples of severely fatigued HIV patients (fatigue score >7, range 0-10, on the Piper Fatigue Scale) who received HIV treatment (n=10), and healthy control samples (n=10) were compared. To minimize presence of abundant proteins, we depleted the plasma of the seven most abundant proteins utilizing a Removal Column to enhance identification of low abundance proteins. Proteins were trypsinized and desalted with a solid phase extraction C18 column. Proteins were analyzed by liquid chromatography-electrospray ionization tandem mass spectrometry (LC-ESI-MS/MS). Data generated with LC-ESI-MS/MS has allowed us to search for protein identifications via database search.
Results: A total of 286 proteins were identified. Of those 170 were shared proteins in patients and healthy controls, while 59 were unique to healthy controls and 57 to fatigued HIV patients. We identified a total of 35 mitochondrially relevant proteins in healthy controls and 40 in HIV infected individuals. Of those 20 were unique to healthy controls, 15 unique to HIV patients and 20 were shared between both.
Discussion: We were able to identify distinct mitochondrial and nuclear encoded proteins in the plasma of fatigued HIV patients compared to healthy controls. Further investigation is needed to understand the character and function of these proteins.

NURSING GENETICS: TRANSLATING SCIENCE FROM POPULATION TO PATIENT

Epigenetic Patterns in Placental Programming of Preeclampsia

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Purpose/Aims: Preeclampsia, a form of pregnancy-induced hypertension, affects 8-10% of women in the United States. The acute effects of preeclampsia are the result of placental insufficiency leading to pregnancy-induced hypertension in the second half of pregnancy. Long-term consequences of preeclampsia include subsequent development of maternal primary hypertension and hypertension (primary and pregnancy-induced) in offspring. As methylation patterns are established during fetal life and are influenced by maternal nutrition, our lab focused on investigation of maternal nutritional status and placental programming through epigenetic alterations in DNA methylation as a plausible explanation of the heritable development of hypertension resulting from maternal preeclampsia.
Background: In a pilot study of 46 nulliparous women, we investigated the association between maternal first trimester nutritional status and the subsequent development of preeclampsia. No significant differences in macro- and micronutrient dietary intake or serum status were identified, with the exception of maternal vitamin D. All women reported supplement use containing the recommended vitamin D intake of 400 IU, with dietary intake providing an additional 259-342 IU/day. Vitamin D status was adequate in only 30% of the sample, with the remaining 70% of participants either insufficient (44%) or deficient (26%). The incidence of preeclampsia was 23.9%, far exceeding national norms. As the placenta serves as a significant source of vitamin D production and utilization, we investigated the DNA methylation status of placental genes involved in vitamin D signaling.
Methods: Genome-wide DNA methylation patterns were determined in placental tissue from women with normotensive pregnancy (control) and preeclampsia (n=3/group), targeting genes producing proteins used in vitamin D signaling. Samples were labeled and co-hybridized to Human DNA Methylation 2.1M microarrays (NimbleGen). Raw data were analyzed using NimbleScan software producing signal ratio values and estimating the significance of enrichment. Promoters and genes with DNA methylation differences (hypo or hypermethylated) in experimental vs control samples were identified.
Results: Vitamin D-mediated gene transcription is initiated when the active form of vitamin D (1,25-dihydroxyvitamin D3 [1,25[OH]2D]) binds with the vitamin D receptor (VDR), which forms a heterodimer with the retinoid X receptor (RXR). The complex binds to the vitamin D responsive element (VDRE) on a vitamin D-responsive gene, leading to transcription of protein products. The promoter region for the VDR (gene id 7421), which encodes the nuclear hormone receptor for vitamin D3, was methylated near the transcription start site in placentas from women with preeclampsia, suggesting that expression of this gene is downregulated in preeclampsia. Retinoid X receptor alpha (RXR, gene id 6256) which is a significant contributor to VDR mediated gene expression was also found to be methylated in the promoter region in placentas from women with preeclampsia compared to those unmethylated in normal pregnancy.
Implications: Vitamin D insufficiency in pregnancy is associated with increased blood pressure and risk for preeclampsia, leading to increased cardiovascular risk in mothers and children. Placental DNA hypermethylation in the VDR and RXR may reduce vitamin D binding and gene transcription thereby reducing utilization during pregnancy and programming the fetal cardiovascular system for future risk of preeclampsia and hypertension.

Funding: Funding for this research was provided by the Robert Wood Johnson Foundation Nurse Faculty Scholar Grant #64202 (PI: Anderson), Sigma Theta Tau International Grant #3781 (PI: Anderson), University of North Dakota New Faculty Scholar and College of Nursing Research Awards.

NURSING GENETICS: TRANSLATING SCIENCE FROM POPULATION TO PATIENT

Candidate Gene Approach to Enhance Breast Cancer Symptom Management

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Purpose/Aims: Breast cancer survivors (BCS) comprise the largest group of cancer survivors with over 2.4 million female BCS living in the US alone. BCS often experience frequent, severe, and bothersome symptoms that co-occur, including hot flashes, mood disturbance, and cognitive dysfunction. One potential shared physiological mechanism underlying this symptom cluster is serotonin. Serotonin is a neurotransmitter that is synthesized, stored, and released by specific neurons in the brain and serotonin levels are significantly affected by estrogen withdrawal—a common side effect of breast cancer treatment. Based on this evidence, our lab has focused on a candidate gene approach to identify predictive physiologic and genetic biomarkers to further enhance our understanding of symptom pathophysiology and to provide insight to improve symptom management strategies.

Background: In a previous study with 300 BCS starting on tamoxifen (anti-estrogen) therapy, we evaluated the association between SNPs in the serotonin receptors (*HTR1A* & *HTR2A*) and the serotonin synthesis pathway (*TPH1*). Although neither the *TPH1* nor *HTR1A* genotypes were associated with hot flashes, the *HTR2A* genotypes were associated with therapy-induced hot flashes 3-months after starting treatment. In addition, in premenopausal women who received chemotherapy and were initiating tamoxifen, hot flashes were associated with the *HTR2A* C/T SNP rs#6313 genotype (Chemo: p=0.03). Similarly, the *HTR2A* rs#6313 C/T SNP and the rs#799701 A/G SNP in the same gene were also associated with tamoxifen-induced hot flashes in post-menopausal women.

Methods: To further understand the role of serotonin in these common symptoms, we conducted a double-blind, crossover, randomized controlled trial that temporarily lowered central serotonin concentrations via acute tryptophan depletion (ATD) and explored genetic variation in response.

Twenty female BCS who were post-treatment for non-metastatic breast cancer received ATD or control in a double-blind, crossover design. Hot flashes were monitored continuously, mood disturbance was measured hourly, and cognitive performance was measured at the 5 hour tryptophan/serotonin nadir on each test day using standardized neuropsychological tests.

Results: As anticipated, at +5 hour (nadir), the active amino acid drink resulted in 85% drop in tryptophan. However, the control drink also resulted in a 49% decrease in tryptophan. No significant changes in mood or hot flashes were noted. Significant cognitive impairment was noted in long-term memory (*p=.04*) and motor speed *(p=.02)* during ATD versus control. Due to small sample size no significant genetic variation was noted. Significant findings may have been difficult to detect due to the 49% drop in tryptophan seen with the control drink.

Implications: Findings from this series of studies will be used to further our understanding of the underlying mechanisms of these co-occurring cancer treatment-related symptoms. The premise that serotonin is involved in cognitive functioning of BCS has important implications. Firstly, it broadens our understanding of the potential underlying mechanisms involved with cognitive deficits. Secondly, such insights may help in identifying appropriate pharmacological (SSRIs) or non-pharmacological (dietary tryptophan) interventions that enhance performance. Further research in this area is needed to ultimately enhance breast cancer symptom management.

Funding: Funding for this research was provided by the Robert Wood Johnson Foundation Nurse Faculty Scholar Grant #64194 the Department of Defense Breast Cancer Research Program BC043199 and the Indiana University General Clinical Research Center NIH M01 RR00750 (PI: Carpenter); Indiana University, General Clinical Research Center, M01 RR00750 and Indiana CTSI, Indiana Clinical Research Center, UL RR025761 (PI: Von Ah); Oncology Nursing Foundation, Post-doctoral Fellowship (PI: Von Ah); and grant # T32 NR007066 from the National Institute of Nursing Research (NINR), National Institutes of Health (NIH), to Indiana University School of Nursing (PI: Von Ah) and Dr. Unverzagt was supported by grants from the National Institutes of Health R01 AG026096, R01 AG09956, U01 NR04508; and P30 AG10133, the American Cancer Society RSGPB04-089-01-PBP, and the IU Cancer Center "Mechanisms of Human Cognitive Dysfunction".

OXIDATIVE STRESS AND BIOLOGICAL NURSING RESEARCH

Moderator:
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OVERVIEW: OXIDATIVE STRESS AND BIOLOGICAL NURSING RESEARCH

Carrie J. Merkle

USING F_2 ISOPROSTANES TO MEASURE OXIDATIVE STRESS IN CLINICAL POPULATIONS

Ida M. (Ki) Moore, Petra Miketova, Marilyn Hockenberry

URINARY F_2 ISOPROSTANES: A BIOLOGICAL MARKER ASSOCIATED WITH COGNITIVE PROCESSES

Kathie Insel, Amy N. Vidrine, David W. Montgomery

OXIDATIVE STRESS IN ISCHEMIC STROKE: THE DAMAGING POTENTIAL OF ACTIVATED NEUTROPHILS

Helena Morrison, Leslie Ritter

PLATE-BASED ASSAYS TO MEASURE REACTIVE OXYGEN SPECIES IN MODELS OF AGING

Charles A. Downs, Carrie J. Merkle, David W. Montgomery

OXIDATIVE STRESS AND BIOLOGICAL NURSING RESEARCH

Overview: Oxidative Stress and Biological Nursing Research

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Oxidative stress occurs when excessive production of reactive oxygen species (ROS), such as superoxide and hydrogen peroxide, overwhelm mechanisms in the body that are designed to detoxify ROS and to protect from oxidative injury. Oxidative stress has been implicated in biological aging and numerous disease processes, including atherosclerosis, cancer, diabetes, and Alzheimer's disease. Pharmacological and nutritional interventions that involve vitamins and other substances with known anti-oxidant properties have the potential to reduce oxidative stress and related injury. This symposium consists of four papers that discuss aspects of oxidative stress and altered health conditions. The first presentation reports on the use of isoprostanes as a marker of oxidative stress in clinical investigations of children receiving treatment for acute lymphoblastic leukemia (ALL). Examination of isoprostanes in the cerebral spinal fluid samples of children undergoing chemotherapy for ALL may enable the investigators to better understand and to eventually prevent therapy-related central nervous system injury in these children. The second talk is a research report on a study that used the measurement of isoprostanes in the urine as a marker of oxidative stress in community-dwelling elders. This study finds that urinary isoprostanes are significantly inversely associated with a number of cognitive measures obtained in the study sample, and thus supports links between oxidative stress and cognitive decline. The third paper addresses oxidative stress in the context of stroke and diabetes. The investigators find that neutrophil production of ROS is increased following ischemic stroke in rodent models of type 2 diabetes compared to lean control rodents. The final paper discusses methods that have been used to measure ROS production within cells and peroxide released extracellularly in cell culture models of aging. These methods are being used to gain insight into age-related disease mechanisms, such as cancer and pulmonary disease. In sum, these papers constitute a broad representation of the state-of-the-science in terms of oxidative stress and biological nursing research.

OXIDATIVE STRESS AND BIOLOGICAL NURSING RESEARCH

Using F_2 Isoprostanes to Measure Oxidative Stress in Clinical Populations

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Purpose: The purpose is to provide an overview of F_2 isoprostanes as a biological measure of oxidative stress and describe changes in F_2 isoprostane concentrations during central nervous system (CNS) treatment with methotrexate for childhood acute lymphoblastic leukemia [ALL]).
Rationale: F_2 isoprostanes are stable prostaglandin-like compounds formed from the peroxidation of arachidonic acid (a polyunsaturated free fatty acid that is present in high concentrations in membrane lipids) and are present in detectable quantities in biological tissues and fluids. F_2 isoprostane levels have been shown to increase substantially in animal models of oxidant injury, are modulated by endogenous antioxidant status, and are unaffected by the lipid content in diet.
Methods: CSF samples were obtained from 15 children during the first year of ALL therapy. Samples were collected at the time of ALL diagnosis, which was prior to any CNS treatment. Subsequent samples were obtained after 1 intrathecal methotrexate treatment (day 7), during intensive CNS treatment (referred to as consolidation) and during the continuation phase of treatment. F_2 isoprostanes were measured in 100 μl of CSF by a competitive enzyme-linked immunoassay (ELISA) kit according to instructions (Oxford Biomedical Research). A standard curve was generated from average replicates of standards ranging in concentration from 0 to 125 picograms/ml.
Results: CSF F_2 isoprostane concentrations ranged from 15 to 120 picograms/ml, which was within the detection range of the assay and the linear range of the standard curve. Mean F_2 isoprostane concentrations increased from diagnosis (33.46 pg/ml) to 50.6 pg/ml after 1 week of ALL therapy, and continued to increase during the consolidation phase of treatment (58.3 pg/ml). The mean concentration of F_2 isoprostane remained elevated during the continuation phase of ALL therapy (44.8 pg/ml). Results from Kruskal-Wallis One Way ANOVA on Ranks showed significant differences by treatment phase ($h=16.9$; $df=3$; $p<0.001$). Dunn's pairwise multiple comparison procedure showed significant differences between mean F_2 isoprostane levels at diagnosis and during consolidation, and between diagnosis and continuation ($p<.05$).
Implications: Findings suggest that F_2 isoprostanes can be used to measure oxidative stress in the brain, and that CNS treatment with methotrexate is associated with increased oxidative stress. F_2 isoprostanes can be measured in relatively small sample volumes (100 μl). If the blood brain barrier is intact, CSF F_2 isoprostane concentrations should be specific to oxidative stress in the CNS.

Funding: Supported by the Oncology Nursing Foundation/Sigma Theta Tau International Small Grants Program.

OXIDATIVE STRESS AND BIOLOGICAL NURSING RESEARCH

Urinary F_2 Isoprostanes: A Biological Marker Associated with Cognitive Processes

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Purpose: The purpose of this study was to examine the association of a potential biological marker of age, urinary F_2 isoprostanes, and cognitive processes known to decline with normal aging.
Rationale: While particular cognitive processes are known to decline with normal aging, for example, declines occur in executive function and working memory, there is great variability in the level and rate of decline among people of the same age. The high variability of decline in cognitive processes calls for improved ways to assess aging rather than the use of chronological age alone. We reasoned that a biological marker of aging would be a more robust indicator of cognitive aging than chronological age. Urinary isoprostanes are an indicator of systemic oxidative stress and because oxidative stress and the theory of free radicals are a leading theory of aging, urinary isoprostanes should be an indicator of aging processes including cognitive aging.
Methods: Forty-two participants (M=69 years of age) completed a 12-hour urine collection for urinary isoprostanes, which was used as an indicator of oxidative stress. Participants completed a battery of cognitive assessments.
Results: Urinary isoprostanes were significantly and inversely associated with logical memory both immediate (r=-.38, p<.01) and delayed recall (r=-.42, p<.01), and recognition memory (r=-.42, p<.01) from the Wechsler Memory Scale III. Urinary isoprostanes were also associated with increased perseveration errors (r=.26, p<.05) and fewer categories achieved in the Wisconsin Card Sorting Test (WSCT) (r=-.26, p<.01).
Implications: The free radical theory of aging suggests that oxidative stress accelerates aging implying that aging is not uniform among older adults since the formation of free radicals can differ depending on life circumstances. Since aging is associated with declines, in particular cognitive processes, it is important to look not only at chronological age, but also at biological age and the potential association between this biomarker of age and cognitive processes.

Funding: Supported by the National Institute of Nursing Research, R03 NR010010-01.

Oxidative Stress in Ischemic Stroke: The Damaging Potential of Activated Neutrophils

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Purpose: The purpose of this paper is to review oxidative stress during reperfusion after ischemic stroke with an emphasis on the damaging potential of the activated neutrophil.

Background and Rationale: The restoration of blood flow to ischemic tissue (reperfusion) is necessary to reduce injury after stroke. However, upon the return of oxygen to ischemic cells undergoing anabolic metabolism, oxygen binds to biochemical and molecular products of anaerobic metabolism resulting in the production of reactive oxygen species (ROS). ROS are produced from multiple cell types during reperfusion after ischemic stroke. Activated neutrophils are a major source of the potent ROS hydrogen peroxide (H_2O_2), formed when neutophil NADPH oxidase assembles in the membrane, catalyzing the reaction $2O_2 + NADPH \rightarrow NADP^+ + 2O_2^- + H^+$. Superoxide ($2O_2^-$) then readily combines with existing hydrogen to form H_2O_2. During reperfusion after ischemic stroke, ROS production increases beyond the production of endogenous antioxidants. This imbalance is termed *oxidative stress. Oxidative stress* damages brain tissue via oxidation of lipids, proteins, and alterations of intracellular signaling pathways that change gene transcription and protein synthesis. Compared to other tissues, the brain is highly susceptible to ROS-induced oxidative stress because brain tissue contains a high concentration of lipids, a key target of ROS. Further, it is known that oxidative stress activates additional inflammatory pathways, such as the complement system. Thus, ROS acts directly and indirectly to perpetuate a toxic environment that results in increased brain tissue damage during reperfusion following ischemic stroke. Because neutrophils are chronically activated (primed) in diabetic rodents before the onset of stroke, we hypothesized that there would be exaggerated neutrophil ROS production during reperfusion after ischemic stroke.

Methods: Flow cytometry was used to investigate the damaging potential of activated systemic neutrophils in diabetic rodent models of ischemic stroke and reperfusion. Hydrogen peroxide, a product of the neutrophil NADPH oxidase mediated reaction, oxidizes to the fluorescent chemical dichlorofluorescein (DCF). DCF fluorescence can then be detected with flow cytometry techniques. In this study, neutrophil ROS production was measured before and immediately after reperfusion following 2 hours of ischemic stroke in a rodent model of type 2 diabetes vs. lean controls.

Results and Implications: We found a significant increase in neutrophil ROS production during early reperfusion after stroke in diabetic animals vs. lean controls. This confirms that the DCF-flow cytometry method is a sensitive measure of neutrophil ROS production. We are currently investigating the impact of a natural product on reducing *oxidant stress* in a diabetic model of ischemic stroke and reperfusion.

Funding: Ms. Morrison is a trainee supported by NIH 1 F31 NR010658-01, University of Arizona Emmons Student Dissertation Award, and Sigma Theta Tau Student Research Grant.

OXIDATIVE STRESS AND BIOLOGICAL NURSING RESEARCH

Plate-Based Assays to Measure Reactive Oxygen Species in Models of Aging

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Purpose: Our laboratory uses cell culture models to study aging-related phenomena. It is becoming increasingly apparent that reactive oxygen species (ROS) have a role in aging and age-related diseases. The purpose of this paper is to describe plate-based assays in our laboratory to assess ROS in cell culture models of aging.
Background: Excessive ROS production contributes to biological aging and age-related diseases such as atherosclerosis and cancer. Furthermore, ROS can contribute to cancer growth and metastases. We have used plate-based assays to study intracellular and extracellular ROS production by aged vascular endothelial cells after breast cancer cell addition. Intracellular ROS is measured using the membrane-permeant probe, dichlorodihydrofluorescein diacetate (CM-H_2DCFDA), which is converted to an impermeant form by intracellular esterases. In the presence of ROS (e.g. nitric oxide, superoxide, peroxide) the probe fluoresces and the fluorescence can be quantified using a plate reader. Extracellular hydrogen peroxide is measured using the Amplex Red reagent (dihydroxyphenoxazine) that in combination with horseradish peroxidase reacts with hydrogen peroxide to produce a measureable fluorescent product. These assays permit assessment of intracellular or extracellular ROS production in response to various treatments or changes in physiologic conditions.
Methods: We have used these plate-based assays to determine why old and young bovine pulmonary artery endothelial cells (BPAECs) respond differently to breast cancer cell addition. We found, to our surprise, that it was due to an increase production of ROS by the BPAECs in contrast to ROS production by cancer cells reported in the literature. Currently these assays are being used to understand age-related pulmonary disease using cell culture models of alveolar type I and microvascular endothelial cells.
Results/Implications: These assays have been useful in measuring intracellular and extracellular ROS production in a variety of cell types and models. This will increase our understanding of ROS in aging and age-related diseases and may assist in the development of nursing interventions to ameliorate the effects of ROS.

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PUTTING COMMUNITY-BASED PARTICIPATORY RESEARCH TO WORK IN RURAL COMMUNITIES

Moderator:
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OVERVIEW: PUTTING COMMUNITY-BASED PARTICIPATORY RESEARCH TO WORK IN RURAL COMMUNITIES

Janet R. Katz

AI/AN NURSE PRACTITIONERS AND CBPR PARTNERSHIP TO PROMOTE ADOLESCENT HEALTH

Janet R. Katz, Teressa Martinez, Robbie Paul

FACILITATORS AND CHALLENGES TO THE CONDUCT OF PARTICIPATORY RESEARCH IN A RURAL COUNTY

Nancy E. Findholt, Victoria W. Brogoitti, Linda Jerofke, Yvonne L. Michael

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ENGAGING AN ENVIRONMENTAL HEALTH ADVISORY COMMITTEE: CBPR ON THE FLATHEAD RESERVATION

Sandra W. Kuntz, Lorelei A. Lambert

PROMOTING COMMUNITY PARTICIPATION IN DATA ANALYSIS THROUGH PHOTOVOICE

Julie Postma, Jeff Peterson

PUTTING COMMUNITY-BASED PARTICIPATORY RESEARCH TO WORK IN RURAL COMMUNITIES

Overview: Putting Community-Based Participatory Research to Work in Rural Communities

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The theme of this symposium is community-based participatory research in minority rural communities. Much of what has been written on CBPR (and notable partnerships that have gained momentum in this area) is based in urban centers. We will illustrate not only the use of CBPR in rural settings, but highlight ethnic diversity within rural Northwest US communities (white, hispanic, AI/AN). We will demonstrate CBPR approaches through two research studies and two projects. Our presentations will discuss: (1) insider-outsider politics, (2) community participation in data analysis, (3) child and adolescent health issues, and (4) environmental health risks in minority communities. Our symposium on minority rural health research advances the science of nursing through application of methods and strategies to produce culturally relevant health practices and outcomes.

PUTTING COMMUNITY-BASED PARTICIPATORY RESEARCH TO WORK IN RURAL COMMUNITIES

AI/AN Nurse Practitioners and CBPR Partnership to Promote Adolescent Health

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Purpose and Aims: The purpose of this paper is to present the results of a partnership between university researchers and an AI/AN family nurse practitioner (FNP) working on her reservation to write a research grant to the Indian Health Service and National Institutes of Health. The first step of the grant's development is described here as we conducted a research project to determine community priorities for adolescent health and analyzed the data using a community advisory board (CAB). Implications and recommendations for community nurse partnerships are also explored.

Background: Developing research grants with sovereign tribal communities requires special attention to culture. American Indian/Alaska Native (AI/AN) leaders recommend using a community-based participatory research (CBPR) approach to respect and recognize tribal self- determination. CBPR literature describes how to develop research grants, including relationship building between academics and communities, forming community advisory boards, identifying issues of community concern, and implementing, analyzing, and disseminating research. Yet, no information is available about CBPR partnerships with community nurse practitioners.

Methods: This project used focus groups to determine the primary community concern for adolescent health and to form a CAB to analyze data and determine research questions. A descriptive qualitative analysis method with focus groups was chosen to efficiently elicit in-depth community members concerns about adolescent health on the reservation. The FNP was responsible for arranging the focus groups to meet with as many groups as possible in order to be inclusive. Cultural sensitivity mandated including a variety of groups to show respect, gain a variety of perspectives, give voice to those who might not otherwise be heard, and acknowledge awareness of a concept called "tribal politics." Data analysis was conducted by the FNP, university researchers, and the CAB. Each step was first approved by the Tribal Council.

Results: Thirteen focus groups with 85 participants ranging in age from 12 to 99 years old were held of in the last two months of 2008. Three of the 13 groups were with adolescents between the ages of 12 and 18 years who attended middle school, high school, or alternative school. Alcohol and drugs was identified as the primary health concern.

Implications: This study contributes to the CBPR literature by illustrating the importance and implications of partnering with community nurse practitioners. Implications for the FNP included conflicts or disagreements with research participant's perspectives during data collection or analysis and limited time to work on research. A major implication is maintaining confidentiality and participation in small communities. Locally, study results will help continued research efforts with this tribe and increased community and researcher capacity for work with other tribes. Nationally, strategies for successful research with tribes, including understanding how AI/AN nurses contribute to research, have been developed.

PUTTING COMMUNITY-BASED PARTICIPATORY RESEARCH TO WORK IN RURAL COMMUNITIES

Facilitators and Challenges to the Conduct of Participatory Research in a Rural County

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Purpose: The purpose of this presentation is to describe factors pertaining to the rural context and the involvement of "insider" investigators that influenced the implementation of a community-based participatory research (CBPR) project in a rural Oregon county.
Background: CBPR has been advanced as an effective approach for addressing environmental determinants of health disparities. As interest in this type of research has grown, many articles have been written describing factors that facilitate or are challenges to the conduct of CBPR. Most of these articles were based on studies conducted in urban areas, a few were based on studies conducted in rural communities, but the investigators were from universities outside of the community. Thus, little is known about how rurality affects the conduct of CBPR, especially when the investigators reside in the rural community themselves. Developing an understanding of how rural characteristics support or hinder CBPR is important because rural communities experience significant health disparities and could, therefore, benefit from engagement in CBPR.
Description of Project: The CBPR project that is the focus of this presentation was initiated in 2004 for prevention of childhood obesity in rural Union County, Oregon. Collaborators include representatives from county government, the school districts, the public health department, and other community agencies, as well as investigators from two universities. The Principal Investigator and a co-investigator reside in Union County. Accomplishments to date include completion of a formative assessment that identified factors that influenced children's physical activity and diets, and development of an action plan of intervention strategies. Implementation of interventions is the current focus.
Facilitators and Challenges: A high level of familiarity among residents and a strong sense of community facilitated formation and functioning of the CBPR partnership. Time demands (i.e., community leaders with multiple responsibilities), limited anonymity, and the investigators' professional isolation and heavy workloads were challenges that affected community participation, dissemination of data, and the overall conduct of the research. The involvement of "insider" investigators facilitated partnership development and data collection, but also presented challenges for informed consent and unbiased data analysis.
Conclusions: Many of the facilitators and challenges that we have encountered in conducting CBPR in this rural county are different than those reported in previous literature, and may reflect characteristics that are uniquely rural. Awareness of these issues can inform the development of effective CBPR projects in other rural communities.

Acknowledgements: This research was funded by the National Institute for Nursing Research and the Northwest Health Foundation.

PUTTING COMMUNITY-BASED PARTICIPATORY RESEARCH TO WORK IN RURAL COMMUNITIES

Engaging an Environmental Health Advisory Committee: CBPR on the Flathead Reservation

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Purpose/Aims: The purpose of this paper is to describe the process of developing and engaging an Environmental Health Advisory Committee to guide researchers studying environmental health issues on the Flathead reservation.
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 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/Process: Initially, a graduate student from the Flathead reservation contacted elders and other tribal leaders to determine the best approach for inviting committee participation. Next, a faculty member from Salish Kootenai College agreed to serve as chair of the committee and members were invited to participate based on their knowledge of and activity within the community. A proposal to support the work of the committee was funded by the Center for Native Health Partnerships (CNHP) and provides a $50 honorarium to members who attend monthly meetings. The Tribal Participatory Research Model (Fisher & Ball, 2004) serves as the guiding framework for the committee. Educational activities are planned as part of the co-learning exchange between community members and researchers.
Outcomes/Conclusions: To date, EHAC members have reviewed proposals to conduct a methylmercury exposure study and an environmental health (EH) conference to query healthcare providers on priority EH issues on the Flathead reservation; reviewed a survey tool proposed for the methylmercury study, IRB applications for both proposals, and a CNHP manuscript submitted for publication; participated in human subjects training, web-based CNHP seminars, and two statewide “Intersecting Interest: Tribal Knowledge and Research Communities” conferences; and started the process of developing guidelines and procedures (a handbook) for serving on the committee. The committee is a dynamic entity that requires the regular infusion of fresh ideas. Future plans include developing a research engagement field day to increase member/researcher awareness, knowledge, and experience with research and engagement in local cultural activities.

Fisher, P. & Ball, T. (2003). Tribal participatory research: Mechanisms of a collaborative model. *American Journal of Community Psychology, 32*(3/4), pp. 207-216.

Funding: NIH NCMHD, Center for Native Health Partnerships 1P20MD002317-01

PUTTING COMMUNITY-BASED PARTICIPATORY RESEARCH TO WORK IN RURAL COMMUNITIES

Promoting Community Participation in Data Analysis through Photovoice

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Background: Community-based participatory research (CBPR) aims to engage community members as co-researchers in order to create action for social change. However, community participation is often limited to recruitment and data collection. Community members rarely participate in data analysis and interpretation, a barrier to issue ownership and project sustainability. Innovative methods are needed to promote community participation in all aspects of the research process.

Purpose and Aims: The purpose of this paper is to report the methods used to promote participation in collecting, analyzing, interpreting, and disseminating data in a CBPR project focused on children's environmental health (EH) in a farm worker community. The specific aims of the parent study were to engage community health workers (CHWs) in: (a) identifying local assets and concerns related to children's EH in their community, and (b) educating community leaders and outside researchers about children's EH issues from a community perspective.

Methods: Photovoice is a CBPR methodology based on the theoretical literature on education for critical consciousness, feminist theory, and empowerment. Twenty CHWs were invited to participate in a photovoice project through flyers posted at the local migrant and community health clinic, an informational meeting, and word of mouth. Participants were trained to take photographs ethically, given disposable cameras, and encouraged to photograph people, places, and things that convey their perspectives on problems and community strengths related to children's EH in their community. After photograph development, they were asked to consider multiple dimensions of the most significant photographs in small groups, using the mnemonic SHOWeD: What do you See here? What's really Happening here? How does this relate to Our Lives? Why does this problem, concern or strength exist? What can we Do about it?

Results: Through co-facilitation by university researchers and community leaders, CHWs (a) selected key photographs to illustrate local assets and concerns related to children's EH in their community; (b) identified themes around the concepts of "community," "children," "environment," and "health;" and (c) disseminated findings locally through presentations.

Implications: Methodologically, this study has contributed to the CBPR literature by involving a new population, CHWs in a farm worker community, in photovoice. Further, CHWs were engaged in data analysis, interpretation, and dissemination phases of the research process. Locally, results will be used to advance children's EH by documenting existing assets to be protected and needs to be addressed and taking those issues to community leaders. Nationally, the photovoice project will contribute to the development of EH promotion interventions specific to the EH risks faced by agricultural communities.

SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Moderator:
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OVERVIEW: SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Amy Miner Ross, Glenise McKenzie, Joanne Noone

DEVELOPING A FOUNDATION OF KNOWLEDGE FOR EVIDENCE-BASED PRACTICE

Joanne Noone

UNDERSTANDING AND UTILIZATION OF INTERVENTION RESEARCH

Glenise McKenzie

TEACHING LEVELS OF EVIDENCE IN AN ONLINE PATHOPHYSIOLOGY COURSE

Amy Miner Ross

TEACHING UNDERGRADUATE STUDENTS TO USE AND CREATE EVIDENCE FOR PUBLIC AUDIENCES

Amy Miner Ross, Glenise McKenzie

LEARNING ABOUT PRACTICE-BASED EVIDENCE IN OUTCOMES MANAGEMENT

Amy Miner Ross

SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Overview: Spiraling Evidence-Based Practice in the OCNE Curriculum

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Purpose: The purpose of this symposium is to present five papers that outline spiraled learning activities that build skills essential to understanding and use levels of evidence in evidence-based nursing practice.
Rationale/Background: Oregon Health & Science University (OHSU) School of Nursing (SON) and eight associate degree nursing schools in Oregon (AD) have implemented a shared competency-based undergraduate program as part of the Oregon Consortium of Nursing Education (OCNE). American Association of Colleges of Nursing (AACN) detailed essentials of baccalaureate curriculum that include using evidence in nursing practice. Understanding and using evidence are enduring essentials that were identified in course development groups and were included in the emerging shared curriculum.
The First Paper: The first paper outlines a process to provide foundational elements for evidence-based practice, including searching databases, citing references, classifying journal articles according to level of evidence, and developing clinical questions using the PICO format.
The Second Paper: The second paper outlines the process of learning that guides second year students to assess a body of evidence for the efficacy of an intervention. The readings and in class discussions include systematic reviews, meta-analyses, and research trials exploring system-level chronic care outcomes. The students then conduct a search for evidence supporting system-level interventions aimed at improving the delivery of chronic care to a population of their choice.
The Third Paper: The third paper outlines the process of learning that guides bridging AD students to assess publication types for their contribution to the meaning of a pathophysiological mechanism. The focus of this activity is to expand students understanding and application of varied publication types.
The Fourth Paper: The fourth paper outlines the use of evidence in communicating with public audiences about health issues. Two activities are presented that outline how to use and create publicly available evidence. Third year students explore a variety of sources for veracity and language pertinent to use in public spheres.
The Fifth Paper: The fifth paper outlines the use of existing data and the creation of new practice-based evidence in the process of continuous quality improvement and evaluation. A discussion of the use and interpretation of decile-based practice data by students in the final year is the focus of this paper.
Outcomes: All learning activities have been disseminated to the larger faculty within the OCNE program. There is ongoing measurement for fidelity of course delivery and assessment of skill building related to evidence-based practice.
Conclusion: The symposium will present the process of implementing AACN Baccalaureate Essentials in the OCNE curriculum as they pertain to the understanding and use of a variety of evidence in nursing practice.

SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Developing a Foundation of Knowledge for Evidence-Based Practice

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Rationale/Background: An emphasis of undergraduate nursing programs is to enable undergraduate nursing students to gain proficiency in evidenced-based practice (EBP). One of the competencies of the undergraduate program of Oregon Health & Science University as part of the Oregon Consortium of Nursing Education (OCNE) is that a competent nurse uses the best available evidence. In this undergraduate program, nursing research and evidence-based practice is integrated throughout the curriculum.
Purpose/Aims of the Project: The aim of the project was to develop foundational learning activities focused on EBP specifically addressed to allow the student to demonstrate beginning competency in (1) conducting broad database searches, (2) independently finding evidence-based literature in databases to support nursing intervention, (3) differentiating literature according to the different levels of evidence, and (4) developing clinical questions. The project involves a set of learning activities that occur throughout the term in a foundational Health Promotion course.
Description of the Undertaking: Students begin by attending a library orientation that presents information about online database searching. In addition, they complete online tutorials related to evidence-based practice. Opportunities for skill building in online data searching and retrieval are provided. Journal readings throughout the term are assigned by providing selected aspects of the citation, such as topic of article, name of author, and year, requiring the student to use various methods to retrieve the online article. In addition, students read a variety of articles representing various publication types. The students use the levels of evidence developed by Melnyk & Fineout-Overholt to classify the article publication type and identify the level of evidence that would be appropriately assigned to that article. Case examples for practice in developing clinical questions in the PICO format are provided. Students then apply this skill to an assignment related to a health history and health promotion plan on a middle-aged adult to find evidence to support nursing interventions. Database searching during reserved computer lab time with faculty guidance supports student development of the skill.
Outcomes: Students require practice and faculty guidance in skill development in accessing and evaluating information for evidence-based practice. Providing multiple opportunities for skill development in developing clinical questions, databases searching, and assessing evidence provide the foundation for successful evidence-based practice.
Conclusions: These assignments provide the foundation for searching and evaluating evidence that will be revisited in future courses and learning activities. These learning activities occur in a Health Promotion course but can be adapted for an initial course in the curriculum.

SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Understanding and Utilization of Intervention Research

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Purpose of the Project: To provide second-year students opportunities to build skills in assessment, evaluation, and application of evidence-based interventions to specific population health issues.

Rationale/Background: Faculty working in teams from eight associate degree nursing schools in Oregon and Oregon Health & Science University School of Nursing created and shared learning activities that embed baccalaureate essentials in a competency-based undergraduate program curriculum. American Association of Colleges of Nursing has detailed essentials of baccalaureate curriculum that include using evidence in nursing practice for promotion of health in populations. Locating, evaluating, and incorporating appropriate evidence-based interventions for improving community and individual health were the focus of this project.

Description of the Undertaking: In-class lecture was used to first present content on evaluating levels and strength of evidence for system-level interventions. Assigned readings included systematic reviews, meta-analyses, and research trials that explored a variety of interventions aimed at improving the chronic care system and health outcomes of diverse populations. The students were assigned to independently choose a chronic condition and a population of interest to them. They then conducted a search for evidence to support system-level interventions aimed at improving the delivery of chronic care specific to a population of their choice. The final product was a written review of two evidence-based articles supporting (or not) specific system-level interventions for improving the health of their population with a chronic condition. Students briefly evaluated the level and strength of evidence and provided two examples of how they could apply research evidence when providing care in their clinical sites and/or populations.

Outcomes: The majority of students (22/24) successfully located and evaluated two studies, with a meta-analysis and/or RCT design, related to their population and chronic condition. During follow-up in-class discussion students showed increased familiarity with research designs and were able to share ideas on refining search strategies to locate higher quality intervention studies.

Conclusions: Second year nursing students were able to locate, evaluate, and provide examples of how they might apply evidence on chronic care interventions to refine their nursing practice.

SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Teaching Levels of Evidence in an Online Pathophysiology Course

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Purpose of the Project: The purpose of the project was to create a process of multi-assignment learning that guides students to assess publication types for their contribution to the meaning of a pathophysiological mechanism and use newly found evidence in communicating to other professionals and to the public.

Rationale/Background: When Oregon Health & Science University School of Nursing was creating bridge/transitions courses to the final year of the new Oregon Consortium of Nursing Education (OCNE) curriculum, students who were associate degree graduates who had not attended OCNE partner schools needed learning activities that spiraled concepts related to using evidence in nursing practice. Essentials identified by the American Association of Colleges of Nursing, understanding and using levels of evidence, was the focus of this project. Evidence used in the description of a pathophysiological mechanism was explored in the pathophysiology course, one of these bridge/transition courses.

Description of the Undertaking: The publication types pertinent to this assessment are prolific in the literature. Undergraduate students often think that the meta-analysis is the highest and best publication type for use in all cases. The goal was to shift the frame of reference to other uses of the varied publication types and, in particular, to view each publication type for its merits in the description of pathophysiological mechanisms of risk factors for disease.

Students read the Fineout-Overholt, Melnyk, and Schultz (2005) article for understanding levels of evidence. The students then read and classified three articles about the risk factors of Metabolic Syndrome. These three article publication types were a meta-analysis, a systematic literature review, and a randomized controlled trial (RCT). After this classification and ranking of the articles was done in an online Wiki, students continued to discuss, while editing the Wiki, which article had the most detailed information about the pathophysiological mechanism and where that information was found in each article publication type. After the Wiki content was verified by the faculty for accuracy, the students went on to search the literature for articles about a chosen risk factor. The assignment concluded with the creation of a paper with three sections. The first section is a one-page description of the literature search method used to find a minimum of three articles about their chosen risk factor. The second page is a one-page synthesis of the evidence found in the search that pertains to the pathophysiological mechanism of the risk factor in terms appropriate for addressing another health professional. And the third page of the paper was a one-page conversion of the pathophysiological mechanism into lay language used for public education based on terms approved by national associations (e.g., American Heart Association).

Outcomes: Students expressed surprise that the most detailed explanation of a pathophysiological mechanism is in the systematic review of the literature, supported by RCTs.

Conclusions: A shift in understanding that the meaning of the pathophysiological mechanism can be found in systematic review and in the introduction; discussion on RCTs was achieved with this multi-assignment guided learning activity.

SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Teaching Undergraduate Students to Use and Create Evidence for Public Audiences

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Purpose: The purpose of these two projects was to create multi-assignment learning that guided students in using and creating publicly available evidence.
Rationale/Background: Oregon Health & Science University School of Nursing created a shared curriculum with eight associate degree (AD) nursing schools in Oregon, known as the Oregon Consortium of Nursing Education (OCNE). American Association of Colleges of Nursing detailed essentials of baccalaureate curriculum that include using evidence in nursing practice for promotion of health in populations. Communicating complicated principles of health to public audiences is challenging to undergraduate students who are acquiring new knowledge that is expected at one time to be expressed on a level appropriate to address another professional and at another time to express this same knowledge on a level appropriate for public audiences.
Description of the Undertaking: The first assignment set was included in the Epidemiology course in the OCNE third year curriculum. As part of a series of online small group discussions, students first reviewed local newspapers for articles that used descriptive and/or analytic statistics to present information on a health issue in the student's community. Students were asked to discuss if the data was presented in an understandable and helpful manner. In a subsequent assignment, students were assigned readings on epidemiological study designs and measures. They were then asked to pick one health issue or disease of interest to them and to locate two evidence-based articles that utilized an epidemiological study design to explore their health topic. They then summarized the morbidity and mortality data from their two articles using language understandable to someone with limited medical knowledge.

The second assignment was associated with the pathophysiology course for nurses bridging to the OCNE curriculum form non-partner AD programs. In the last section of the assignment that served to guide students to use evidence from sources other than RCTs and meta-analyses, students synthesized information from articles that extended their understanding of a pathophysiological mechanism related to a risk factor for disease. Next, students explored websites for veracity and language pertinent to use in public spheres (e.g., American Heart Association). After students found information related to the terms used and endorsed by national associations, these terms were then used to craft a converted summary of the synthesis of evidence about a risk factor to lay language. The summary was to be at an eighth grade level and the explanation was to mirror the content in the synthesis that was in language appropriate for professional dialogue.
Outcomes: In the first assignment set, student discussions reflected a heightened appreciation of the critical importance of delivering understandable public health messages based on evidence. In the second assignment, students often were able to mirror the content, but struggled to bring the readability to an eighth grade level, even with the use of approved terms from websites.
Conclusions: These projects are used in separate pathways of the curriculum to the final year of the OCNE curriculum, but provide similar learning opportunities to verify and create public education.

SPIRALING EVIDENCE-BASED PRACTICE IN THE OCNE CURRICULUM

Learning About Practice-Based Evidence in Outcomes Management

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Purpose: The purpose of this project was to create a multi-assignment learning process about the use and interpretation of existing, and the creation of new, practice-based evidence in the process of continuous quality improvement and the evaluation of quality and safety.
Rationale/Background: Understanding and using evidence are enduring essentials that were identified by the American Association of Colleges of Nursing for inclusions in baccalaureate curriculum. In the final year of the Oregon Consortium for Nursing Education curriculum baccalaureate students enrolled at Oregon Health & Science University learn to use practice-based evidence in order to participate in ongoing quality initiatives and performance improvement in safe care delivery.
Description of the Undertaking: The leadership and outcomes management course had existing content modules and learning activities about leadership styles, communication and conflict resolution, health systems analysis, career development, health policy, and outcomes management. Students complete a college statistics course prior to this course where the analyses used in the leadership course were explained. Students participated in agency-based interprofessional teams that were involved in continuous quality improvement (CQI). In the theory portion of the leadership and outcomes management course, methods of CQI are discussed. Faculty supported students through these CQI projects in a model that included the nursing leader in the agency, the interprofessional team, if applicable, the faculty, and the student. At the center of this work was the collection and use of data. The CQI process relies on data that is practice-based. Once this data was collected by either tracer method or compliance method, students work on data interpretation and creation of next steps.

Data often used by the agency were those from national comparative databases that have an ability to show integrative functions of health systems (e.g., the Press-Ganey Report, the Centers for Medicare and Medicaid Services Measures, and various reports on safety and disease specific certification measures from the Joint Commission). The data on each variable were expressed in percentages of performance and percentile ranks. When CQI processes are in place and longitudinal data is available, percentages of performance can be seen as stable or improving, even in the face of falling percentile ranking. Agency-based CQI teams included data and systems analysts that can bring perspective to the data reports from these nationally compared databases. Leadership teams in agencies used a condensed dashboard type report to set targets based on dropping percentile rank. If there were targeted scores that were found to not have firm systems processes and performance auditing, then students created tools for data collection and programs for data dissemination to stakeholders.
Outcomes: Students learned to interpret the percentile rank and performance percent and link these data to systems processes for development of change initiatives.
Conclusions: Students participated in CQI projects with support from faculty and agency teams while learning about and using practice-based evidence.

SYMPTOM SELF-MANAGEMENT

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OVERVIEW: SYMPTOM SELF-MANAGEMENT

Cathy Michaels

A NEW MODEL FOR SYMPTOM PERCEPTION, APPRAISAL, AND MANAGEMENT

Paula M. Meek

THE CONTEXT FOR SYMPTOM SELF-MANAGEMENT

Joyce A. Verran, Jane Carrington

TOWARD A NEW UNDERSTANDING OF SYMPTOM TRAJECTORIES

Anne G. Rosenfeld

APPLICATION OF THE NEW MODEL: FATIGUE IN CHRONIC HEART FAILURE PATIENTS

Jacqueline Jones

SYMPTOM SELF-MANAGEMENT

Overview: Symptom Self-Management

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Symposium Purpose: This symposium will present a new conceptual framework of symptoms. The purpose is to understand symptom appraisal and symptom experience from a broader self-regulatory and ecological perspective rather than just from the physiological sensations that are the basis of symptoms. Given that individuals are responsible for appraising and responding to symptoms in everyday life, this new framework is essential to coach and guide patients in symptom self-management.

Conceptual Framework: Symptom appraisal is theorized to be a cognitive process guided by the development of cognitive respresentations for recognizing a physical sensation as a symptom, evaluating the symptom meaning, and constructing a response to the symptom. Four theoretical perspectives inform symptom appraisal: a self-regulatory perspective (Leventhal, et al.), symptom appraisal (Teel and Meek), a health systems perspective (Verran and Brewer), and a broader contextual perspective (Spradley, Kleinman and Benner). The first two theoretical perspectives reflect the individual's typical disease pattern and influence decisions made about the illness and the symptoms. Leventhal's (1991) Self Regulatory Model (Common Sense Model or Parallel-Processing Model) describes health behaviors in relation to an individual's mental representation of health threats or stimuli. The Symptom-Appraisal Model (Teel, Meek, et al., 1997) builds on Leventhal to theorize three symptom interpretation phases (input, appraisal, and outcome) that culminate in symptom self-management behaviors. The third theoretical perspective is based on systems science, specifically, the Systems Research Organizing Model (SROM). Through the four constructs of client, context, action focus, and outcomes, symptoms are provided a health systems context that influences symptom appraisal, as well as symptom self-management. An even broader context is offered by the fourth and final theoretical perspective that draws upon culture and social groups as developed by Spradley, Kleinmann, and Benner.

Overview of Symposium Presentations: Paula Meek will present the new conceptual framework of symptoms that incorporates the four theoretical perspectives. Anne Rosenfeld will discuss the symptom trajectory and the time between recognition of a symptom and the point at which professional support is sought. Joyce Verran will present the context for symptoms, both healthcare systems and the broader context of culture and social groups.

SYMPTOM SELF-MANAGEMENT

A New Model for Symptom Perception, Appraisal, and Management

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Purpose: The purpose of this paper is to introduce a new model entitled Symptom Self-Management that depicts individual's symptom perception, appraisal, and management of symptoms in chronic illness. This new model is drawn from four theoretical perspectives: a self-regulatory (symptom self-management) perspective (Leventhal, et al.), symptom appraisal (Teel and Meek), systems perspective (Verran and Effken), and a contextual perspective (Spradley, Kleinman and Mechanic). This paper presents an analysis of these theories and development of the new comprehensive model and will present a case example to illustrate the key points of the model.
Description of the Theory: The components of this theory begin with the individual's personal culture and context that integrates factors such as age, gender, ethnicity and race as well current physiologic state (Figure). Life stressors and physiological disturbance are the key factors that will trigger the appraisal process, which has two essential elements—an emotional state component and a cognitive-mental representation component. Both elements act to channel information that allows the individual to use reasoning and judgment heuristics to appraise the current disturbance or stressor and conclude he is well, stressed, or sick. Once appraisal is complete the individual makes a formal decision to do nothing or something about the stressor or disturbance, which will potentially result in action and outcomes resulting from the decisions made. The outcome will also feed back to the emotional state and mental representations to influence any ongoing appraisal of the stressor or physical disturbance that stimulated need for appraisal. The care context or healthcare system, whether public or private, has the potential to intervene at the point the individual chooses to take action or at the point of an outcome.
Theory Analysis Approach: Theory derivation as described by Walker and Avant (2005) was the approach used to develop the new theory. This approach allows extraction of interrelated concepts and the associated structures that were then modified to provide a model that allows clarification of the entire process of symptom self-management.
Links Nursing Practice and Research: Recent nursing literature dealing with symptom occurrence and management has been dominated by either models of symptom management or proposals of symptom cluster analysis. Nurses are on the front line of symptom management and therefore assisting the person to develop a self-management plan. There has been a need to develop a model that depicts this process in a coherent, predictive, and parsimonious manner.
Conclusion: The model is rooted in the notion that until we understand the interpretation perspective from the individual's perspective and link that to the models of care our ability to improve symptom self-management for the individual experiencing the symptom will be limited.

SYMPTOM SELF-MANAGEMENT

The Context for Symptom Self-Management

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Purpose: The purpose of this presentation is to describe the influence of contextual factors on an individual's appraisal of symptoms. In addition, the impact of context on the development of the individual's ability to manage their symptoms is discussed.
Contextual Framework: Context is broadly defined as the environmental factors that influence an individual's assessment and provider care. Environment can surround the individual and is related to the groups and networks with which he/she belongs. Or, it can be the environment that surrounds the provider and influences the way care is delivered. Finally, context can be the public environment that involves society's view of disease, care access, and availability of the resources, such as information systems. Thus symptom appraisal and self-management are influenced by (1) individual characteristics and the cultural groups to which the client belongs; (2) the culture of the group providing direct care to the client; and (3) the public culture with its attitudes and opinions about health and illness. The influence of context on the individual is based upon the Systems Research Organizing Model and the Quality Health Outcomes Model. The perspective that context is made up of a series of cultures is based upon the early work of Spradley, Kleinman and Mechanic. Complex societies are not made up of one culture, but individuals within these societies are influenced by all the groups to which he/she belongs. The perspective broadens the view of culture from the more commonly held idea of ethnicity. In fact, the individual within the complex society is influenced by their ethnicity, their age, their occupation, their community, their family and all other important groups and networks. Likewise, those that deliver care belong to other cultures that influence how they perceive clients as well as how they work together to influence the outcomes of care. These groups provide the overall context or milieu that makes up cultural knowledge or the acquired knowledge people use to interpret experience and generate behavior. Contextual factors enter the symptom framework at three points. Individual Context (cultural group membership) influences the person's emotional state and their mental representation of symptoms while the context of care (public culture and provider culture) influences an individual's action to achieve selected outcomes.
Conclusions: The incorporation of contextual elements when theoretically examining the symptom appraisal and management process is unique and adds some potential foci for action or intervention. An understanding of the cultures that influence individuals can anticipate how individuals will appraise their symptom. An understanding of the public culture and its attitude toward symptoms and healthcare will assist in anticipating the action individuals might take. Finally, the provider culture and how the care team works together will directly impact client action and subsequent outcomes. All of these influences have significance for clinical practice and future research.

SYMPTOM SELF-MANAGEMENT

Toward a New Understanding of Symptom Trajectories

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Purpose: Symptom trajectories are the path or course that symptoms take, as related by those experiencing them, and can be described for acute as well as chronic symptoms. The purpose of this presentation is to apply the new conceptual framework to an exemplar of acute myocardial infarction (AMI) symptom trajectories of women with first time AMI.

Conceptual Framework: In our prior work we described the treatment-seeking delay trajectories, that is, the patterns or courses of symptoms, decisions and actions, related by women with first time AMI. Women were asked to describe their symptoms from the time they started until the time the women reached the hospital. Narrative analysis was used to examine the stories from qualitative data and to identify trajectory types. Women described 1 of 2 types of trajectories: *knowing* (defined as knowing almost immediately they would seek help) and *managing* (treating an alternate hypothesis or minimizing their symptoms). Four sub-groups of knowing were identified: knowing and going immediately, knowing and going on her own terms, knowing and letting someone take over, and knowing and waiting (until morning or Monday). Each trajectory type is now analyzed and reconceptualized from the four perspectives of the new conceptual framework: self-regulation, symptom appraisal, health systems, and the broader context of cultural and social groups. Self-regulation theory has guided much of the research on treatment-seeking delay for cardiac symptoms. The addition of other perspectives can expand understanding of the symptom phenomenon, including symptom appraisal (e.g, how women decided symptoms were cardiac versus something they could manage themselves), health systems (e.g. reluctance to call 911; fear of bankruptcy due to lack of health insurance), and the broader context of cultural and social groups (e.g., gender roles; cultural expressions of symptoms).

Conclusions: Reconceptualizing *treatment-seeking delay* trajectories as *symptom* trajectories broadens our understanding of the symptom experience of women with AMI and highlights the critical role of symptom self-management. This exemplar also demonstrates the applicability of the new conceptual framework to other symptoms and conditions. The concept of *symptom trajectory* has utility for research on symptom management as well as for clinical practice as an assessment approach.

SYMPTOM SELF-MANAGEMENT

Application of the New Model: Fatigue in Chronic Heart Failure Patients

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Specific Aims: The overall aim of this presentation is to report a secondary analysis to explore the tenets of Symptom Self-Management Model (SSMM) in individuals with heart failure who experience fatigue.
Rationale: A secondary analysis of existing qualitative symptom experience data allows for the 'in field' exploration of the emergent SSMM without losing the original intent of the primary study and understandings within the context of chronic heart failure and healthcare system experiences.

	The Model Components	Examples of Model Elements	Patient Quote
INPUT	Mental Representation of Symptoms	Consequence of fatigue as symptom	*It takes a long time to learn, be prepared for everything to take at least twice as long as it used to…it is just a draining experience… It is like somebody coming and putting a 50 lb. weight on your chest.*
INPUT	Emotional States Cultural Group	Frustration r/t lack of cultural understanding of waxing and waning of fatigue	*I wish that they (family) could understand. I wish that they did understand when I say I'm tired… almost like she thinks I'm using it like an excuse.*
APPRAISAL	Symptom Appraisal	Recognizing physical sensation as fatigue and its meaning to everyday life	*So if you think, oh my heart is bad and it can stop at any time now and you have that on your mind all the time, but yet you are reminded when you take your medicines.*
OUTCOME	Actions -Do Something (avoid) -Do nothing	Responding to fatigue with varied action	*I go grocery shopping in the morning, I know I'm going to be tired in the afternoon and if I try to push and do anything after I get home I know I'm going to pay extra so I just plan on not planning.*
OUTCOME	Outcomes	Fatigue disruptor of everyday life	*Fatigue definitely does get in the way.*
OUTCOME	Care Context	Provider influence in managing fatigue	*I'm just shot when the afternoon rolls around. I even changed primary care physicians here because the one I was seeing only had office hours from 1:00 on.*

Methods: The sample was 23 male and 10 females (n=33), with an average of age 61 (49, 75). Semi-structured interviews were conducted with outpatients with symptomatic heart failure. Patients responded to 'what is the most distressing or difficult about having heart failure?' Qualitative theme analysis was applied to the textual data about fatigue and SSMM was then used as an interpretive lens to analyze existing themes and meanings across individual patient narratives. Data analysis also remained open to new and unexpected occurrences beyond the coding.
Results: Patient narrative exemplars (see table) give voice to the reality that symptoms are more than physiological; symptoms are a world both internal and externally experienced.
Implications: The SSMM can expand understanding of symptom experience and symptom management in terms of context, the individual's perception, appraisal, interpretation, and potential actions related to that symptom.

TECHNOLOGY TO PROMOTE EVIDENCE-BASED OBESITY CARE IN DIVERSE POPULATIONS

Moderator:
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OVERVIEW: TECHNOLOGY TO PROMOTE EVIDENCE-BASED OBESITY CARE IN DIVERSE POPULATIONS

Bonnie Gance-Cleveland, Gabriel Shaibi, Lynn Gilbert, Kevin Gilbert, Taynin Kopanos

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OUTCOMES IN A SCHOOL-BASED HEALTH CENTER

Bonnie Gance-Cleveland, Kevin Gilbert, Taynin Kopanos, Lynn Gilbert

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TECHNOLOGY IN A COMMUNITY-BASED DIABETES PREVENTION PROGRAM FOR OBESE LATINO YOUTH

Gabriel Shaibi, Kevin Gilbert

SOLUTION EVOLUTION: FROM PRACTICE TO RESEARCH TO PRACTICE TO COMMUNITY

Lynn Gilbert, Kevin Gilbert

TECHNOLOGY TO PROMOTE EVIDENCE-BASED OBESITY CARE IN DIVERSE POPULATIONS

Overview: Technology to Promote Evidence-Based Obesity Care in Diverse Populations

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The prevalence of overweight youth nearly quadrupled in the past four decades, with an alarming increase among poor, underserved, and minority youth. This dramatic increase in overweight youth has led to the emergence of associated co-morbidities such as dyslipidemia, hypertension, type 2 diabetes, musculoskeletal disorders, respiratory conditions, and emotional problems as well as increased risks of cardiovascular disease and cancer as adults. The rising prevalence of obesity and difficulty in identifying, assessing, and maintaining healthy weight in children and adolescents led to expert panels' publication of evidence-based guidelines. These guidelines include screening for cardiovascular risk factors, and using a family-centered and culturally-sensitive approach to care. The publication of guidelines, however, traditionally has not changed provider behavior. Studies have shown widespread failure to follow established guidelines for a variety of conditions. The barriers to implementing guidelines include inadequate tools or resources, insufficient knowledge and skills, lack of self efficacy, lack of time, and insufficient reimbursement. The Chronic Care Model for Childhood Obesity, which includes information technology, continuous quality improvement, and community partnerships, guides the work presented in the symposium.

Health information technology (HIT) is a mechanism for providing decision support and tailored patient education materials to improve evidence-based care for the prevention of obesity and related conditions. Self-efficacy regarding obesity counseling has been linked to access to HIT. Other studies indicate that patients who received written health information with graphics that depicted their response to therapy improved their motivation to adhere to the treatment plan and were more satisfied with care. This symposium will include presentations on: (1) the development of HeartSmartKids™, a healthcare decision-making tool that integrates patient health information with evidence-based guidelines and generates graphic trends of cardiovascular risks and tailored recommendations to improve patient outcomes; (2) the use of the technology in a obesity clinic for low-income Latinos; and (3) the use of the technology in a school-based health center. Elimination of health disparities in the chronic conditions related to childhood obesity depends upon the translation of best evidence into practice by the health care providers who provide care to youth at-risk for obesity related conditions. This symposium demonstrates technology support to improve obesity care to these children.

TECHNOLOGY TO PROMOTE EVIDENCE-BASED OBESITY CARE IN DIVERSE POPULATIONS

Outcomes in a School-Based Health Center

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Purpose: The purpose of the study was evaluation of IMPACT OF technology for identifying and assessing children at-risk for obesity-related chronic illnesses in a school-based health center (SBHC).

Background: The current obesity epidemic has produced a generation of children that may be the first to have a life expectancy shorter than their parents. Computer decision support shows promise for supporting providers in identification and assessment of risk factors in children. The Chronic Care Model, which includes technology support and continuous quality improvement, provides a guiding framework for the study.

Design and Methods: A pre-test/post-test design was used to evaluate documentation after the introduction of HeartSmartKids™, a decision-support tool that integrates patient health information with evidence-based guidelines and generates graphic trends of cardiovascular risks and tailored recommendations. A random sample of 15% of clinic charts (every 8th chart) was audited prior to and after the introduction of the technology to evaluate the documentation of BMI, BMI percentile, BP, and BP percentile.

Results: The 2006 chart review (n=101; ages 3-19.5 years, μ=8.25 years) was 45% female. The 2008 chart review (n=100; ages 3-18 years, μ=9.8 years) was 44% female. Using Chi Square analysis there were significant differences in the documentation of BMI ($p<.001$) and BMI percentile ($p<.001$), which requires calculation and graphing the value for age and sex, after the introduction of technology assistance, going from 31% to 76%. Documentation of BP also significantly improved ($p<.001$) from 83% to 97%. Documentation of BP percentile, which requires comparing the BP for age, sex, and height to established cut points, showed significant improvement ($p<.001$) from 1% to 35%.

Practice Implications: Reversing the obesity epidemic requires immediate action to identify and assess children for obesity and cardiovascular risk factors. The findings from this study suggest the use of bilingual decision support technology greatly improves the identification and assessment of these at-risk children. By gathering and processing information and providing the patient with a tailored, evidence-based recommendation for lifestyle changes, the technology allows providers to promote behavior change to reverse this catastrophic trend toward shortened life expectancy.

TECHNOLOGY TO PROMOTE EVIDENCE-BASED OBESITY CARE IN DIVERSE POPULATIONS

Technology in a Community-Based Diabetes Prevention Program for Obese Latino Youth

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Objective: Obese Latino youth are at high risk for developing type 2 diabetes. Unfortunately, few practitioners working with this population have the time or resources to appropriately assess for obesity and diabetes risk factors. The objective of this study was to implement an innovative interactive technology to assist with the identification of risk factors for type 2 diabetes in obese Latino youth enrolled in a community-based diabetes prevention program.
Methods: HeartSmartKids™ is a web-linked program that facilitates measurements of adiposity (BMI percentile), physical activity patterns, and dietary habits through an interactive computer kiosk. The software compares obesity, activity, and nutrition measures to established recommendations and provides a printout for patients and providers. The program was installed in a community-based diabetes prevention clinic for obese Latino youth. Children were asked to complete the 12 item questionnaire prior to their enrollment in the lifestyle education program.
Results: HeartSmartKids™ was installed in the clinic on 4-1-2008 and 529 interviews have been completed to date. The majority of children were able to complete the interview in less than 2-3 minutes, with 77.5% completed in Spanish. In terms of recommendations, 38.6% reported more than 2 hours/day of sedentary time, 36.7% reported less than 1 hour/day of physical activity and 23.3% did not meet nutrition recommendations for eating breakfast on 4 or more days/week.
Conclusions: These results suggest that an interactive computer program is a feasible way to assess for obesity-related risk factors in the pediatric setting. As a whole, children were able to navigate the system with very little instruction, suggesting that this form of technology is well-accepted by Latino youth in this setting.

TECHNOLOGY TO PROMOTE EVIDENCE-BASED OBESITY CARE IN DIVERSE POPULATIONS

Solution Evolution: From Practice to Research to Practice to Community

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Purposes/Aims: A pilot project to assess cardiovascular risk identification in well children was undertaken a decade ago in our faculty practice sites in response to increasing awareness of overweight children and the opportunity to improve pediatric primary care and health outcomes. That study demonstrated that almost 90% of presumably healthy preschoolers had identifiable cardiovascular risk factors (family history, overweight, elevated blood pressure, physical inactivity, dietary fat intake, passive smoke exposure). A clinic quality improvement study unveiled room for improvement in documentation of these risks in order to identify and assess child health status. An intervention was developed to identify and assess these risks more accurately and efficiently in primary care and community settings in order to improve health behaviors and reduce risks.

Rationale/Background: Overweight and other cardiovascular risks are multifactorial and have lifespan implications. Bronfenbrenner's ecology of human development framework and Halfon and Hochsteins's life course health development framework, which integrates health, policy, and research, provide strong rationale for addressing these risks early. The Chronic Care Model for Childhood Obesity supports interventions at the child, clinic, and community levels. We have developed a tool to facilitate clinic screening and community surveillance. The HeartSmartKids system is a bilingual kiosk and decision-support system that compares client data to clinical practice guidelines (e.g., NAPNAP, AAP, NHLBI). The HeartPrint summarizes the data and highlights the risks to facilitate provider identification and family understanding. Tailored recommendations are provided for families to consider in improving health behaviors.

Brief Description: The HeartSmartKid system was tested in a private pediatric practice and in a faculty practice pediatric primary care site that served a low-income predominantly Hispanic population. Providers found it easy to use in calculating height, weight, and BMI percentiles, and blood pressure percentiles, and recognizing less healthful lifestyle risks. Several additional sites are currently using the system after baseline chart documentation audits. Multiple community events have also used the system, including school health fairs, community health nights, street fairs, and the National Western Stock Show. The unique demands of working in diverse community settings have required some adjustments to a system initially designed for clinic settings. The system continues to evolve as staff and families provide feedback.

Outcomes: More than 3000 well-child visits in five pediatric primary care sites have used the system. The HeartSmartKids system has been used in more than twenty events to screen over 2000 children and adolescents. Childhood overweight prevalence at these events mirrors national statistics.

Conclusions: The evolution of this project, from assessment to intervention in clinic and community settings, demonstrates the opportunities to improve practice, generate evidence, and undertake research to improve the foundations for lifespan health.

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THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Moderator:
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OVERVIEW: THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Patricia Butterfield, Julie Postma, Tamara Odom-Maryon, Laura S. Larsson, Gail Oneal

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ENVIRONMENTAL RISK REDUCTION THROUGH NURSING INTERVENTION AND EDUCATION

Patricia Butterfield, Julie Postma, Tamara Odom-Maryon

ANALYZING SELF-REPORTED QUESTIONNAIRE DATA FROM AN ENVIRONMENTAL RISK REDUCTION RCT

Tamara Odom-Maryon, Gail Oneal

RURAL CHILDREN'S EXPOSURE TO WELL WATER CONTAMINANTS: IMPLICATIONS FOR PRACTICE

Julie Postma, Philip Butterfield, Tamara Odom-Maryon, Wade Hill, Patricia Butterfield

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CONTINUING THE INQUIRY: SEEKING UNANSWERED QUESTIONS AFTER AN INTERVENTION

Gail Oneal

EVALUATION OF GALLATIN COUNTY'S LOW-COST RADON TEST-KIT PROGRAM THROUGH A NURSING LENS

Laura S. Larsson

THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Overview: The Tipping Point: Nursing Research Reduces Environmental Health Risks to Families

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Purpose/Aims: The 1995 publication of "Nursing, Health, and the Environment" by the Institute of Medicine (IOM) acknowledged the current and historic role that nurses played in reducing environmental health (EH) risks to the public. Since that time, widespread efforts have been underway to increase the number of nurses who meet IOM competencies addressing environmental health practice, education, and research. However, these efforts have preferentially focused on education and practice, with considerably fewer nurses working to advance research. Recent increases in the number of nurses with doctoral and postdoctoral experience in environmental health have accelerated both the quantity and quality of nursing research. This symposia focuses on findings from related studies addressing biologic, physical, and chemical risks to rural low-income families.
Rationale: It is critical for the nursing profession to assess, advance, and situate findings from recent EH studies. Taking stock of research findings to date will enable investigators to understand the edge of science and plan their own work in strategic and thoughtful ways.
Method: The studies outlined in this symposia utilized both descriptive and RCT methods. Key findings are also related to nursing theory and ongoing efforts to build the conceptual as well as the analytic base of environmental health and nursing research.
Results: Collectively, findings from the studies provide evidence that: (1) rural low-income citizens are exposed to a variety of EH risks; some exposures exceed threshold values known to be associated with the increased risks for the development of cancer, gastrointestinal, and neurologic conditions; (2) nursing interventions are effective in reducing risks to rural low-income families by improving their environmental health knowledge and self-efficacy; and (3) EH risk reduction actions (e.g., radon testing) are being taken preferentially by wealthier versus poorer families.
Implications: Although preliminary and limited to the small samples in the intermountain West, evidence from our studies demonstrates that significant numbers of families are exposed to EH risks in their homes and communities. Psycho-educational interventions by nurses are an effective way to reduce risks and favorably affect the short- and long-term health of low-income rural families.

Funding Support: Environmental Risk Reduction through Nursing Intervention and Education, NINR (R01NR009239)

THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Environmental Risk Reduction Through Nursing Intervention and Education

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Purpose/Aims: A RCT was conducted to test the impact of a public health nurse intervention on child, family, and household measures of environmental risk reduction (ERR). The findings from this study are presented.
Rationale: Providing environmental health information to rural low income families during a series of home visits is a common-sense way of integrating risk reduction activities into existing public health services. Following the precaution adoption process model (PAPM), increasing parents' stage of action (SOA) towards ERR and ERR self-efficacy may yield required health behavioral changes for ERR within the home.
Method: In two rural Northwest counties, families from 235 households (inclusive of 441 adults and 399 children) were randomized to (1) an experimental arm receiving a novel intervention (delivered over 4 home visits) addressing general and specific EH risks; or (2) a control arm (standard public health resources). Self reported questionnaires were completed by the primary adult at 3 time points: baseline (prior to household testing) and 3 and 7 months following baseline household testing and intervention. Questionnaires examined stage of action (0=never heard of ER, 1=never thought about taking precautions, 2=undecided, 3=decided don't want to take action, 4=decided do want to take action, and 5=already have taken action) and self efficacy (confidence scale from 0-100) for six environmental risks: well water (WW) contaminants, lead, radon, moisture, second hand smoke (2HS), and carbon monoxide (CO).
Results: Baseline demographics (age, education, marital status, and socioeconomic factors) were comparable between groups. At three months, the intervention (1) increased the odds of having progression in SOA from baseline for all environmental risks (OR (95% CI) WW:1.8 (1.1,2.9); lead:3.0 (1.8,5.1); radon:2.4 (1.1,5.2); moisture:2.5 (1.5,4.2); 2HS: non-significant; CO: 2.1(1.4, 4.2); and (2) increased reported SE for all ERs (β (95% CI) WW:7.6 (3.8,11.5); lead:12.0 (7.6,16.4); radon:16.7 (6.7,26.7); moisture:8.3 (4.4,12.1); 2HS:4.4 (1.8, 7.2); CO:8.5 (4.6, 12.4). Within the intervention group, no significant changes in 7 month progression in SOA from baseline compared to 3 month progression in SOA from baseline were found. Similarly, no significant changes in self efficacy from 3 months to 7 months (adjusting for baseline) were found.
Implications: Modifying health behavior is a key component to reducing ER in the home. Our findings demonstrate the effectiveness of a nursing intervention and education on increasing parents' intention and action towards reducing ER as well as their confidence in their ability to do so.

THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Analyzing Self-Reported Questionnaire Data from an Environmental Risk Reduction RCT

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Purpose/Aims: Analyzing questionnaire data from a multi-site longitudinal randomized clinical trial (RCT) can be complex. Our approach to and the challenges faced when analyzing data from a study conducted to evaluate the effectiveness of an environmental risk (ER) reduction nursing intervention and education (4 home visits by public health nurses) to rural low income families is presented.
Rationale: The pragmatic, methodological, and analytical issues faced in this study are common to many longitudinal RCTs. Sharing a concrete approach to handling these challenges may help other researchers analyzing similar types of data.
Method: This multi-site longitudinal study utilized common Web based data entry software at two remote sites where research records were maintained until data collection was complete. A small percentage of participants were anticipated to attrit or drop out from the study as it progressed over time. Questionnaires were designed around the Precaution Adoption Process Model. Questionnaire data included multiple related questions, targeted measuring of participants' intention and action towards reducing ER, as well as their confidence in their ability to do so. These data can be grouped into summary measures by ER following the health behavior model.
Results: To facilitate editing data that was entered using web-based software, additional programming support (scripts) was needed and is now recommended. To handle attrition, results from the last completed visit were carried forward to incomplete visits for these households. Analytic methods utilizing generalized estimating equations were employed to incorporate all available data in the analyses. Factor analysis, item analysis, and classic test theory were approaches used to explore relationships among questionnaire items, to understand ER as impacted by the intervention, and for data reduction.
Implications: Longitudinal RCTs involving questionnaires as data collection tools often result in the collection of vast amounts of data. The strategy presented here demonstrates our approach to handling the pragmatic, methodological, and analytical issues faced.

THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Rural Children's Exposure to Well Water Contaminants: Implications for Practice

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Background: In May 2009, the American Academy of Pediatrics (AAP) issued a policy statement recommending annual testing of private wells that supply drinking water to US children. Implementing the recommendation will impact primary care settings and public health departments, whose personnel will be called upon for advice regarding testing, interpretation, and mitigation. To elucidate contextual and logistical issues pertaining to the AAP recommendations, we report findings from an intervention study titled "Environmental Risk Reduction through Nursing Intervention and Education" (ERRNIE).
Purpose: The purpose of this paper is to report prevalence estimates from full well screens conducted on each ERRNIE household, precautionary actions taken by parents, and feasibility and risk communication issues that arose during the course of the study.
Methods: We collected data from 188 rural low-income households, inclusive of 320 children under the age of 7, who were recruited through local health departments and community settings. Participating families lived in one of two Western US counties and received water from a well with less than 15 connections. Participants completed questionnaires addressing precautionary actions. Water samples were analyzed for multiple contaminants. Repeat testing was conducted on microbiological samples testing positive.
Results: Twenty seven percent of households tested positive for at least one contaminant, including total coliforms (18%), arsenic (6%), synthetic organic chemicals (6%), nitrates (2%), fluoride (2%), and *E. coli* (<1%). Eighty nine percent of households testing positive for total coliforms were positive at re-test. Greater levels of concern were expressed before testing in regards to bacteria and nitrates than for arsenic or lead. Respondents reported taking multiple precautionary actions, but only 31% had ever tested their well water. Higher levels of education, income, and age, as well as homeowner status, were significantly associated with previous testing.
Implications: With the exception of arsenic, prevalence rates were low compared to national data. Recommendations for communicating abnormal results, mitigating risks, and overcoming logistical challenges are presented.

Funding Support: Environmental Risk Reduction through Nursing Intervention and Education, NINR (R01NR009239)

THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Continuing the Inquiry: Seeking Unanswered Questions After an Intervention

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Purpose/Aims: The purpose of this study was to develop a beginning explanatory theoretical framework for the use of environmental health (EH) information by rural low-income families with children. Aims included: (1) to identify and describe the context of social conditions and structures that affect how risk communication is understood by rural low-income families, (2) to document what rural low-income families do with new EH information, and (3) to generate a beginning substantive theory regarding the use of healthcare information by rural low-income families and impact of health information on health behavior change.
Rationale/Background: Environmental hazards lead to severe consequences of acute and chronic health problems, especially for children. Families need education and resources to initiate behavior change that improves their own home environments, such as the Environmental Risk Reduction through Nursing Intervention and Education (ERRNIE) study, an in-home public health nurse-delivered intervention. However, once interventions are completed, unanswered questions remain about the patterns and rationale of participant responses, hand-written comments left on questionnaires, or any change in actual health behaviors "after-the-fact." Results from ERRNIE showed improvements in self-efficacy and stage of action in addressing in-home environmental risks. However, the *process* of *how* environmental risk information is later used and incorporated into a meaning of health was not included in the study. With few resources and less access to healthcare in rural communities, it is important to understand how rural low-income families with children use EH information and what happens in the process of developing new health behaviors after an intervention so that improved health outcomes from future interventions can be achieved.
Methods: Grounded theory was used to explore the meaning of environmental health for six rural low-income families who were participants in the Environmental Risk Reduction through Nursing Intervention and Education study (NINR #R01 NR009239, PI: PG Butterfield). Intensive interviews, field notes, and patterns of study questionnaire responses were used in analysis.
Outcomes: An initial conceptual framework resulting from a beginning substantive theory of health information use indicates that participants' choices of what they deem as important EH information is affected by family roles and positions, as well as rurality and social factors. Families interpret risk messages into their own "family language" in order to influence behavior. Trust relationships with public health nurses are important facilitators.
Conclusions: Implications include providing public health nurses in rural areas with a framework from which to understand how low income families use environmental health information so that materials and resources can be targeted to and effectively used by precise groups and family members. Identified barriers within local rural public health departments can inform policy makers for improvement in services for their communities. A larger second stage project with up to 25 participants will be undertaken to test and further the conceptual framework and emerging substantive theory.

THE TIPPING POINT: NURSING RESEARCH REDUCES ENVIRONMENTAL HEALTH RISKS TO FAMILIES

Evaluation of Gallatin County's Low-Cost Radon Test-Kit Program through a Nursing Lens

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Purposes/Aims: Montana Department of Environmental Quality contracts with Gallatin County to provide low-cost, radon test kits through the environmental services wing of the Gallatin City-County Health Department (GCCHD). This study explored psychometric, sociodemographic, and housing variables for participants in Gallatin County's Low-Cost Radon Test Kit Program (RP) during 2009.
Rationale: Gallatin County has a Zone 1 EPA radon designation, yet research suggests only 10% of low-income Gallatin County families with children have tested their homes. Outreach efforts to increase radon testing, particularly among vulnerable sub-populations, should be guided by careful assessment of current knowledge and testing behavior.
Method: Survey data were collected from program participants (n=34). Only RP participants who identified themselves as members of a household to be tested for radon were invited to complete the survey. A $15 department store gift card was given as a token of appreciation.
Results: Participation in the survey was positive (80.9%). The majority of RP participants were home owners (n=30, 88.2%). The average age was approximately 47 years (n=22, x=46.82, sd=16.45, range 23-85) with one child in the home. The average combined household income bracket was $50,000 to $59,999. The average education level was graduation from a 2-year degree program or similar level. Most (n=23, 67.1%) had tested their homes for radon before. Twenty respondents (58%) had tested prior residences as well. Nearly all participants (n=32, 91%) had heard of the health effects of radon. Results of the psychometric findings similarly suggest that program participants do not meet traditional definitions of health disparate sub-populations. Ten out of 21 participants (61.8%) who completed testing had indoor radon concentrations greater than or equal to 4 picoCuries per liter. These data confirm Gallatin County's Zone 1 risk designation.
Implications: The most important finding of this study is that the RP is not reaching the underserved. Formal RP goals should be established for participation rates by: families who rent their homes, families eligible for other health-department programs, and those who are first-time testers. In addition, these study results provide the rationale for integrating the agendas of the environmental services and public health nursing specialties in rural, health departments.

Funding: This study was funded by Montana State University Vice-President Tom McCoy's Office through the College of Nursing Block Grant Program.

THROUGH THE LOOKING GLASS: RECONSIDERING PATIENT SAFETY

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OVERVIEW: THROUGH THE LOOKING GLASS: RECONSIDERING PATIENT SAFETY

Joyce A. Verran, Judith A. Effken

VISUALIZING STRATEGIES FOR REDUCING FALLS THROUGH A WORK DOMAIN ANALYSIS

Sheila M. Gephart, Judith A. Effken

REFLECTIONS ON HOW WORKGROUP AND UNIT CHARACTERISTICS RELATE TO PATIENT FALLS

Kyung Hee Lim, Joyce A. Verran

WHAT CAN *ORA* REVEAL?

Judith A. Effken, Denise Bianchi

THROUGH THE LOOKING GLASS: RECONSIDERING PATIENT SAFETY

Overview: Through the Looking Glass: Reconsidering Patient Safety

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Purpose: In this symposium we use data from a larger study exploring the impact of environmental factors on patient outcomes to explore patient safety factors from several perspectives.

Background and Rationale: Patient safety continues to be a major concern in acute care settings. Patient falls continue to comprise a large percentage of the incidents reported in hospitals and lead to longer stays, increased mortality and morbidity, and higher costs. Now that hospital stays resulting from falls will not be reimbursed by Medicare, nursing leaders are even more intent on reducing these incidents. To that end, the number of different fall prevention initiatives has grown exponentially. However, in-patient falls continue to occur. Looking at the problem from multiple methodological perspectives may be useful.

Methods: In this symposium, we use three different methods to explore the patient falls as a critical exemplar of patient safety in seven nursing units at three hospitals. The methods employed are: cognitive work analysis (a qualitative approach), survey methodology (a quantitative approach), and dynamic network modeling.

Results: In the first presentation, we summarize current fall prevention programs in effect on seven nursing units in Arizona. In the second presentation, we describe a set of unit level variables (e.g., culture, staffing) that correlate with falls. In the third presentation, we describe how we used an organizational risk analyzer (*ORA*), a computerized tool developed by research team colleagues at Carnegie Mellon University that dynamically analyzes communication networks, to explore how communication patterns may relate to patient safety outcomes and report preliminary findings. Finally, we relate the *ORA* findings to other data collected from interviews and staff surveys to provide a more comprehensive picture of the factors affecting patient safety.

Implications: The combined results of these three methods provide new insights into the problem of patient falls, prevention strategies currently being used, and their impact.

THROUGH THE LOOKING GLASS: RECONSIDERING PATIENT SAFETY

Visualizing Strategies for Reducing Falls through a Work Domain Analysis

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Purposes/Aims: In this presentation we report the results of the Work Domain Analysis (WDA), through which we identified hospital and unit safety goals and the work processes, strategies, information, and technology nurse managers use to prevent falls.
Rationale/Conceptual Basis/Background: Falls are the fifth leading cause of death for people over 75 and the second leading cause of mortality. The Joint Commission's National Patient Safety Goal to reduce risk of harm from falls has reinforced the need for hospitals to prioritize fall prevention on their units. We conducted a Cognitive Work Analysis (CWA) to clarify how nurse managers are attempting to reduce falls on their units. The CWA included an analysis of the nurse manager's work domain, decision-making procedures, decision making strategies, social organization/ collaboration, and worker skill level.
Methods: Taped, structured interviews of ten Nurse Managers (NMs) in three Arizona hospitals were conducted. Managers were asked about hospital and unit safety goals and how they resolved a quality issue on their unit. The interviews were transcribed and analyzed using qualitative data analysis. Priorities, constraints, work functions, object-related processes and physical objects were mapped onto a grid in which the vertical dimension included purpose and environmental constraint, function, priority, process, and object; and the horizontal dimension included hospital, division, and unit. Analyses were checked for consistency by two reviewers, and then transcribed to a computerized graphical display. The results were analyzed for similarities and differences across units and hospitals.
Results: Specific safety goals differed across units, even in the same hospital, although all units focused on fall prevention to some degree. Some hospitals had adopted a goal of zero falls, which most viewed as unrealistic. NMs used a variety of strategies, technology, and information tracking to reduce falls, although both within and across hospitals these lacked consistency. Hourly rounding by staff was common, but with inconsistent compliance. Some NMs modified staff hours for better change-of-shift coverage. Some hospitals gave awards to the unit with the fewest falls. Others conducted daily unit meetings to remind staff of today's safety focus or reminder. NMs described the use of brightly colored bracelets or slippers, motion detectors, door magnets, bed alarms, and the use of sitters or family to watch patients at risk, and the limitations of each. NMs tracked falls using multiple software programs, web-based quality data, computerized variance reports, and in-depth investigations of the adverse event.
Implications: NMs in these three hospitals have adopted many of the same fall prevention strategies, but with limited evidence and mixed results. Decision support tools that could enable them to test initiatives prior to implementation and predict the likelihood of success on their units could be extremely helpful.

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THROUGH THE LOOKING GLASS: RECONSIDERING PATIENT SAFETY

Reflections on How Workgroup and Unit Characteristics Relate to Patient Falls

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Purposes/Aims: The purpose of this presentation is to identify factors related to workgroups and nursing units that correlate with patient safety.
Background/Conceptual Basis/Rationale: Many significant factors related to patient safety have been reported, but there is little research on how the characteristics of nursing staff workgroups and nursing units relate to patient safety.
Methods: *Setting and Sample:* Data were collected from 292 nursing staff, 11 nurse managers, 11 information system staff, and 11quality management staff on 11 acute care medical/surgical nursing units in three Arizona hospitals. Of the 11 units, seven achieved a sufficiently high response rate to be included in further sub-studies, so data from 7 units were analyzed. *Procedures:* Data were collected via survey on 9 workgroup variables, 22 unit variables, and 3 patient safety variables for each unit. Although we collected data on adverse events, falls, and nosocomial infections, we will limit our discussion here to falls. Falls were categorized as falls with injury, falls without injury, and total falls. Spearman rho correlations were used to examine the associations of each fall category with the workgroup and unit variables because of the small sample size.
Results: The overall mean incidence rate of falls with injury, falls without injury, and total falls were 1.23, 3.36, and 4.59 per 1000 patient-days for 3 months, respectively. Falls with injury, falls without injury, and total falls range from 0.35 to 2.59, from 1.00 to 6.27, and from 1.66 to 8.13, respectively. Positive correlations of total falls were found with staff vacancy rates; average length of hospital stay; % of elderly (>75yrs old) discharged; and the amount of technology available. The source of the positive technology correlation was in the use of the electronic health record and bedside (point-of-care) charting in two hospitals. Negative correlations were found with: nursing hours; number of patient days; patient movement (sum of admissions, discharges, transfers in and out); number of ICD-9 codes; distance that staff had to walk to complete an assignment; and the frequency of nursing staff's leaving the unit.
Implications: Patients falls are used as a standard measure of nursing care quality. The findings of this research might help in planning specific preventive strategies to improve patients' safety. Further research will be needed to explain the positive correlation of technology with patient falls and the series of negative correlations with patient movement, distance, and frequency of leaving the unit.

THROUGH THE LOOKING GLASS: RECONSIDERING PATIENT SAFETY

What Can *ORA* Reveal?

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Purposes/Aims: We will report results of a study using a network analysis tool (ORA) to investigate how communication networks on nursing units might affect patient safety outcomes.

Rationale/Conceptual Basis/Background: Communication is frequently implicated as contributing to patient safety issues (e.g., medication errors or falls). We used *ORA,* a computer-based network analysis tool, for detecting risks or vulnerabilities in organizations (e.g., groupthink tendencies, ignoring information, communication barriers, or mission-critical employees), identifying groups, and forecasting the impact of various changes in personnel or resources on information diffusion and general performance. *ORA* produces numerous measures for evaluating structures and processes based on evidence from in social network theory, operations research, and organizational theory. Using *ORA*, researchers can visualize network relationships and view reports.

Methods: Survey data were collected from nursing staff on seven medical/surgical units in 3 Arizona hospitals on two days in the same week. Days were chosen to include as many staff as possible to evaluate the stability of the network with different staff. Each staff member was given a questionnaire that listed the names of staff scheduled to work on their current shift, the previous shift, and the following shift. Staff were asked to place a checkmark by the names of those staff scheduled to work on that day with whom they had interacted, and to rate how often they had discussed patient care with those persons, using a scale from 1=never to 5=constantly. Demographic data about age, experience, and education were collected. Questionnaires were constructed so that staff names were listed on overlays that respondents discarded before returning. Under the overlay, each staff listed was represented by a code (e.g., RN24 or UC3). Unit outcome data (e.g., falls) were collected from hospitals separately for a 3-month period. The de-identified data were entered into *ORA* by nursing unit and data collection day. Separate networks were created in *ORA* for each question (interaction and care discussion) and collection day. Spearman's rho (p) correlation was used to compare the rank order of unit network variables with total falls with significance set at $p < .10$ because of the small sample.

Results: Network stability was observed across the two days, despite most staff being different. When we examined the interaction network (staff told us they interacted with) for Day 1, total falls were positively correlated with the frequency of cliques in which individual staff were connected to groups of highly connected staff. When we explored the Day 1 discussion network (in which staff rated the frequency of discussing patient care with others), total falls were positively correlated with the degree of clustering (cliques) and with the number of triads (3-person groups) in the network.

Implications: *ORA* offers the researcher a unique tool for exploring the impact of communication networks on patient outcomes. This exploratory analysis suggests that falls are more frequent in communication networks where cliques are more prevalent.

TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

Moderator:
Barbara Mandleco, RN, PhD
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OVERVIEW: TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

Barbara Mandleco, Lauren Clark, Roberta Rehm, Donna Freeborn, Brenda Luther

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PREVENTING OVERWEIGHT FOR SCHOOL-AGE CHILDREN WITH SPINA BIFIDA

Brenda Luther

CHALLENGES EXPERIENCED DURING CHILDHOOD/ADOLESCENCE BY YOUNG WOMEN WITH CP

Donna Freeborn, Barbara Mandleco

CHALLENGES EXPERIENCED BY ADOLESCENTS/ EMERGING ADULTS LIVING WITH TYPE 1 DIABETES

Cheryl Scholes, Barbara Mandleco, Susanne Olsen Roper, Karen Dearing, Tina Dyches

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FACTORS DELAYING PRIMARY CARE HEALTH TRANSITIONS FOR YOUTH WITH DISABILITIES

Roberta J. Rehm, Lucille T. Fisher

THE PROCESS OF CBPR WITH YOUNG ADULTS WITH DISABILITIES

Lauren Clark, Marjorie Pett, Erin Rothwell, Alison Eldredge, Cathy Chambless, Susan L. Johnson, Beth Cardell, Jeff Burley

TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

Overview: Transition to Adulthood: Challenges for Parents and Youth with Disabilities

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Youth with physical and developmental disabilities are at high risk for health complications related to their chronic conditions/disabilities as they reach adulthood. Often, these complications are connected to experiences and situations related to themselves, their families, people outside the family, and health care providers. However, the challenges these young people and their families face remain incompletely specified in the extant literature. Therefore, the purpose of this symposium is to first, discuss specific challenges encountered by families and individuals with chronic physical (spina bifida, cerebral palsy, type 1 diabetes) and intellectual disabilities as they transition from childhood/adolescence to adulthood, and second, present challenges inherent in collaboratively determining a future research agenda and building community partnerships to sustain interventions for these individuals and families as they enter adulthood.

The first presentation will provide information on challenges faced by parents seeking to prevent overweight among their of children with spina bifida. This includes parental health promotion beliefs and practices related to children's food and physical activity choices as the children enter adolescence. The second presentation will discuss challenges experienced during childhood and adolescence by young women with cerebral palsy related to their interactions with peers and adults. The third presentation will examine challenges experienced by adolescents/emerging adults with type 1 diabetes related to their own management behaviors, and interactions with their families, peers, and health care professionals. The fourth paper will consider the decision-making processes of parents of adolescents/emerging adults with physical and developmental chronic conditions and disabilities and health care providers around when and how to transition youth from pediatric to adult primary care. The final paper will assess the healthy lifestyle concerns of young adults with intellectual disabilities, their parents, and professionals to collaboratively determine a future research agenda and built community partnerships to sustain interventions.

TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

Preventing Overweight for School-Age Children with Spina Bifida

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Purpose: The purpose of this study was to explore how parents of children (ages 6-11 years) with spina bifida develop food and physical activity health promotion processes for their children to prevent overweight.
Background/Significance: Children with spina bifida face an increased risk of overweight compared to their able-bodied peers. Overweight negatively influences already compromised physical and emotional functioning for children with spina bifida, placing additional burdens and risks in their lives. Health promotion activities directed to overweight prevention competes with other caregiving demands for these parents. Parents of children with spina bifida demonstrate heavy caregiver burden, overriding medical concerns for their child's health, and an inability to teach health promotion skills and self-care management to their children.
Methods: This qualitative, exploratory, descriptive study accessed a purposeful sample of 12 parents (9 mothers and 3 fathers) of children 6 to 11-years-old with spina bifida recruited from two regional, specialty pediatric clinics in the Intermountain West. Constant-comparative methods were used to identify basic social processes.
Procedure: Individual interviews with parents were conducted to explore the social processes parents use to form food and physical activity choices designed to prevent overweight and promote health for their children with spina bifida.
Results: Three major themes of health promotion were developed: managing spina bifida and maintaining healthy bowel function, managing food, and a developmental description of physical activity for children with spina bifida. Findings from this study describe the health promotion beliefs of parents, how parents manage food, and how they encourage physical activity in the prevention of overweight for their children with spina bifida. Health promotion for these parents is a concept based on disease management and maintaining optimal bowel function. Managing food is a complex process of monitoring, adapting, portioning, and restricting food for these parents. Parents struggle to encourage their children with spina bifida to remain physically active as they become older. School-age children with spina bifida may experience a common transition as they move from being physically active and healthy weight to becoming sedentary and overweight as they near puberty. A description of the trajectory of overweight as a secondary condition for children with spina bifida during the school-age years of 6 to 11 developed from the data.
Implications: This study provides essential information about parent processes of: promoting health and how health is affected through bowel management, food management and consumption, and encouraging physical activity all of which affect prevention of the serious secondary condition of overweight. Clinical guidelines for school-age children with spina bifida can be adapted to incorporate knowledge of parent process related to decreasing the risk of overweight and negating the effects of overweight for their children. Knowledge of this study can help healthcare providers assess their current practice of assessment and intervention and remodel their focus from a child's condition or disability to a focus on holistic health promotion practices.

Funded by a grant from the American Nurses Foundation 2008

TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

Challenges Experienced during Childhood/Adolescence by Young Women with CP

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Purpose: To examine challenges experienced during childhood/adolescence by young women with cerebral palsy related to their interactions with peers and adults in educational settings.

Background: Though it is clear stigmatization toward individuals with disabilities frequently occurs, little is understood about how stigma impacts the challenges faced by people with cerebral palsy as they navigate childhood and adolescence interactions with peers. These challenges are especially apparent during interactions with fellow students and teachers in educational settings, and include being excluded from activities, being physically or emotionally mistreated, and being denied appropriate accommodations. These challenges are important because the socialization experiences and cognitive gains that occur in educational settings assist youth with cerebral palsy make a healthy transition to adulthood. However, challenges associated with these negative educational experiences for students with a disability such as cerebral palsy can cause them to lower their educational expectations, and affect their self esteem and self confidence. This is especially true for females who are more affected by the challenges and negative feedback they receive during childhood and adolescent educational experiences than males. Consequently, many females with a disability such as cerebral palsy internalize a belief that they are inferior to other girls and are not able to achieve the level of education they may have aspired to achieve during childhood/adolescence.

Method: Utilizing the feminist biographical method, eight women with CP participated in two in-depth audio-taped interviews related to challenges they experienced during childhood/adolescence. The interviews were transcribed verbatim. Analysis of interviews occurred throughout and after the interviewing process. This analysis employed the hermeneutical procedure of comparing the part to the whole and the whole to the part.

Results: Three themes relating to challenges associated with educational experiences during childhood/adolescence emerged: (a) academics, (b) teachers, and (c) peers. Academic challenges included being placed in special education or remedial classes due only to their physical disability and being treated as if they were cognitively impaired. Challenges with teachers included being treated differently from other students, being accused of cheating because they had to use an aide for writing papers or taking exams, and being accused of expecting special accommodations. Challenges with peers included enduring emotional and physical abuse, being excluded from activities, and feeling socially isolated.

Implications: Findings support not only the need for an inclusive educational system that provides children/adolescents with cerebral palsy with positive educational and relational experiences so the challenges faced are easier to overcome, but also allow healthcare providers to become aware of the challenges these youth face growing up. In addition, helping these individuals overcome the challenges associated with academic, peer and teacher experiences during childhood and adolescence in the educational setting can assist in the transition to adulthood and higher education.

TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

Challenges Experienced by Adolescents/Emerging Adults Living with Type 1 Diabetes

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Purpose: To discover challenges adolescents/emerging adults with type 1 diabetes face and examine whether these challenges vary according to their level of metabolic control (HbA1c).
Background: The unique stages of adolescence/emerging adulthood, in addition to the diagnosis of a chronic illness such as type 1 diabetes can be difficult and challenging. In addition, the required treatment regime may contribute to dependence on parents and restricted freedoms. However, there is minimal information in the literature examining adolescent/emerging adults' perceptions of the challenges they face related to the required treatment regimes if one has type 1 diabetes, and little or no literature examining perception differences of these challenges when these individuals demonstrate high or low metabolic control as measured by HbA1c levels.
Method: Using a qualitative descriptive design 8 participants identified as having high HbA1c levels (above 7.5%), and 7 participants identified as having low HbA1c levels (at or below 7.5%) were interviewed about challenges they experience living with type 1 diabetes. The interviews were then transcribed verbatim and analyzed using qualitative methods.
Results: Challenges identified by participants related to interactions with their family members, people outside the family, and healthcare providers, as well as their own responsibilities, related to managing type 1 diabetes. Family challenges included parents who were micromanagers and concerned about following the treatment regime (counting carbohydrates, taking the correct amount of insulin); an alternate challenging pattern described parents who left management of diabetes up to the adolescent, rarely were there to help, did not monitor glucose or dietary intake, and did not provide regular meals or meals that considered carbohydrate content. Family members posed challenges when they forgot the participant had diabetes, or were overly concerned about what kinds of foods the participant could eat. People outside the family were uncomfortable if they were responsible for participants and assumed participants caused their own diabetes. Challenges related to healthcare professionals were that they tended to be authoritarian in interactions and were not as supportive/helpful as participants wished they were. Challenges related to their own attitudes/behaviors included the need to constantly monitor their diabetes so their future health would not be affected and needing to change their future career goals because of diabetes related career limitations. Challenges did not vary across groups based on HbA1c levels.
Implications: It is important to provide education and support beyond the initial period of diagnosis to adolescents/emerging adults with diabetes so they are able to overcome the challenges inherent in coping with their chronic disease, help them learn appropriate/effective ways to manage their diabetes, and encourage them to work on developing positive relationships with healthcare professionals. Finally, educating parents and family members about the challenges faced by adolescents with type 1 diabetes may encourage them to help and support the adolescent overcome these challenges.

TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

Factors Delaying Primary Care Health Transitions for Youth with Disabilities

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Purpose/Aims: Part of a larger, ongoing study of planning for the transition to adulthood for youth age 14-26, this analysis focused on 57 youth with concurrent physical and developmental chronic conditions and disabilities, their parents, and 21 healthcare providers. The aim of this analysis was to examine the decision-making processes of parents and HCPs around when and how to transition youth from pediatric to adult primary care.

Background: Youth with physical and developmental disabilities are at high risk for health complications related to their chronic conditions and will need close monitoring, and often ongoing treatment, as they reach adulthood and leave pediatric practices. Prior research has shown that youth with chronic conditions have frequent delays in seeking follow-up care, suffer breaks in insurance coverage, and may have trouble negotiating complex systems of care during the healthcare transition.

Methods: This was an ethnographic, interpretive field study, based on a Symbolic Interaction framework. Data was collected in 2 home visits that included parent interviews, youth observations and interviews (when verbal), and interviews with healthcare providers at their site of practice. Analysis included coding using Atlas Ti for data management, construction of family summaries, fieldnotes, memos, and discussion leading to consensus among research team members.

Results: Youth with health and developmental disabilities fell across a wide spectrum of abilities and ongoing health challenges. All youth were currently receiving healthcare, most in pediatric practices. Eight youth had insurance through Kaiser, which automatically transfers youth at age 18. Although 27 other youth were at least 18 years of age, only 11 had transitioned to adult-oriented primary healthcare practices. Parents felt little pressure to identify adult providers for the youth because pediatricians continued seeing youth as long as their insurance would cover them or until they developed health concerns of adulthood, usually anticipated to be at least the mid-20s. Healthcare providers and parents identified a variety of factors that delayed the transition to adult practices. These included: constraints inherent in adult practice, including insufficient numbers of primary providers, lack of training to care for youth with developmental or congenital chronic conditions, and expectations of adult practitioners to work with autonomous individuals, rather than family constellations; unwillingness to accept Medicaid; lack of reimbursement for time consuming care coordination; difficulties in sharing information about patients at the transition; strong bonds between pediatricians, youth, and parents; and few supportive community resources for adults as compared to children.

Implications: A culture shift is needed to facilitate healthcare transitions for youth with chronic conditions and disabilities. Youth and families must learn to negotiate adult systems of care and adult-oriented practices must adapt to accommodate the special needs of youth with disabilities. One solution could be the extension of the concept of Medical Home to cover healthcare across the lifespan.

TRANSITION TO ADULTHOOD: CHALLENGES FOR PARENTS AND YOUTH WITH DISABILITIES

The Process of CBPR with Young Adults with Disabilities

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Purpose: In a progressive sequence, qualitative and quantitative community-based participatory research (CBPR) assessed the healthy lifestyle concerns of young adults with intellectual disabilities (ID), their parents, and professionals to collaboratively determine a future research agenda and structure community partnerships to sustain interventions.
Background: Prevalence of overweight among young adults with ID is nearly double that of non-disabled peers. The transition to adulthood coincides with a propensity for weight gain and an opportunity to incorporate health lifestyle behaviors. Self-determination of young adults at this key developmental time fits with the tenets of CBPR.
Methods: The process of CBPR began with a survey of parents, followed by focus groups and individual interviews with young adults, parents, and professionals to elaborate on their desires for healthy lifestyle interventions and barriers to change. Second, critical review and selection of an intervention curriculum to fit researcher and population needs was completed. Third, securing seed grant funding for feasibility testing of the intervention and proposed study measures was successfully completed with partnership development.
Result: Survey responses (n=56) indicate obesity is viewed as a widespread problem (58%) for young adults with ID, and a willingness to address healthy lifestyles in families (96%). Qualitative data generated by 30 participants in interviews and focus groups yielded the following themes: healthy lifestyle threats and solutions embedded in daily life, the value of socially-oriented interventions, acceptance of measures to document progressive improvement, and under-recognized concerns of young adults in program planning. These results informed curriculum modification and collaboration with community partners to assure intervention integrity and sustainability.
Implications: For healthy lifestyle interventions for young adults with ID, the CBPR process can build political will among study partners and contribute to research goals.

Funded by a grant from the College of Nursing, University of Utah and a University Research Foundation Seed Grant

TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

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OVERVIEW: TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

Colleen Keller, Kathie Records

DESIGNING AND EVALUATING DEPRESSION SUPPORT GROUPS FOR POSTPARTUM LATINAS

Kathie Records

A MODEL OF EFFECTS OF NARRATIVE AS CULTURE-CENTRIC HEALTH PROMOTION

Linda Larkey

FIRST THINGS FIRST: RESEARCH TRANSLATION TO COMMUNITY PRACTICE

Adriana Perez, Colleen Keller, Kathie Records, Allison Nagle

RESEARCH AND HEALTH INITIATIVES AMONG AMERICAN INDIANS ON THE NAVAJO NATION

David Hodgins, Colleen Keller

THE INTERSECTION OF HISPANIC CULTURE AND HOME TELEMONITORING

Kimberly Shea

TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

Overview: Translating Research Across Cultures To Promote Community Work

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Translational research is focused on identifying and applying relevant and effective research theories, methods, and findings to inform practice and policy, as a basis for improving health and well-being, especially in vulnerable populations. Researchers and clinicians emphasize such efforts, as does the NIH Roadmap. Knowledge guiding translational research requires exploration of the causal and contextual factors associated with health promoting behaviors. Recent advocates of translational science emphasize the "embarrassing" gap between science and practice. While established guidelines exist to promote dissemination of findings from studies with strong methodological quality (e.g. CONSORT reporting criteria), guides for the *application* of findings are lacking. Clinical application of research findings may impact intervention effectiveness depending upon the assessment of interventions for their: (a) specificity to patients who would most benefit, (b) optimization of the intervention's setting, and (c) intended or unintended effects.

To better utilize intervention design and outcome measurement, we need methods that situate both the intervention and the intervention delivery squarely within culturally relevant approaches. This symposium poses a discussion of issues that underpin translational research in community settings and among diverse groups to: (a) examine strategic and theoretical differences among cultural groups in the use of group-based interventions; (b) describe the development and testing of culturally and contextually relevant interventions that address the growing public health problem of preventing chronic illness; (c) consider measurement techniques that reflect cultural, ethnic, and racial differences; and (d) characterize the translational links between public health initiatives and effectiveness research.

Dr. Records will present issues related to the design and evaluation of community-based depression support groups for postpartum Latinas. Dr. Larkey will discuss the use of shared narratives that may ground health promotion programs as culturally representative and meaningful. Dr. Perez will describe one project's adaptation of research protocols for utilization in community-based demonstration and education efforts. Mr. Hodgins will describe the suitability for translation of the IHS Initiatives used among American Indians and applicable elements of intervention evaluation. Finally, Dr. Shea will present recommendations for addressing the intersection of technologic advances with cultural barriers.

TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

Designing and Evaluating Depression Support Groups for Postpartum Latinas

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Purpose: This presentation will describe the issues identified when designing and evaluating a postpartum depression support group for primarily low-income and Spanish-speaking Latinas. An academic-clinical partnership to translate effective intervention approaches in the literature to this vulnerable group resulted in a theoretically grounded and culturally specific program, called *Mamas Saludables – Familias Saludables*.
Rationale: The Surgeon General reported that racial and ethnic biologic differences in depression do not exist, but rather, ethnicity serves as a proxy variable for factors that do influence mental health. Among others, being poor, type of neighborhood, not having access to care, or not having culturally sensitive care providers are identified as problems in the US that lead to disparities in access, disparities in treatment, and greater disease burden among some ethnic groups compared to whites. Despite these disparities, the majority of community-based intervention efforts in childbearing related depression have not demonstrated efficacy across cultural, ethnic, or racial groups. To address this disparity, this academic-clinical partnership sought to adapt existing interventions for a group that does not access traditional mental health services.
Methods: A comprehensive review of the literature identified the most important topics and strategies for creating an ongoing support group for depressed and ethnically diverse women during the postpartum period. Clinical provider input regarding needs specific to the target group and participant preferences were gathered prior to implementation. Social support was chosen as the culturally accepted structure for the group. Delineation of appropriate topics, methods for conveying different types of support, as well as evaluation strategies were all developed with an eye toward the needs of the participant. The group leader was bicultural and bilingual, and familiar to the participants through prior interactions in the clinic settings. Attention to the detail of the design, rather than the rigor of a research approach, required compromise and valuing.
Results: The postpartum support group program consisting of 12 educational topics was implemented, using a flexible structure that facilitated development of informal support. Throughout the program, participant needs were assessed and the program was adapted, as needed, to meet the majority of participants' needs. Participant satisfaction was high and informal networks were developed for most women. While educational handouts were popular, advice from other mothers was highly valued.
Implications: Flexibility in developing and implementing interventions in a community-based setting can be maintained long after program funding ends. Participation satisfaction and informal contacts take time to develop and may have long-lasting effects. While demonstration and evaluation projects similar to *Mamas Saludables – Familias Saludables* will not address diagnosis and management of depression requiring medications and therapy, the needs of new mothers who are experiencing less severe depression symptoms can be met through community-based programs. This may be one of the steps needed to extend the reach of mental healthcare services, particularly for multicultural or multilinguistic groups.

TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

A Model of Effects of Narrative as Culture-Centric Health Promotion

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Summary: Narrative approaches to health promotion have recently gained much attention. Cultural grounding of health messages is a particularly well-matched goal of narrative-based health promotion. We will introduce a model for culture-centric narratives in health promotion, share practical applications of the model in our cancer prevention and control research, and propose an agenda for engaging participants in application and further testing.

Rationale: Cultural narratives have successfully incorporated values in a range of health promotion contexts, often working directly with members of a cultural group to obtain within-culture viewpoints and compelling stories. For example, teen narratives have been used to create MTV videos depicting drug resistance communication strategies that model the behavior of just saying "no." Similarly, stories drawn from cultural group members have been used to create dramatic appeal in messages designed to encourage preventive behaviors such as colorectal cancer screening among Latinos. These methods are narrowing the gap between creative advertising media and public health promotion strategies, but rarely are theories or models proposed to manage how such campaigns are developed and tested.

Methods: The model: The model begins with defining characteristics of narratives identified in entertainment-education research to be critical, including character, story elements, and for specific culture-related applications, cultural embeddedness. These elements are presented and discussed as influencing health self-concept, involvement/ transportation in and identification with characters and events in the story, and likelihood to engage in vicarious or real rehearsal and social interaction to support targeted health behaviors. These factors are predicted, in turn, to persuade and create intentions to change the desired health behavior, especially when sociocultural norms are projected.

The investigator will present applications from current research, sharing how stories are collected from special populations to obtain cultural representativeness, how to retain cultural fidelity when shaped into narrative curriculum/messages, and various ways to test mediators and results. In addition to general health promotion applications, potential for use in cancer supportive care/therapeutic settings will be discussed.

Results: Current research that examines the elements and mediator of the model will be discussed. Two major criteria are requisite for narratives or storytelling: narrative characteristics or message features and engaging characters. Both the emotional connection (i.e., empathy and liking) and the perceived similarity of characters have been suggested as central to the persuasive effects of role models. These factors, in turn, create a sense of identification and transport the listener into the story, increasing the likelihood of adoption of the promoted behaviors.

Implications: Participants will have an opportunity to evaluate their work with culturally diverse populations in community settings, discuss their efforts, and plan new ways to develop culturally grounded messages to promote health messages. Creative applications and further development of the concepts and application of the model will be discussed.

TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

First Things First: Research Translation to Community Practice

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Purpose: There is a short supply of effective, sustainable, and generalizable health promotion and disease prevention programs that have been translated into practice, particularly related to preconception and interconception care among Latinas. The purpose of this report is to describe how the critical inputs of a theory-based intervention have been translated to an effectiveness demonstration project and the issues of intervention fidelity used in the process.
Rationale: Preconception healthcare has taken increased importance in maternal child health circles because while there has been much improvement in pregnancy outcomes in the last century there has been a decrease in the rate of that progress over the last 20 years. Preconception care is defined as interventions that modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management, emphasizing those factors which must be acted on before conception or early in pregnancy to have maximal impact. Latinas are suffering with higher rates of postpartum depression than non-Hispanic white mothers and focus group data of Latina mothers in Maricopa County Public Health (2008) have shown limited knowledge of post-partum depression among this population. Further, comprehensive reviews have shown that excessive pre-pregnancy weight, weight gain in pregnancy, ethnicity, race, postpartum family roles and work, dietary transitional changes during pregnancy and reduced physical activity (PA) are correlates to weight retention following childbirth. The known risks of morbidity and mortality associated with being overweight, including breast cancer, heart disease, and diabetes, make factors associated with weight gain in postpartum women an important public health concern.
Method: The Maricopa Special Health Care District has implemented a pre-post natal program modeled after theory-based interventions for at risk women in the FTF Central and South Phoenix Regional Partnership areas by using strategies found to be effective and important in promoting health among Hispanic women. The time following a birth has been shown to be an optimal time to offer mothers the support, education, and monitoring needed to promote future healthy pregnancies and healthy babies. The two theory-based interventions will be adapted for effectiveness in community health settings: a postpartum support group, and a Madres' Walking Group. Weekly intervention meetings will include a group walk designed to model moderate-intensity walking in a supportive group setting that will be facilitated by *Promotoras* and will focus on nutrition, social support, or stress of caring for an infant. Feasibility and acceptability will be measured using attendance and attrition logs.
Results: Application of efficacious research interventions require careful consideration of the setting, the intended participants, and sound operationalization of intervention critical inputs as they are adapted for maximum effectiveness implementation.
Implications: Effectiveness research requires negotiation with community planners, consistence of intervention, implementation and outcomes across settings, and consideration of program sustainability and institutionalization within the setting.

TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

Research and Health Initiatives Among American Indians on the Navajo Nation

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Purpose: The reduction of health disparities that impact the burden of diseases and other adverse health conditions existing among specific population groups in the United States is a major health initiative. Coupled with this are initiatives that underpin strategic plans for health promotion and disease prevention among American Indians. The Navajo Nation, covering nearly 27,000 square miles over three states, has more than 250,000 members. The Navajo Nation is characterized by extremes of remote and rural living that impact on healthcare access and reduced community support and resources for healthy lifestyles. This paper discusses issues surrounding the linking of research addressing the efficacy of theory-based interventions among vulnerable subgroups with federal initiatives that target similar health promotion outcomes.

Rationale: Increased risk for chronic disease is in part related to complex characteristics including genetic differences, sedentary lifestyles, and consumption of atherogenic 'Westernized' diets. Two major initiatives developed and implemented by the Indian Health Service include the Director's Chronic Care Initiative and the Health Promotion Disease Prevention Initiative. These initiatives provide resources, education, and a strategic plan to design and implement health promotion programs targeting rural and hard-to-reach American Indians. Further, the initiatives recommend that testing of culturally appropriate effective interventions should underpin risk reduction and treatment interventions. Evaluating efficacious theory-based interventions requires, in part, some evaluation of the notion that the intervention "works" across diverse cultures, ages, and settings.

Methods: An evaluation of community-based research and programs on the Navajo Nation for their effectiveness, theoretical approach, strength of design and applicable outcomes was synthesized. The Re-Aim model, *Reach* of participation, *Efficacy* of interventions, *Adoption* (setting) of interventions, *Implementation* (fidelity), and *Maintenance* of the interventions were assessed for applicability to the setting, the sample and the context of health promotion initiatives in American Indians.

Results: Few interventions are evident in the research reporting effective theory-based interventions. Few interventions were found that specifically target the health problems most significant to the peoples of the Navajo Nation, such as cardiovascular risk factors, chronic disease management, hypertension treatment compliance, weight management, and type 2 diabetes management.

Conclusions: Future risk reduction interventions targeting American Indians on the Navajo Nation need to be designed for maximum effectiveness. Clearly delineating for whom the intervention 'works' and in what setting are needed to facilitate health promotion efforts. Specific strategies will be discussed in developing links between research addressing the efficacy of theory-based interventions and public health initiatives.

TRANSLATING RESEARCH ACROSS CULTURES TO PROMOTE COMMUNITY WORK

The Intersection of Hispanic Culture and Home Telemonitoring

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Purpose: Home telemonitoring has immense potential for decreasing exacerbations of chronic conditions. However, as with any intervention, the effectiveness of home monitoring may vary depending on the cultural or age group in which it is implemented. Rapid development of this technology has provided little opportunity for investigation of barriers to effectiveness among different groups. This presentation will examine cultural concerns of using home monitoring technology for care of elderly Hispanics.
Rationale: There are over 48 million Hispanics living in the United States and, by the year 2050, they are projected to account for more than 30% of the population. Hispanics have disproportionately high rates of chronic illnesses such as diabetes, obesity, and cardiovascular diseases—all of which become more prevalent with increasing age.

Home monitoring technology allows healthcare providers to monitor chronic disease its use is projected to exponentially expand, serving over seven million people by 2010. Research suggests that although home monitoring has many benefits, the challenge with effective remote integration lies in its use in everyday settings. Telemonitoring in a patient's home becomes a part of daily activities and is a window into the privacy of his or her life. However, little is known about how monitoring technology intersects with the cultural needs of the population that is being served. Remote technology can improve the efficiency of serving the health needs of a large population, however, cultural concerns must be considered to achieve effective care.
Method: The literature was reviewed for technologies that are most frequently used. A synthesis of our knowledge of these technologies by examining their congruence with the cultural needs of elderly Hispanics was generated. Examples were identified of factors to be considered in the design of technological innovations used to help Hispanic elderly patients age in their homes.
Results: Trust, time orientation, tradition, language, and perception of being a burden are examples of factors that can influence the use of remote monitoring. Additionally, mobility and connectivity are extremely influential factors because Hispanics are one of the largest users of Broadband in the US; however, they trail other US populations in Internet use.
Conclusion: As healthcare practices and reimbursement move forward to embrace remote home care practices, agencies will need to carefully consider the cultural concerns of elderly Hispanics. Similar technologies may appear to have similar effectiveness, but there may be differences in how one or the other may be integrated in to the care for a particular cultural or age group. In order to provide the most effective care, providers will need to consider cultural factors to best promote the health of the patients served.

ACROSS THE CARE CONTINUUM: TOPICS IN SCREENING AND END-OF-LIFE

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PREVENTIVE & SCREENING HEALTH BEHAVIORS IN UNAFFECTED COLON CANCER FAMILY MEMBERS

Laura Curr Beamer

EVALUATION OF A SCREENING PROGRAM FOR METABOLIC SYNDROME IN A MENTAL HEALTH CENTER

Margaret Rhoads Scharf

EXPERIENCES OF PARTNERS LIVING WITH END-STAGE HEART FAILURE

Christopher C. Imes, Cynthia M. Dougherty, Mark D. Sullivan

END-OF-LIFE CAREGIVING AND PERSONAL GROWTH

Christine A. Nelson, Clara C. Pratt, Alexis J. Walker

SUDDEN CARDIAC DEATH: STORIES OF FAMILY BEREAVEMENT EXPERIENCES

Dorothy Mayer, Anne Rosenfeld, Judith Kendall, Kathleen Gilbert

PREVENTIVE & SCREENING HEALTH BEHAVIORS IN UNAFFECTED COLON CANCER FAMILY MEMBERS

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Purposes/Aims: The purpose of this study was to investigate the association between having a first degree relative (FDR) with colon cancer and preventive as well as screening health behaviors in a university and a healthcare setting. Screening bowel endoscopy and fecal occult blood testing were the primary outcomes measured in the study. Also, preventive behaviors known to reduce the risk of sporadic colon cancer were examined, including: dietary practices, physical activity, tobacco use, and alcohol intake. Body mass index and level of education were covariates in the study.
Rationale/Background: Colon cancer is the third most frequent malignancy and is responsible for the second highest cancer-related mortality rate in US women and men. In fact, the American Cancer Society estimated that 54,090 women and 52,010 men in the United States would be diagnosed with primary colon cancer during 2008. Approximately $8.4 billion are spent in the US each year on the treatment of colorectal cancer. Nearly 18,800 annual deaths might be avoided if routine colon screening were provided to individuals who are 50 or older in the US.
Brief Description of the Undertaking Including the Approach, Methods, or Process Used: A cross-sectional, secondary analysis was conducted on existing data from a university-sponsored health wellness screening. Of the 5,433 participants in the university setting, 229 had an FDR with colon cancer diagnosed before age 60. The second study was a cross-sectional, secondary analysis was conducted on existing data from a community healthcare system-sponsored health wellness screening. The data were collected from wellness screenings conducted during 2006, 2007, and 2008. There were 325 participants in 2006, 28 of whom had a first degree relative with colon cancer; 614 participants in 2007, 63 with an FDR with colon cancer; and 901 participants in 2008, 80 with an FDR with colon cancer.
Outcomes Achieved/Documented: University employees that had a FDR with a history of colon cancer diagnosed before age 60 were more likely to have fecal occult blood testing and a sigmoidoscopy or colonoscopy (p's $< .001$). Interestingly, a family history of colon cancer was not associated with preventive behaviors. For healthcare setting employees, having an FDR with colon cancer was not significantly associated with bowel endoscopy in 2006 ($p = .08$), but was strongly associated with bowel endoscopy in 2007 and 2008 (p's $< .001$). However, having an FDR with colon cancer did not predict FOBT and was not associated with preventive behaviors.
Conclusions, Emphasizing Implications for Clinical or Educational Practices, and Recommendations for Research or Future Undertakings: The most significant finding in this study is family history of colon cancer was related to screening but not preventive health behaviors. Additional studies must be done to explore this phenomenon in diverse populations. Also, evidence-based guidelines for the prevention of sporadic colon cancer are newly established. Studies are needed to explore the efficacy of applying these guidelines to individuals at risk for the development of familial and hereditary colon cancer.

This research project was partially funded by scholarships from the Esther MacConnaughay Trust, ONS Foundation, and SACNAS.

EVALUATION OF A SCREENING PROGRAM FOR METABOLIC SYNDROME IN A MENTAL HEALTH CENTER

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This practice improvement project implemented and evaluated a metabolic syndrome (MS) screening program in a community mental health clinic. The clinic rate of MS in adults with major mental illness was compared to the national average among a comparable population before and after the implementation of a RN screening program. Barriers to detection are identified for practice improvement.

Estimates show a reduced life expectancy of 25 years for people with major mental illness. Metabolic syndrome (MS) is reported in 36% of adults with mental illness compared to 24% of the general population. Early detection and treatment may prevent cardiovascular disease, the most common cause of death in this population. Best practices in mental health call for screening all patients at risk for metabolic syndrome. Time and productivity expectations often prevent providers from fully implementing screening.

A total of 286 at risk patients with major mental illness were eligible to be screened. The RN screened eligible patients during a three month period. After three months, an evaluation of the project findings was completed.

Using record review, 6% of the eligible population was identified as positive for metabolic syndrome (MS). After the RN screening, 55% of the sample was identified as MS positive. Of the 5 criteria for MS, abnormal waist circumference and elevated BMI were present in most of the MS positive patients.

Waist circumference and BMI can easily be measured in the mental health clinic. Laboratory testing was the most difficult to obtain. Reasons varied from patient issues to difficulty communicating with the primary care office (PCP). Based on the findings, recommendations to improve detection and referral of MS have been implemented.

EXPERIENCES OF PARTNERS LIVING WITH END-STAGE HEART FAILURE

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Purpose: The purpose of this study was to understand the experiences of living with HF from the perspective of the partner and determine how healthcare providers can help during this stressful and challenging time.

Background: Heart failure is a debilitating chronic illness characterized by frequent exacerbations in symptoms that result in hospitalizations, high mortality rates, and impaired quality of life. Self-care for heart failure (HF) requires the assistance of other persons to enable the patient to manage the demands of the illness at home. Little is understood about the impact of caring for the HF patient on the physical and mental health of spousal caregivers. Given the complexity of HF management, it is expected that a large and growing number of family caregivers are currently involved in HF care at home.

Methods: Using a descriptive approach, in-depth semi-structured interviews were conducted with 14 partners of patients with NYHA Class 3 or 4 HF after a HF hospital admission in the patient. After hospital discharge, telephone interviews with partners were audio-recorded and transcribed. Analysis was performed using the constant comparative approach.

Results: Partners were 68.3$\pm$ 7.7 years old, 87.5% female, 83% Caucasian, married to the patient, with some college education. Patients were 68.0$\pm$7.1 years old, 88% men, 83% Caucasian, having lived with HF an average of 8.0 years. Patients had 1.5$\pm$1.1 HF hospitalizations in the previous year. Three categories were derived from data: (1) My experience of HF in my loved one, (2) My experience with healthcare providers, and (3) Patient's experience of HF. My experience of HF was further divided in to six related sub-themes: How I help, My view, What I want, What helps me, Impact on us, and Impact on me. My experiences with healthcare providers included the sub-themes: Treatment, Prognosis, Frustrations, and Providers Don't Help Me.

Discussion/Implications: The patient's disease limited the partner's lifestyle, created social isolation and depression, and altered plans for the future for the couple. The partners felt they were ill prepared for the treatment, progression, and the ultimate death from HF. Partners wanted providers to understand their struggles in caregiving at home, and wanted more information about the disease in language they could understand. End-of-life planning was neither encouraged by the healthcare provider, nor embraced by the patient and partner. Future research should address caregiver needs in advanced HF.

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END-OF-LIFE CAREGIVING AND PERSONAL GROWTH

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Background: Over the past decade, changes in health, economic, and social policies have shifted the dying process out of hospitals and into the community. Research examining community-based end-of-life caregiving is limited and has focused on detrimental effects and outcomes for caregivers. Further, there has been little exploration of the positive effect of caregiving variables on post-bereavement adaptation and personal growth. Research on the beneficial effects of caregiving and the co-occurrence of both positive and negative perceptions of end-of-life caregiving is warranted.

Purpose: This exploratory, descriptive study investigated the relationship of healthcare management resources and positive and negative end-of-life caregiving perceptions to community-based end-of-life caregivers' personal growth following loss. Retrospective, cross-sectional survey data were collected from respondents who provided care for at least one terminally ill person. An adapted stress process conceptual framework was utilized.

Methods: Psychometric testing explored two investigator-developed indices: a caregiving inventory designed to measure positive and negative components of caregiving and a healthcare management resource index designed to measure healthcare support for community-based caregiving. Factor analyses established that the caregiving inventory was comprised of two conceptually distinct factors, negative caregiving and positive caregiving, and the healthcare management resource index was comprised of a single factor. Hierarchical multiple regression analyzed the relationships between healthcare management resources and positive and negative caregiving in predicting caregivers' personal growth following bereavement. Control variables (age, gender, ethnicity, education, income, and level of caregiving) were entered into the regression model first, the healthcare management factor score next, and the positive and negative caregiving factor scores last.

Results: As hypothesized, higher levels of healthcare management resources were associated with more positive caregiving and higher levels of positive caregiving were associated with greater personal growth. There was no relationship between negative caregiving and personal growth nor healthcare management resources and negative caregiving. Results add to the evidence that positive and negative aspects of caregiving should be conceptualized separately and demonstrate the influence of positive perceptions of end-of-life caregiving experiences on positive long-term bereavement outcomes.

Implications: Findings suggest the value of nursing interventions to address the needs of community-based caregivers. Educational interventions could provide caregivers with information about symptom management, the expected course of terminal illness, the dying process, and available supportive care resources. Interventions to promote and enhance positive aspects of the end-of-life caregiving experience could promote positive coping, find meaning and satisfaction in the caregiving role, and reframe the caregiving situation in a positive light. Such interventions may ultimately promote caregiver adaptation and improved bereavement outcomes.

SUDDEN CARDIAC DEATH: STORIES OF FAMILY BEREAVEMENT EXPERIENCES

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Purpose: The purpose of this study was to understand family bereavement experiences after the sudden cardiac death (SCD) of a family member. Aims included description of bereavement experiences and identification of meanings of loss across families.
Background: Cardiac disease is the leading cause of death and SCD is on the rise, especially in younger adults. The SCD of middle aged adults, who are often in the prime of their lives, is devastating for surviving family members and greatly disrupts their sense of self and shatters their feelings of security. Bereavement research has focused on the response of individuals to grief and loss and little is known about the impact of SCD on multiple surviving family members. Family roles and tasks are radically changed after death of a family member and when the death is unexpected surviving family members are challenged to make sense of their loss.
Methods: A qualitative approach, narrative analysis, was used to analyze family and individual stories of bereavement. Seven families who experienced the SCD of a family member within the last 5 years participated. Eligibility criteria limited the decedent's age to 20 and 55 years old at the time of death. Family interviews, which averaged 96 minutes, were conducted with a minimum of two family members, followed by individual interviews with 17 family members. Open ended questions were used to encourage the sharing of stories. Participants talked about the decedent, the days preceding the death, the death itself, and their bereavement experiences.
Results: Five themes were identified across families: 1) Sudden cardiac death … boom; 2) Saying goodbye; 3) Grief unleashes volatile emotional reactions; 4) Life goes on … but never back to normal; and 5) Meanings in loss. At the heart of family bereavement experiences is the challenge of moving on with life, a life forever changed by the SCD of an important family member, while still remaining a connection to this important person. During bereavement, surviving family members took steps forward to build their new life, but these steps were frequently interrupted by hurdles and sudden "booms" of grief. Through this process family members generally found meanings in their loss.
Implications: Sudden cardiac death has long lasting impacts on surviving family members. Sharing stories of loss may allow family members an opportunity to make sense of their experiences and help them identify meanings of loss. This in turn may facilitate their ability to move on after a devastating loss. Professionals working with bereaved families may benefit from knowledge of the positive aspects of sharing stories of loss. Further research is needed before developing nursing interventions to support families after SCD of a family member.

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BUILDING CAPACITY FOR LIFELONG LEARNING

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POLICY IMPLICATIONS IN A DNP PROGRAM

Katherine Crabtree

A NURSING DEPARTMENT FACULTY MENTORED RESEARCH PROJECT

Carolyn T. Martin, Margaret Hodge

NURSES' ATTITUDES TOWARD CONTINUING FORMAL EDUCATION

Tanya K. Altmann

BUILDING CAPACITY AMONG GUATEMALAN MIDWIVES TO ASSESS NEWBORN GESTATIONAL AGE

Lisa M. Thompson, Amy Levi

POLICY IMPLICATIONS IN A DNP PROGRAM

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Purpose: The paper describes the impact of a Doctor of Nursing Practice (DNP) program on policy. Post-masters students completed a nine month clinical residency to improve practice for a population by translating research into practice. Concurrently they completed a clinical inquiry project addressing an advanced practice problem in this population. As a result, the models of care developed influenced health policy and systems of care locally and statewide demonstrating the leadership expected of a doctorally-prepared nurse.
Rationale: Doctoral preparation of advanced practice nurses is intended to help close the research-practice gap and reduce the lag time between generation and application of knowledge. Previously, advanced practice nurses focused on providing high quality 1:1 care but did not articulate how to incorporate research to improve care for a population nor address the policy implications of new models of care.
Brief Description: In the DNP program as students provide evidence-based care to a population, they develop a series of case studies addressing health disparities, economics of healthcare and other aspects of care. These case studies require students to synthesize and integrate the professional and research literature. Students acquire breadth and depth in clinical practice working with expert clinicians, researchers, and mentors, and generate innovative models of care. As part of the clinical inquiry project, they collected data that supported the utility of these models of care, which have implications for policy at the local, state, and national level. Two examples are described: improved cost-effective screening of severely mentally ill adults at risk for metabolic syndrome in a community mental health clinic and evaluation of the effectiveness of trained nurse examiners treating victims of sexual assault (SANE).
Approach: Coursework in health systems, ethics, healthcare economics, harnessing technology to improve care, and health policy prepared students to influence systems of care for the selected population. In clinical case studies students focus on various aspects of care requiring improvement and potential evidence based solutions. Flexibility during the nine month clinical residency allowed students to engage in direct care, apply their inquiry skills to practice issues, and take advantage of opportunities to influence policy locally and statewide.
Outcomes: Data supporting the effectiveness of the SANE program influenced policy decisions at the agency level and statewide working with the State Attorney General's Office. Similarly, the results of the needs assessment and the screening program for mentally ill adults at risk for metabolic syndrome led to appointment to a statewide committee planning the integration of mental health and primary care services. Further dissemination of these results nationally may influence policy on a broader scale.
Conclusions: DNP graduates are prepared as leaders in advanced practice and equipped with skills that improve practice at a population level. Clinicians who evaluate and articulate the evidence base for practice while improving health outcomes and influencing policy are essential to the fulfillment of societal needs.

A NURSING DEPARTMENT FACULTY MENTORED RESEARCH PROJECT

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Purpose/Aims: The purpose is to examine a nursing department Faculty Mentored Research Project. The objectives are to: (1) describe the characteristics of the nursing department Faculty Mentored Research Projects; (2) identify successful strategies of the project; and (3) describe outcomes of the project.

Background: Failure to address issues related to university nursing departments with small numbers of experienced researchers and the need to assist new faculty to be successful in the tenure process is an urgent issue. Projects that reveal strategies for success in scholarship and publishing are important. The Faculty Mentored Research Project has several components, including (a) faculty member with a research project willing to include other faculty, (b) a lead faculty member willing to mentor other faculty, (c) faculty willing to participate in research lead by other faculty, and (d) ongoing time commitment (multiple meetings and feedback). A supportive, active research mentor contributes significantly to a new faculty's career development and satisfaction.

Method: In 2006, the project was developed in a small baccalaureate nursing program, with 11 full time, tenure-track faculty and limited resources. There are four doctorally prepared faculty, two currently in a doctoral program, and six who have master's degrees. These faculty instruct 240 full-time pre-licensure students, 80 Registered Nurse (RN)-to-Bachelors of Science in Nursing (BSN), and 12 Master of Science students. Faculty are offered an opportunity to share in research development and resulting publications through a team approach. Communication was accomplished by e-mail and faculty meetings.

Results: The first faculty research teams were formed on July 24th, 2007. Questionnaires were formulated and data collected between August 21, 2007 and May 14, 2008. The preliminary pilot study involving four nursing faculty was completed in May 2008. This followed with a poster presentation (May 2009) and a journal article (July 2009). These data remain available to faculty and other teams demonstrate progress with literature review and data analysis. Since the inception of the Faculty Mentored Research Project, two other research projects involving a different data set have evolved. University IRB approval was obtained to complete a long term follow-up of the faculty to assess their perceptions of the project, to identify challenges, and make suggestions for improvement.

Implications: Faced with economic issues and faculty shortage, university nursing departments are in crisis. Large numbers of seasoned faculty are retiring, new faculty struggle with large teaching loads, and small numbers of faculty with scholarly experience result in a tremendous need for a Faculty Mentored Research Project approach. Failure to address problems related to university nursing department faculty support for conducting research and the need to complete tenure process is an urgent issue. Projects that reveal strategies for success with conducting and publishing research are important.

Acknowledgements: Supported by funds from College of Human and Health Sciences, CSU, Stanislaus.

NURSES' ATTITUDES TOWARD CONTINUING FORMAL EDUCATION

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Purpose/Aims: The purpose of this exploratory study was to examine the attitudes of nurses, initially registered with an Associate Degree or Diploma in nursing, toward continuing formal education at the baccalaureate level and/or beyond; whether these attitudes change over time; and if there are geographical differences between nurses' attitudes within the US. This study received an Institutional Review Board approval.
Background: Quality healthcare is a priority. Many healthcare organization representatives and mission statements, recent research, and research priorities support the contention that improved quality is related to higher educated, baccalaureate prepared, registered nurses (RNs) providing care. A more educated RN workforce improves quality and patient outcomes by decreasing morbidity, mortality, disciplinary actions, and medication/ treatment errors.

The role of the Bachelor of Science in Nursing (BSN) education has been a divisive topic within the profession for many years. Although a number of countries have changed their entry-into-practice standards to the BSN, the majority of nurses still hold less than a bachelor's degree. Registered Nurses are the least educated healthcare professional; thus what is needed goes beyond what can be acquired through continuing education courses. It is in the public's interest to invest more in enticing and enabling RNs to return to school to achieve higher educational levels consistent with the trends of other healthcare professionals. Constructive attitudes toward education are motivators and are linked to positive educational outcomes.
Methods: Actively licensed RNs on both US coasts were randomly selected to receive mailed questionnaires: a socio-demographic questionnaire and the Attitudes Toward BSN Education Scale. A response rate of 19.4% was received. Analysis determined that the study sample closely resembled the general nurse population in the US, which, when coupled with excellent instrument reliability (α=.96), allowed for generalizations.
Results: This study supported the role of professional development and advanced education in overall job satisfaction and a link between salary and advanced education. Few nurses felt social pressure to return to school nor did they receive encouragement to continue their eduction during their initial nursing program. Associate Degree nurses, and those nurses who had returned to school, held slightly more positive attitudes overall but all subjects' attitudes' rank barely above neutral. Attitudes do not appear to change over time based on years of practice nor differ by geographical location.
Implications: The findings in this study suggest that work needs to be done to improve RNs' attitudes toward continuing formal education and valuing of the BSN education. Research needs to be undertaken on how and when to improve the attitudes of nurses toward BSN education and to understand what would entice RNs back to school.

Methods to entice nurses to return to school should not only focus on changing attitudes, but should also be directed toward increasing social pressures. Employers, nurse educators, nursing organization spokespersons, and legislators need to take a more active role in promoting and supporting continuing formal education. Nursing students need more encouragement and information about continuing their programs and about articulation programs already in existence.

Funding: The 2007 NLN Foundation Dissertation Scholarship for Nursing Education Scholars.

BUILDING CAPACITY AMONG GUATEMALAN MIDWIVES TO ASSESS NEWBORN GESTATIONAL AGE

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Background: In rural Guatemala, over 86% of indigenous women deliver at home, assisted by minimally trained traditional birth assistants (TBAs). Low birthweight (LBW, defined as birthweight less than 2,500 grams) was officially reported to be 12% in Guatemala (PAHO 2007), with approximately 22% of newborns not weighed at birth (UNICEF 2004). Birth weight measurement and gestational age assessment are critical elements in identifying LBW and in differentiating between LBW-preterm and LBW-IUGR. Here we report on the standardized training of Guatemalan TBAs to assess newborn gestational age and anthropometry and the predictors of low birth weight.
Methods: In this cross-sectional comparison study conducted in August 2009, nine traditional midwives and one auxiliary nurse were selected from among 56 TBAs and auxiliary nurses who attended workshops conducted by two faculty and three midwifery students from UCSF. The ten women completed a 2-day training at the regional hospital in Capurro (4 physical and 2 neuromuscular maturity criteria) and New Ballard (6 physical and 6 neuromuscular maturity criteria) in newborn gestational age assessment techniques as well as anthropometry measurements (head circumference, birth length and weight). Weight was measured using a SECA 334 digital infant scale to the nearest 10 grams. Length was measured using a SECA 210 measuring mat to the nearest 0.5 cm. A convenience sample of 43 infants was assessed at the hospital during the standardization sessions. After the training, 22 infants were assessed at home visits. Newborns were evaluated within 72 hours of birth.
Results: Of the 65 babies that were evaluated, the LBW rate was 20.9% for infants born in the hospital and 54.5% for infants evaluated in their homes. The New Ballard score estimated that 53% of the infants were preterm, although the lowest gestational age was 34 weeks (± 2 weeks). In a multivariate regression model, four predictors (language spoken by mother, parity, male child, and New Ballard score in weeks) accounted for 27% of the variance in birthweight. Women who spoke Mam had babies that weighed 264 grams less than women who spoke Spanish ($p<0.01$). Weekly increments in New Ballard gestational age score accounted for an increase in infant weight of 74 grams ($p<0.01$). Each previous reported delivery contributed 37 grams ($p=0.06$) to child birthweight. Male children weighed 127 grams more than females, although this difference was not statistically significant.
Conclusions: In Guatemala, LBW prevalence is underreported; our LBW rate of 32% is almost three times the national rate. Infants born to indigenous women at home are even more vulnerable, with over half of the infants weighing less than 2500 grams.
Implications: With intensive training and close supervision, Guatemalan TBAs were able to assess gestational age using the New Ballard technique, which provides more precision when estimating newborn gestational age than the simplified Capurro method. Future research will extend training and standardization to help TBAs identify and refer infants at risk.

CHALLENGES TO FAMILY INTEGRITY

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RESILIENCE IN FRONTIER GRANDPARENTS RAISING GRANDCHILDREN

Jeri L. Bigbee, Harriet Shaklee, Molly Prengaman, Barbie Vander Boegh

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INTIMATE PARTNER VIOLENCE: PERCEPTIONS, RESPONSES, ACTIONS OF SAMOAN WOMEN

Jan Shoultz, Lois Magnussen, Merina Sapolu, Mili Samifua

SIBLING VIOLENCE RESEARCH, PSYCHIATRIC POPULATION, SILENCE AND CONSEQUENCES

Debby Phillips, Bonnie H. Bowie, Dorothy Chao, Kelly Yukevich

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OBESITY INTERVENTION THEMES FROM MULTI-ETHNIC PARENT-TEEN DYAD INTERVIEWS

Carolyn Montoya, Alberta S. Kong, Andrew L. Sussman

CORRELATES OF SPOUSE ADJUSTMENT IN RECURRENT OVARIAN CANCER DYADS

Julie A. Ponto

RESILIENCE IN FRONTIER GRANDPARENTS RAISING GRANDCHILDREN

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Purposes/Aims: The purpose of this pilot study was to assess resilience in frontier caregiving grandparents.
Rationale/Conceptual Basis/Background: With grandparents increasingly serving as the safety net for children in their families, promoting the health of caregiving grandparents is critical. Research specifically addressing the health of the growing number of rural and frontier caregiving grandparents has been extremely limited. Adult resilience theory, along with Pender's Health Promotion Model, served as the conceptual framework for the study. Resilience is defined as a personality characteristic that moderates the negative effects of stress and promotes adaptation. To date, this theory has not been applied to caregiving grandparents.
Methods: A pilot descriptive study was conducted with a convenience sample of 11 caregiving grandparents residing in a frontier county in Idaho. The sample included five grandfathers and six grandmothers with a mean age of 60.5 years (range=46-75). Six of the grandparents were full-time custodial caregivers and 5 were "coparenting" with their children. The 25-item Resilience Scale, was administered to the sample along with the Health Promoting Lifestyle Profile II (HPLPII) and the SF-36 Health Survey for comparison. Nonparametric descriptive and correlational analyses were conducted.
Results: The internal consistency reliability of the Resilience Scale in this study was strong (apha coefficient=.93), consistent with previous studies. Mean resilience scores were in the moderate range based on established adult norms, with a mean of 147 (SD=19.7) and a range of 106-172. This mean score was higher than that found in previous research with rural/frontier residents. Resilience scores were not significantly related to age, gender, HPLPII, or SF-36 scores.
Implications: These findings suggest that frontier grandparents raising grandchildren demonstrate moderate levels of resilience, which may be critical in their coping with their challenging family situations. However, these data also suggest that resilience levels may be unrelated to age, gender, health promotion behaviors, or health status in this population, in contrast with previous research with other adult populations. This pilot study was limited by the small sample from a single frontier county. Further research with larger samples is indicated to more fully assess the concept of resilience as related to grandparents raising grandchildren, particularly those living in rural and frontier areas, to guide future nursing interventions.

Funding for this study was provided by the Jody DeMeyer Endowment at Boise State University.

INTIMATE PARTNER VIOLENCE: PERCEPTIONS, RESPONSES, ACTIONS OF SAMOAN WOMEN

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Purpose: The purpose of this community-based participatory research (CBPR) study was to examine cultural perceptions, responses, and actions recommended by Samoan women about Intimate Partner Violence (IPV).
Conceptual Basis: Critical Social Theory provided the conceptual basis for the study.
Methods: This descriptive study collected both quantitative and qualitative data. The CBPR team of academic and clinical investigators included Samoan women who are staff at the community health center (CHC). All members of the research team prepared for the study by participating in training sessions. The bilingual Samoan research team members recruited participants for the focus group and individual interviews, translated the instruments and transcripts, facilitated the focus group or individual interview, and participated in the analysis of data. Focus group sessions were conducted with Samoan women who may or may not have experienced IPV and were taped and transcribed into Samoan and back-translated into English and validated with the participants. Individual interviews were conducted with 5 women who had experienced IPV. Findings were validated with the women. Demographic data were also collected. Quantitative data included responses to the Acceptability of Violence Survey. Quantitative analysis included frequencies, means, and standard deviations. Content analysis was used to determine themes from the qualitative data.
Results: Samoan women clearly identified IPV and were aware that it occurs in their cultural group. They identified multiple responses of individual women, families, and communities to IPV. In Samoa there was a formalized process for addressing this problem that has been disrupted by migration to Hawai'i. In both Hawai'i and Samoa the systematic cultural response to violence begins at the family level. In Samoa if the abuse continued beyond the ability of the family to control the perpetrator, the Chief would become involved. In Hawai'i the pastor of a church may be asked to assist the family instead of a Chief. Samoan women in Hawai'i are now utilizing the additional option of calling the police. Nurses and others at the CHC were seen as significant sources of support and information for the women and their families.
Implications: Samoan families have a rich tradition of a collective response to IPV. With migration, some protective factors have been disrupted. Nurses and others working with Samoan women and their families have the potential of providing support, classes, and services at the CHC and with other groups in the community to develop culturally appropriate IPV services for Samoan women and their families. This can improve quality of care and reduce health disparities, a significant challenge for health systems.

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SIBLING VIOLENCE RESEARCH, PSYCHIATRIC POPULATION, SILENCE AND CONSEQUENCES

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Purpose: The specific aim of this study was to provide a quantitative and qualitative description of sibling violence in an inpatient child and adolescent psychiatric sample population, including prevalence, demographics, and associated diagnoses.
Background: There is a dearth of research on sibling violence; even though the small amount of research that has been done on sibling violence shows that it is the most prevalent form of violence occurring within the family (Gelles and Straus, 1988; Straus & Gelles, 1990). Describing a number of presumptions about societies' acceptance of "child-on-child" violence, Finkelhor, Turner, & Ormrod (2006) challenge the conclusion the National Crime Survey analysis that child victimizations are not as serious as those of adults. Acts of aggression toward family members are common in children diagnosed with a mental illness, yet practitioners do not routinely screen families for sibling violence.
Methods: Following IRB approval, a retrospective chart review of all patients between 5 and 12 years old admitted to a psychiatric hospital during 2007 was performed. Data on patient demographics and AXIX I diagnosis was collected. Descriptive statistics were used to identify the prevalence of sibling violence. Language used by clinicians and others to describe sibling violence were recorded verbatim and discourse analysis methods were used to explore ways of constituting sibling violence.
Results: 76% of the children with siblings (N=135) were found to be perpetrators of violence against their siblings. Most of the perpetrators were boys (80.1%) and sibling victims were more likely to be girls. The two most common AXIS I psychiatric diagnoses were Oppositional Defiant Disorder (63.7%) and Mood Disorder (48.1%), neither of which have acting violently as a diagnostic criteria. 34.8% of the children perpetrating sibling violence were diagnosed with Intermittent Explosive Disorder which has acting violently against people and property as one of the criteria. Discourse analysis showed that the most common language used to describe sibling violence was aggression and threats. Aggression signified acts such as *grabbing*, *tripping*, *twisting sibling's arm*, *stabbing with a pen*, and *chasing with a knife*. Threaten signified threats such as, *threatening to kill brother or sister*, *threatening to stab sister*, *threatening to chop up brother*, and *threatening to hurt sister/brother*. The language constituting violence perpetrated by siblings as serious was coincidental in some of the same charts with sibling violence constituted as *regular brothers fighting*, *fairly typical sibling relationship*, *average sibling relationships*, and *little more than normal rivalry*.
Implications: Nursing needs to be on the frontlines of ending all practices of violence. Recognizing sibling violence as a practice of violence that warrants attention is part of this work. Prevention and intervention will follow such recognition.

OBESITY INTERVENTION THEMES FROM MULTI-ETHNIC PARENT-TEEN DYAD INTERVIEWS

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Background: Prevalence rate for obese teens (12-19 years) increased from 5% in 1976-1989 to 17.4% in 2003-2004; 28% of non-Hispanic Black and 20% of Mexican American girls (12-19 years) are obese as compared to 11% of their White counterparts. By 2030, it is estimated that approximately 41% of Mexican American boys and Black teen girls will be obese, a full 10% higher than the general population. Disorders, such as type II diabetes, formerly termed adult on-set diabetes, is now becoming an epidemic in the teenage population. Because of the increasing prevalence of obesity and associated chronic disorders, culturally relevant and age-appropriate obesity intervention strategies are critically needed.
Purpose and Aims: Using an adaptation of a community-based participatory research process, we collected formative research data to assist with creation, implementation and evaluation of an obesity intervention known as Adolescents Committed to Improvement of Nutrition and Physical Activity (ACTION). ACTION is a school-based health center intervention created for high schools in a large southwestern urban city aimed at achieving a healthier weight through improving diet and increasing physical activity.
Sample: Participants were recruited from 2 high schools with school-based health centers. A convenience sample with 8 parents of overweight/obese (OW/OB) high school students and 7 OW/OB students were interviewed. Parents included, 6 female, mean age 45 yrs.; 3 Hispanics, 2 African Americans, 1 Native American, 1 Non-Hispanic white and 1 other. Students included, 4 female, mean age 16 yrs.; 4 Hispanics, 2 African Americans, and 1 Non-Hispanic white.
Methods: Semi-structured interviews, neutral to adolescent obesity, lasting approximately 60 minutes, were conducted in Spanish or English. Interviews were conducted primarily in the participant's homes and participants received $20 for their time. After interviews were transcribed, an iterative analytic process was used to identify key themes with comparisons made between adolescent and parent responses. NVivo8 was used to facilitate text retrieval and coding.
Results: Three major themes were identified from the interviews: motivation, barriers and challenges, and venues to facilitate change. Parent and teen similarities and differences within these themes were noted. Similarities identified included lack of healthy food options and infrequent curricular/extracurricular physical activity. Differences included communication strategies ("texting" essential for teens; parents saw "texting" as a fad) and role modeling (teens identified friends as role models; parents identified themselves as primary role models).
Implications: Themes identified through a formative process using community-based participatory research approach were essential to develop a culturally and age-appropriate obesity intervention. Intervention materials include a clinician toolkit to use during clinical encounters with OW/OB teens and a nutrition and physical activity DVD for teens to use at home with their family members. The efficacy trail is currently on-going.

This study was supported by NIH/NHLBI Grant # R21 HL092533. Student presenter is supported by the UNM Signature Program in Child Health Research 2009 Research Apprenticeship Award and the Robert Wood Johnson Nursing PhD in Health Policy Grant.

CORRELATES OF SPOUSE ADJUSTMENT IN RECURRENT OVARIAN CANCER DYADS

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Purpose: The purpose of this study was to examine relationships between demographic, illness, illness appraisal, and dyad resource variables in dyads that had experienced recurrent ovarian cancer.

Background: Living with recurrent ovarian cancer is life-changing for women and their spouses. An insidious disease, ovarian cancer is usually diagnosed at an advanced stage and 75% of women diagnosed with Stage III or IV disease will recur within 22 months, resulting in prolonged or repeated treatment. Considering the average age at time of diagnosis, the spouse dyad is typically the most central family unit. Factors associated with adjustment to recurrent ovarian cancer are inadequately addressed in the literature and studies generally fail to include spouses. An understanding of the relationship between demographic, illness, appraisal, and resource variables and spouse adjustment will provide direction for future practice and research.

Methods: A descriptive, correlational, cross-sectional design was used in a sample of 32 married couples who had experienced recurrent ovarian cancer. Network and snowball sampling was used to recruit dyads 21 years of age or older, able to speak and read English, and willing to participate, from throughout the US through national cancer advocacy organizations. Participants completed either an online or paper survey consisting of a demographic questionnaire and valid and reliable instruments. Data were analyzed using SPSS®. Correlation analyses were used to examine relationships between spouse variables and survivor adjustment and survivor variables and spouse adjustment.

Results: A sample of 32 Caucasian couples was obtained. The average age of survivors was 61.5 (SD=7.6) and of spouses was 63.9 (SD=8.9). More than 50% were college educated. 41% of women had no known disease at the time of the study. 62.3% of women had experienced 2 or more recurrences. Poor survivor adjustment was correlated to lower spouse age (r=-.47, p<.05), greater spouse uncertainty (r=.39, p<.05), and higher spouse fear of recurrence (r=.60, p<.01). Poor adjustment in spouses was correlated with lower survivor age (r=-.46, p<.05), lower perceived marital quality (r=-.40, p<.05), negative survivor meaning of the illness (r=-.53, p<.01), poor survivor adjustment (r=.70, p<.01), greater symptom distress (r=.58, p<.01) and greater survivor uncertainty (r=.40, p<05).

Implications: This study demonstrates the interrelationship between recurrent ovarian cancer spouse dyads and provides support for an integrated family model of care for this population. Younger couples may be at higher risk for adjustment issues; early identification of these dyads at risk is imperative. More negative appraisal of the illness was related to adjustment in the other spouse and greater symptom distress was related to poor spouse adjustment. Nurses can influence women's symptom experience and reduce uncertainty potentially improving adjustment for these dyads.

Funding: This research was supported in part by National Cancer Institute R25 grant (CA93831; PI: Kathi Mooney, PhD, RN); Winona State University; Sigma Theta Tau – Gamma Rho Chapter; Mayo Clinical Cancer Prevention and Control; Mayo Clinic Division of Nursing Research; the National Ovarian Cancer Coalition; and the Oncology Nursing Society.

CROSS CULTURAL ISSUES

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BODY MAP ASSESSMENT OF STRESS IN MEXICAN AMERICAN CAREGIVERS

Neva L. Crogan, Bronwynne C. Evans, Michael J. Belyea, David W. Coon, Felipe González Castro, Ebere Ume

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SOMALI BANTU REFUGEES IN SOUTHWEST IDAHO: A COMMUNITY AND CULTURAL ASSESSMENT

Pamela J. Springer, Mikal Black, Kim Martz, Terri Soelberg, Cathy Deckys

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INTRAPERSONAL AND ENVIRONMENTAL FACTORS ASSOCIATED WITH ACTIVE, RURAL, LATINO YOUTH

Cynthia Perry, Beti Thompson, Brian Saelens

HEALTH RISK ASSESSMENT OF HISPANIC AMERICAN TRUCK DRIVERS: A PILOT STUDY

Iris L. Mullins, Trish O'Day

DEAF ADULTS AND HEALTHCARE: GIVING VOICE TO THEIR STORIES

Kate Sheppard, Terry Badger

BODY MAP ASSESSMENT OF STRESS IN MEXICAN AMERICAN CAREGIVERS

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Purposes/Aims: The purpose of this mixed methods presentation is to describe the use of body maps as a case-oriented adjunct to variable-oriented measures of caregiver stress and strain in a stratified purposive sample of Mexican American caregivers in Arizona.
Rationale/Conceptual Basis/Background: *Stress* and *strain* interact in a devastating cycle for these caregiving families. *Stress* is the psychological, physical, and financial weight assumed by caregivers, along with their subjective appraisals of caregiving effects on their lives. Stressors include vigilance and lack of preparation required to provide care and the quality of caregiver-care recipient relationships. An important predictor of *strain* (enduring problems that potentially harm the individual) is poor caregiver health; 36% of caregivers have fair-to-poor health or a serious health condition as a result of strain, which acts as an additional stressor. Appraisals of stress and strain are shaped by physiological variables but also are mediated by emotions and by the sociocultural aspects of being human. Our mixed-methods study uses the body map as a "cartography that recognizes the lived experience of illness" (Brett-MacLean, 2009) as an adjunct to semi-structured interview data about health and illness. Industry has used body maps for almost two decades to address workplace hazards and body maps occasionally have been used in healthcare to assess for distress in conditions such as fibromyalgia and chronic low back pain. More widespread use includes the McGill Pain Questionnaire and routine assessment in health records. Use of such maps in caregiver research has not been documented.
Methods: Caregivers marked areas of distress during the last month on a body map (line drawings of the front and back of the body) and described distress associated with each area. Individual caregiver data from body maps were displayed in a cross-case matrix, quantitized, and entered into SPSS for comparison with scores on the Zarit Burden Interview (ZBI), Center for Epidemiologic Studies Depression Scale (CES-D), Activities of Daily Living/Instrumental Activities of Daily Living Scale (ADL/IADL), and General Well-Being Schedule (GWB) across cases.
Results. Relationships among areas of distress and individual scores on the body map, ZBI, CES-D, ADL/IADL, and GWB will be presented using descriptive statistics. Comparison of high and low group means on body map scores indicates that caregivers with lower scores (fewer locations of distress) function at a higher level than those with higher scores. Verbatim exemplars from both groups will be presented, including minimizing of health conditions as a possible prerequisite for caregiving continuance.
Implications: Data suggest that using body maps with Mexican American caregivers is a helpful adjunct to standardized instrumentation in the determination of stress, strain, depression, ADLs, and general well being. Additionally, body maps facilitate discussion of health conditions and referral for further evaluation.

This study was funded by NINR, National Institutes of Health (5R01NR0101541-02).

SOMALI BANTU REFUGEES IN SOUTHWEST IDAHO: A COMMUNITY AND CULTURAL ASSESSMENT

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The purpose of this research was to complete a community and cultural assessment of Somali Bantu refugees in Southwest Idaho, with a focus on their health needs. A descriptive qualitative design using the principles of community-based participatory research (CBPR) was used. The research was guided by combining a community assessment model, a cultural assessment model, and a vulnerable population framework. "Community as Partner" is a nursing framework focusing on community assessment and the nursing process. Giger & Davidhizar's cultural assessment framework was developed with the belief that practitioners need culturally relevant information to develop appropriate interventions and was used to guide this study. Flaskerud & Winslow's model of vulnerability was also used to enhance the research as the team sought to understand this vulnerable population.

The community and cultural assessment was conducted using a literature review, informal encounters with the Somali Bantu community, and formal interviews with the Somali Bantu community members, volunteers who serve the community, and healthcare providers. The Somali Bantu community speaks primarily two languages: Af Maay Maay and Kizigua. The research team used two interpreters from the community to assist with the informal engagement and formal interviews with the Somali Bantu. Data collection forms for each of the three assssment areas (literature review, informal encounters, and formal interviews) were developed using the theoretical framework as a guide. Formal interview questions were developed by the research team and were then trialed with members of the Somali Bantu community from the advisory board in a committee approach to ensure questions were culturally appropriate.

The Somali Bantu refugees are a unique population with substantial health needs. The Somali Bantu represent a pre-literate population with few members who speak English well enough to adequately interpret making patient education particularly challenging. The Somali Bantu are collective decision makers and are very social visiting each other and sharing information freely in an effort to understand health concerns. Nurses need to be aware of these characteristics to effectively utilize social networks in health education. Overall findings revealed a vulnerable population at high risk for health disparities.

INTRAPERSONAL AND ENVIRONMENTAL FACTORS ASSOCIATED WITH ACTIVE, RURAL, LATINO YOUTH

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Purpose: To ascertain the intrapersonal and environmental factors associated with middle school-aged youth being physically active in a rural and predominantly Latino community.
Background: The majority of middle school-aged youth are not sufficiently active to achieve health benefits, such as weight control. Rural and ethnic minority youth are even less likely to be active. Determining factors that differentiate physically active from more inactive Latino and rural middle school-aged youth could inform strategies to increase physical activity in this underserved population.
Methods: Middle school students (50% boys; 80% Latino) in a rural Pacific Northwest community completed surveys administered in school (n=1102) regarding physical activity, barriers and facilitators (e.g., park use, physical education (PE) time), and other health behaviors. Based on survey responses, youth were divided into two groups: active (participated in 60 minutes of moderate to vigorous physical activity 5 or more days a week) and inactive. Chi Square analyses examined active versus inactive group differences in intrapersonal and environmental factors.
Results: Thirty six percent of youth reported being active for 60+ minutes on 5 or more days a week, with 20% reporting exercising 60+ minutes 7 days a week. Active youth reported more often attending PE 5 days a week (78% versus 56%, p=.000), participating in any type of after school activity at least one day a week (63% versus 45%, p=.001), and playing on a sports team (school or recreational league) (32% versus 23%, p= .001). Active youth are more likely to report that a team (28% versus 17%, p=.000) and coach (43% versus 31%, p=.000) were motivators of more physical activity but other motivators (e.g. family, friends, park quality and access) did not differentiate between active and inactive youth. Active versus inactive youth did not differ on gang participation, carrying weapons, or use of tobacco, alcohol, and drugs. Walking instead of being driven to parks (62% versus 54%, p=.012) and engaging in physical activity when at parks (85% versus 80%, p=.033) were associated with being active; however, the number of parks used and frequency of using them were not associated with being active. Having adults in the neighborhood that youth could talk with was associated with being active (60% versus 51%, p=.005); feelings of safety in and liking their neighborhood did not differ between active and inactive youth. Unlike national studies or studies among mostly Caucasian youth, age and gender were not associated with being more active.
Implications: Making PE available 5 days a week and creating opportunities for youth to be involved in after school activities and sports teams or organized physical activity programs could increase the number of middle school aged youth who meet the recommended 60 minutes of moderate-to-vigorous physical activity on at least 5 days a week. School nurses can advocate for schools to offer daily PE to all students throughout the school year. Additionally, school nurses, perhaps in collaboration with physical education teachers, could organize and direct after school physical activity programs.

Funding: K23NR010557, National Institute of Nursing Research

HEALTH RISK ASSESSMENT OF HISPANIC AMERICAN TRUCK DRIVERS: A PILOT STUDY

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Purpose/Aims: The purpose of this study was to determine health risks of Hispanic American and non-Hispanic American male truck drivers. The aims of the study were to: (1) identify health risks of short and long haul male truck drivers using the Self Care Inventory (SCI); (2) identify health-promoting behaviors used by truck drivers that can be incorporated into the future development of a health promotion intervention focused at risk reduction appropriate for type of truck driver (short haul or long haul), and (3) validate the Health-Promoting Lifestyle Profile II (HPLPII) as an appropriate instrument to use with Hispanic American males.

Rationale/Conceptual Basis/Background: The population of professional truck drivers is a high risk population for health risks such as cardiovascular disease, hypertension, sexually transmitted diseases, obesity, stress, tobacco use, alcohol use, drug use, and sleep deprivation. Hispanic American drivers may have risks related to heredity and health disparities. Pender's Health Promotion Model provided the framework for this study.

Methods: A descriptive correlational design was used. Survey methods, including standardized and demographic instruments, measurements of height, weight, blood pressure, pulse, and calculated BMI, were used. Data was collected at New Mexico State University and at truck stops along the I-10 and I-25 corridor between El Paso, Texas and Las Cruces, New Mexico. The researcher (PI), a bilingual graduate nursing student, and a male graduate research assistant comprised the research data collection team. All data collected from participants is kept confidential and is being reported as group data.

Results: One hundred and twenty-seven drivers participated in the study, ranging in age from 20-71. Based on Diastolic BP 93 drivers readings fell in the Pre-Hypertension, Stage I or Stage II Hypertension and based on both systolic and diastolic readings combined 11 drivers' BP fell in normal range and 116 drivers were in the Pre-hypertension, Stage I, or Stage II categories. Calculation of BMI revealed that one driver was underweight, 15 drivers had healthy weights, and that 109 drivers weights were Class I, II, III, and overweight categories. There were 48 Hispanic/Latino/Mexican American drivers, 41 of these driver's questionnaires were complete and used for data analysis. In comparing long haul, short haul, and mixed haul Hispanic drivers responses there was no significant differences in these driver groups' responses for the subcategories nutrition, physical activity, health responsibility, interpersonal relationships, spiritual growth, and stress management of the Lifestyles Profile II or for the Self Care Inventory.

Implications: Health promotion research and programs targeted at this population need to focus on risk factors for health problems included poor diet and lack of exercise to assist drivers with developing healthy lifestyle programs. Data from the pilot study will be used to develop a health promotion program focused at weight reduction and blood pressure for businesses employing men who are truck drivers.

Research Funded: Pilot study by NIH Research Grant 5 P20 NR008352-04 funded by the National Institute of Nursing Research and the National Center for Minority Health and Health Disparities (NCMHD).

DEAF ADULTS AND HEALTHCARE: GIVING VOICE TO THEIR STORIES

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Purpose: Describe deaf adults' experiences receiving healthcare. Descriptions include: barriers to healthcare access, patient challenges with nurses and other healthcare providers, and outcomes when no healthcare is obtained.

Background: Deaf adults may be vulnerable in healthcare settings (culturally deaf adults are individuals who lost hearing early in life, who communicate primarily in American Sign Language {ASL}, and who self-identify as members of the deaf culture). Providers often feel discomfort toward deaf patients and unprepared to interact with these patients. Deaf patients may have difficulty communicating with the healthcare team and are usually asked to communicate in language beyond their comfort. Communication poses the greatest challenge between providers and deaf patients and is unrelated to intelligence. Deaf high school graduates may only read and write English at a 5th grade level. This may cause misunderstanding if providers depend on written notes to communicate. Providers frequently treat deaf adults as disabled, while most deaf consider themselves as a cultural or linguistic minority. This can create confusion, misunderstanding, resentment, frustration, lack of understanding, and ultimately lead deaf individuals to refrain from seeking healthcare altogether.

Method: As part of a larger hermeneutic study that explored depressive symptoms among deaf adults, qualitative interviews were conducted with 9 culturally deaf adults. Each participant was interviewed three times each and certified American Sign Language interpreters were used to enhance understanding. Interviews were reviewed with interpreters for accuracy of translation; text was generated through word-for-word transcription and observations.

Findings: Participants volunteered their experiences in seeking healthcare. Barriers to accessing healthcare included not knowing where to go or how to access healthcare, and difficulty communicating with front office staff in order to even schedule appointments. As children, participants endured painful procedures and were frequently accused of not trying hard enough to hear or to vocalize. As adults the participants experienced being ignored in the waiting room, having procedures such as pelvic exams done without any communication, and having practitioners focus on the etiology of deafness but overlooking the patient's reason for seeking care. Situations arose in which interpreters were an unwelcome presence. Communication was frequently meaningless, especially when medical terminology was used. Most participants left the healthcare setting without ever having their concern addressed. Outcomes included no health promotion examinations, development of preventable illnesses, and distrust of healthcare providers.

Implications: This research describes challenges faced by deaf adults in healthcare settings. Nurses can help to improve care for deaf patients by anticipating needs such as face-face communication, using telephone relay operators, and asking the deaf patient how he or she would prefer to communicate. All procedures must be explained in advance. If an interpreter is desired by the deaf patient, one should be made available; family members are not acceptable interpreters. Nurses should ensure that the deaf patient has access to face-face contact during any procedures. Improved communication between providers and deaf patients will help to reduce morbidity and mortality in this underserved population.

ENHANCING CARE FOR VULNERABLE POPULATIONS

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FOOD INTAKE AND DIETARY ACCULTURATIVE CHANGES OF FIRST GENERATION FILIPINO AMERICANS

Felicitas A. dela Cruz, Maria Brigette Lao Nario, Catherine Heinlein

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THE OLDER HOMELESS WOMAN'S PERSPECTIVE REGARDING ANTECEDENTS TO HOMELESSNESS

Judy Hightower

RISK FACTORS AND PREVALENCE OF DIABETES AMONG CALIFORNIA ASIAN ADULTS

Sarah E. Choi, Sarah J. Chung, Vincent H. Chow, Nathan D. Wong

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AFRICAN AMERICAN MALES' GENETIC TESTING KNOWLEDGE AND WILLINGNESS TO PARTICIPATE

Mekeshia Bates, Mary T. Quinn Griffin, Cheryl Killion, Joyce J. Fitzpatrick

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HOW GENDER, ETHNICITY, & ROUTE OF INFECTION IMPACTS DEPRESSION IN HIV POSITIVE ADULTS

Naomi Alston, Caryl Gay, Kathryn Lee

FOOD INTAKE AND DIETARY ACCULTURATIVE CHANGES OF FIRST GENERATION FILIPINO AMERICANS

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Purpose/Aims: This pilot study (a) investigated the food intake of first generation Filipino Americans (FAs) and the acculturative changes in their dietary intake and practices resulting from their migration to the US; and (b) assessed their health status perceptions, the state of their diet-related health indicators (BMI and hip-waist ratio), and their level of acculturation.

Background: Studies have shown that immigrants to the US change their dietary intake, preferences, and practices that impact their health status, giving rise to chronic health conditions such as hypertension and diabetes. Epidemiological studies show that FAs experience disparities with these health conditions. In spite of the tremendous increase in Filipino migration to the US after 1965, these changes have been understudied in this ethnic/cultural group.

Methods: A convenience sample of 30 healthy FAs in Southern CA were interviewed to elicit their (a) 24-hour food intake, (b) dietary changes and practices since migrating to the US, (c) health status perceptions, (d) level of acculturation, and (e) socio-demographic characteristics. In addition, their height, weight, waist, and hip measurements were obtained.

Results: The sample consisted of predominantly female (66.6%), married, ranging in age from 27-71, having lived in the US for more than 10 years. The sample represented the 3 major islands of the Philippines: 67% of the sample came from Luzon and the rest equally came from the Visayas and Mindanao. Most of them are currently working. Their overall acculturation level shows that they are more Filipino than American, but leaning towards biculturalism. On the whole, the respondents eat traditional Filipino foods and three meals a day—breakfast, lunch, and dinner—with rice as a staple food. However, 63% admitted that their dietary preferences and practices have changed since arrival in this country. Half of the respondents reported that they eat more meat, particularly steak, which they rarely did before moving to the US; slightly over 1/3 indicated that they eat more fruits and vegetables; 1/5 noted that they consume more milk and dairy products. The majority (63%) rated their health as very good. Their BMI ranged from 15.97-34.85 with a mean of 25 (SD=5). The mean waist-hip ratio was .94 (SD=.09) and .86 (SD=.05) for men and women, respectively.

Implications: The increased red meat and dairy intake, BMI, and waist-hip ratio of acculturating FAs might predispose them to certain dietary-related chronic illnesses. Nurse clinicians need to become aware not only of FA dietary changes and health-related indicators when counseling this ethnic group. Clinicians have to emphasize the importance of maintaining the healthful dietary aspects—of consuming more fish, fruits, and vegetables—in both the traditional Filipino diet and the American diet.

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THE OLDER HOMELESS WOMAN'S PERSPECTIVE REGARDING ANTECEDENTS TO HOMELESSNESS

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Research Purpose: The purpose of this qualitative descriptive study was to describe the older homeless woman's perspective of antecedents to homelessness and answer the research questions: (1) what was your life like before you became homeless and (2) what do you believe the cause of homelessness was for you?
Conceptual Basis: Feminist theory is an interpretive perspective and one of the goals of feminist inquiry is to start research from the lives of women. This study was conducted to explore and capture the complexities of the experience for older women. The philosophical viewpoint influencing the development of this study therefore was feminism and feminist theory and, more specifically, elements of feminist standpoint theory.
Method: Qualitative description is an approach tailored to acquiring direct answers to significant research questions with minimal theoretical constraints and interpretation. Considering the research population and paucity of research available, any other methodology would have been impractical for this study because the experience of homelessness for older homeless women has not been fully conceptualized by previous research. Data analysis, using qualitative content analysis techniques, identified three themes which described antecedents to homelessness.
Results: Extraction of antecedents to homelessness from the interview text revealed 121 meaning units. After comparing codes, six categories and 36 subcategories were identified from the data. The categories were: (1) Personal Choices, (2) Self-belief, (3) Health, (4) Financial, (5) Inadequate Family Cohesion, and (6) Relationships. Three major themes were created from the categories: (1) Personal Accountability, (2) Difficult Life Circumstances, and (3) Lack of Support Networks. All themes were interrelated and offered a perspective regarding the steady progression into homelessness for older women. Themes Difficult Life Circumstances and Lack of Social Networks reflected previously documented findings, however, the theme Personal Accountability revealed antecedents not expressed before in the literature.
Implications: The experience of homelessness is unique and the path varies from person to person. To design appropriate interventions to prevent homelessness, nurses should have an understanding of antecedents to homelessness from the older woman's perspective. This study's significance will be its contribution to the body of nursing knowledge through exploration and description of information regarding antecedents to homelessness and lays the groundwork for the design of appropriate interventions and future research.

RISK FACTORS AND PREVALENCE OF DIABETES AMONG CALIFORNIA ASIAN ADULTS

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Aims: We examined the prevalence of diabetes mellitus (DM) in five Asian subgroups in California (Chinese, Korean, Japanese, Filipinos, and Vietnamese), and whether lifestyle and risk factors explain differences in DM prevalence between Asian subgroups and Caucasians.

Background: Despite the increasing DM prevalence and rates of population growth of Asian Americans, little is known about DM risks of this group; it is unclear whether risk factors identified among Caucasians are equally applicable to Asian Americans. Furthermore, Asian Americans are a heterogeneous group with diverse culture, health practices, and lifestyles, yet there is inadequate information regarding DM risk factors within each Asian subgroup.

Methods: 3,191 Asian subgroup adults ($\geq$ 18 years) and 30,554 Caucasian adults from the California Health Interview Survey 2005 were examined for the prevalence of DM and various risk factors. Multiple logistic regression models examined DM likelihood among Asian subgroups relative to Caucasians in consideration of lifestyle and risk factors.

Results: The prevalence of DM among Koreans was 7.4%, lower than Japanese (10.2%) and Filipinos (8.6%), but higher than Caucasians (6%). However, after adjusting for risk factors, Koreans had the highest likelihood of DM (OR=2.71, CI= [1.82-4.03], $p<0.01$), followed by Filipinos (2.20, [1.38-3.52], $p<0.01$) and Japanese (2.04, [1.23-3.39], $p<0.01$), relative to Caucasians.

Conclusions: Our results suggest that even after accounting for lifestyle and other risk factor differences between Caucasians and key Asian subgroups in California, Koreans, Filipinos, and Japanese have a two to three-fold greater likelihood of DM compared to Caucasians.

Implications: Prevalence rates may not necessarily reflect risk factor-adjusted likelihood of DM. Our findings suggest California Asian adults' risk factors associated with DM vary and highlight the need to study Asian subgroups individually, not as an aggregate, and to consider socio-economic, cultural, environmental factors as well as genetics and other novel risk factors when assessing DM risk and prevalence among Asian subgroups. In addition, increased attention for preventive measures is needed for Koreans to reduce the further rise of DM in this group.

AFRICAN AMERICAN MALES' GENETIC TESTING KNOWLEDGE AND WILLINGNESS TO PARTICIPATE

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Purpose: To explore the knowledge of African American males towards genetic testing and their willingness to participate in genetic testing.
Background: African American males are shown to have increased morbidity and mortality related to chronic diseases. The incidence of sickle cell disease, diabetes, stroke, and heart disease is much higher in African Americans than Caucasians. The impact of chronic diseases is even worse for African American men with 60% more likely to die from stroke, and 30% more likely to die from heart disease compared to White Americans. Recent advances have led to the association of specific gene sequences to certain chronic diseases. With further advances, application of genetic testing may change the approach to chronic diseases. No literature was found that examined African American males' knowledge about genetic testing and willingness to participate in genetic testing. Knowledge about genetic concepts and terminology may differ greatly in African Americans from other groups. It is crucial to ascertain a baseline knowledge level to identify need for education programs in this population.
Methods: This was a descriptive study. A convenience sample of 105 self-identified African American males at least 18 years old were recruited from a national fraternity at one of its district meetings. Data were collected with a Background Survey, Factual and Perceived Genetic Knowledge Instruments, and Willingness to Participate in Genetic Testing Survey. Research packets were given to interested individuals at a designated conference booth. Subjects completed the anonymous surveys and returned them to the researcher in a sealed envelope.
Results: The response rate was 99% (104/105). Participants had a mean age of 40.2 years (range 19-79). The majority was well-educated and 43% of all participants had at least one chronic illness. Although scores for *perceived* genetic knowledge were low, participants had a high level of *factual* genetic knowledge, with most knowledge about genes and disease. Participants knew most about using genetic testing for early detection (67%) and least about work penalty and genetic testing (25%). The total willingness to participate score was 46.8 (SD $\pm$ 15.3). A total of 63% of participants reported that they would be willing to participate in genetic testing now; however, when asked to participate based on who conducted the test, 47% would participate, and when the genetic testing task was considered, 61% would participate.
Implications: Information about African American males' knowledge of genetic testing and willingness to participate in genetic testing will assist nurses in planning patient education programs about genetic testing. Research results will inform nursing practice related to caring for African American males with illnesses where genetic testing may be required. Interventions to educate participants on the specifics of genetic testing such as who is conducting the genetic testing and how the test will be performed may prove beneficial in increasing participants' willingness to have genetic testing. The results of this study may be used to guide faculty in developing genetic-related programs for nursing students. Furthermore these results may be used to formulate nursing policies related to incorporating genetic care into nursing practice.

HOW GENDER, ETHNICITY, & ROUTE OF INFECTION IMPACTS DEPRESSION IN HIV POSITIVE ADULTS

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Background: An estimated 40,000 new HIV infections occur annually in the United States, with the vast majority (99%) occurring through sexual exposure and/or intravenous drug use (IVDU). HIV infection rate disproportionally impacts communities of color, with the rate of HIV infection roughly eight times higher in African Americans than Whites. Women account for 25% of new HIV infections; African American and Latino women comprise 76% of women living with AIDS. In the US, depression ranks among the most prevalent psychiatric disorders, sometimes resulting from medical conditions and their treatments. Depression is a common symptom among those with HIV.
Purposes/Aims: The purpose of this study was to determine whether depressive symptoms differ by gender, ethnicity, or route of infection (ROI) in a sample of men and women living with HIV.
Methods: This is a cross-sectional, secondary analysis of data from a study of symptoms and genetic markers in HIV-infected adults. Race/ethnicity was coded as Black, Hispanic, or White, and ROI was coded as sexual exposure, IVDU, both, or neither. Frequency of depressive symptoms was estimated using the 20-item self-report Center for Epidemiological Studies-Depression (CES-D) Scale. ANOVA was used to test the effects of sex, race/ethnicity, and ROI on CES-D scores.
Results: The final sample consisted of 229 men and 93 women with complete data, and was ethnically/racially diverse (42% Caucasian, 39% African American, 19% Other). Most reported acquiring HIV through sexual exposure (62%), 12% through IVDU only, 20% reported both sexual exposure and IVDU, and 6% reported an unknown or other route of infection. Bivariate analyses indicated significant differences in mean depression scores by sex and ROI. Women had a significantly higher mean CES-D score (19.4$\pm$10.7 SD) than men in the sample (16.2$\pm$10.2; $F[1,320]=6.26$, $p=.013$). Those who acquired HIV through sexual exposure or IVDU had higher depression scores than those who reported other routes of infections ($F[3,318]=3.11$, $p=.027$). African American (16.5$\pm$9.9) and Caucasian (16.5$\pm$10.1) adults had slightly lower depression scores than those of mixed or other race (19.9$\pm$11.9), but the results did not reach statistical significance ($F[2,319]=2.62$, $p=.074$). However, when sex (male vs. female) and ROI (sexual exposure/IVDU vs. neither) were included in a 2-way ANOVA, acquiring HIV through sexual exposure or IVDU was the only factor significantly related to depressive symptoms ($F[1,318]=7.34$, $p=.007$).
Implications: Results suggest greater depressive symptoms in women compared to men and the differences may be associated with ROI. There were no racial differences in CES-D scores, suggesting that those from different ethnic groups report similar levels of depressive symptoms. These findings help to identify HIV-infected adults most at risk for depressive symptoms and support future research on interventions to reduce depressive symptoms in HIV positive adults.

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EXPANDING NURSING STUDENTS' HORIZONS

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SUCCESSFUL CRITICAL THINKING CLASS FOR BEGINNING NURSING STUDENTS

Vaneta M. Condon, Iris Mamier

EXPANDING BACCALAUREATE NURSING STUDENTS' ATTITUDES ABOUT POVERTY

Nancy Nivison Menzel, Michele Clark, Cheryl Darby-Carlberg

SUPPORT FOR MESA INTERVENTIONS IN AN UNDERGRADUATE NURSING RESEARCH COURSE

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ASSESSING GENETIC LITERACY OF NURSING FACULTY, STUDENTS, AND PRACTITIONERS

Martha Driessnack, Sandra Daack-Hirsch

A NURSING 'SEMESTER ABROAD' IN SOUTH AFRICA

Leslie Van Dover, Aja Tulleners Lesh, Kathaleen Reid-Martinez, Pamela Cone, Grace Moorfield

SUCCESSFUL CRITICAL THINKING CLASS FOR BEGINNING NURSING STUDENTS

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Purpose/Aims: To describe the development, content, teaching-learning activities, methods, and outcomes of a critical thinking class for beginning nursing students.

Rationale/Background: Faculty and Administration of a private western nursing school wished to increase the diversity of the nursing students enrolled in order to address the shortage of nurses. A grant proposal was funded by the Federal Government's Division of Nursing to increase the enrollment of disadvantaged and minority nursing students. However, on admissions testing many of these students scored below admissions requirement in critical thinking scores, GPA, and other requirements. The grant provided funding to develop and implement three months of preclinical classes to help prepare these students to be successful in a BS nursing program. One of the six classes developed and required for these students was a critical thinking class.

Description of the Project/Methods: The critical thinking class/lab was developed utilizing interactive teaching-learning methods. Activities included small group discussion of case studies, healthcare scenarios/problems, reflective writing, role playing, debate, and discussing scenes from films and selected literature. These activities focused on the development of specific critical thinking skills, including: identifying assumptions, making inferences, inductive and deductive reasoning, drawing logical conclusions, analysis, and self-evaluation/self-regulation/self-direction.

Outcomes Achieved/Documented: Pre- and post-class scores on different forms of the California Critical Thinking Skills Test (CCTST) were compared for 31 disadvantaged/ethnically diverse students. Analysis of the Wilcoxin Signed Ranks Test results identified a significant increase in critical thinking ($p=.008$) from pre- to post-test scores.

Conclusions/Implications: The critical thinking scores of disadvantaged/ethnically diverse beginning nursing students were significantly improved following the class described. Logically, it appears that improving critical thinking skills at the beginning of a nursing program is desirable and can assist the student in developing the clinical judgment and decision making needed for success in nursing education and nursing practice.

Research Recommendations:

1) Replication of this project using larger numbers of students.
2) Replication of this project using different populations of nursing students.
3) Comparison of the effectiveness of specific teaching-learning methods and activities in increasing critical thinking skills.

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EXPANDING BACCALAUREATE NURSING STUDENTS' ATTITUDES ABOUT POVERTY

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Purpose: According to the latest data from the US Census, 13.2% of the population is living in poverty. Despite this percentage, most nursing programs provide minimal curricular content to foster culturally competent responses to this increasingly important social determinant of health. This study sought to evaluate a three hour poverty simulation program's effect on senior baccalaureate nursing students' (BSN) attitudes and judgments related to the poor.

Background: Socioeconomic status and health are correlated, with those living in poverty having the worst health status. They often perceive that caregivers are insensitive to their plight, possibly due to erroneous beliefs about the causes of poverty.

Methods: The investigators staged the Missouri Association for Community Action (MACA) Poverty Simulation program in Spring 2008 as an educational tool for 48 generic BSN students ranging in age from 21 to 30 years; 83% were female. The simulation placed students into a scripted role in predetermined families with the charge of meeting basic needs for a month. The month was broken into four time periods, each representing one week. The characters students were portraying had to accomplish specific tasks during each week, such as applying for financial assistance, attending school, or shopping for food. Participants had to secure transportation vouchers to reach resources. Faculty and volunteers from a local homeless shelter played the social services, employer, governmental, and merchant roles. We received human subjects' protection review from the university's institutional review board. The students were asked to fill out a modified version of the 43 item Attitudes toward Poverty questionnaire before and after the simulation. This tool has adequate psychometric properties.

Results: Post-test scores showed statistically significant improvements in 14 items, including reduced negative feelings about those living in poverty and increased recognition that poverty can be caused by such things as a lack of childcare, transportation, or racial prejudice. During the group discussion exercises following the simulation, many students expressed amazement at the barriers they faced meeting their simulated families' basic needs due to unavailable basic resources. Most failed to recognize the eight homeless volunteers, instead mistaking them for real agency personnel. The students stated that this exercise shifted their attitudes on the causes of poverty and the many difficulties the poor face in maintaining food and shelter, even when they have employment.

Implications: It is challenging to assist BSN students to obtain the skills and attitudes needed to work successfully with poor individuals and families and to intervene "upstream" in the structural causes of poverty. A poverty simulation is an effective means to widen student perspectives on the complex ecology of poverty and change attitudes about those it ensnares, an overlooked and often demonized subculture.

SUPPORT FOR MESA INTERVENTIONS IN AN UNDERGRADUATE NURSING RESEARCH COURSE

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Purpose: To determine the effects of MESA (Mechanisms for Enhancing Scholarly Achievements) interventions across a population of undergraduate (UG) students enrolled in a nursing research course (NURS3203).

Rationale/Background: Shortage of clinical nurse researchers and nursing faculty, and translation of evidence-based practice (EBP) literature have currently plagued the nursing profession. Each enrolled UG nursing student is a precious resource that could help alleviate these issues through pursuance of graduate nursing education. This study determined the effects of MESA interventions across a population of UG students enrolled in NURS3203. The MESA model specifies variables and relationships essential for pursuing a research career. It provides a theory base for an integrated series of interventions designed to build interprofessional teams having minority graduate student members engaged in health disparities research. Factors such as Student Characteristics (SC), Training Program Characteristics (TPC), Motivation Direction and Strength (MDS), Interpersonal Risks (IR), Team Psychological Safety (TPS), Learned Resourcefulness (LR), Research Self-Efficacy (RSE) can be influenced by interventions that facilitate the understanding of the process for becoming a clinical research scientist, and improve their Scholarly Productivity (SP). Interventions included faculty mentor pool and seminar series on: active faculty research, motivation direction and strength intervention, research team building strategies to promote collaboration and healthy competition, individual capacity building towards research self-efficacy and essential cognitive skills, poster presentation of research project, and making EBP-based recommendations in the clinical setting. It was hypothesized that MESA interventions will influence the identified MESA factors, students' perception of nursing research and improve their SP.

Methods: This quasi-experimental nonequivalent control-group before-after design study was conducted in a cohort of UG nursing students enrolled in NURS3203 (BSN track) and NURS4214 (LVN/RN – BSN track). The interventions were incorporated in the course activities of NURS3203 for spring 2009, while NURS4214, the comparison group, had the regular Blackboard online research course. The MESA questionnaire was administered to both groups at the beginning (N=91) and end of the semester (N=70). Data were analyzed using independent t-tests (SPSS).

Outcomes: The intervention group showed significantly improved scores on TPC ($t=14.37$, $p<0.05$), MDS subscale ($t=5.222$, $p<0.024$), LR ($t=4.8$, $p<0.03$), TPS ($t=13.36$, $p<0.0001$) and an increase in SP ($t=31.40$, $p<0.001$), indicating an overall significant influence of the MESA intervention in students. This was reflected in the qualitative data which showed appreciation for research and evidence-based practice (EBP), as well as its role in the improvement of care.

Conclusions: The MESA interventions showed a strong positive influence on the UG students' perception of research and scholarship, and should be continued. Strong collaborative faculty and institutional support will encourage its sustenance and implementation. Early exposure to research helped students realize its importance as a powerful tool for discovering knowledge and improving quality of patient care. Further, it may also serve as a seed to consider graduate education.

ASSESSING GENETIC LITERACY OF NURSING FACULTY, STUDENTS, AND PRACTITIONERS

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Background: Advances in our understanding of the impact and interaction of an individual's genotype and pedigree are changing the way healthcare providers, including nurses, need to learn and think about health promotion, disease prevention, causation, and risk, and treatment responses. While research continues to demonstrate nursing faculty and practitioner support for the need to integrate genetic concepts, little is known about how to assess individual genetic literacy levels in nurses or the applicability of existing tools to identify, assess, and track advances in understanding of those genetic concepts that are relevent to nursing practice.
Purpose: To explore the applicability of existing genetic literacy assessment guidelines and/or tools for assessing nursing faculty, student, and practitioner understanding of genetic concepts needed for beginning and advanced nursing practice.
Method: A systematic review of the literature was conducted, focusing on available genetic literacy assessment guidelines and/or tools relevent to nursing. A conceptual matrix was created and then cross-referenced with the new *Essentials of Baccalaureate Nursing Education for Professional Nursing Practice* and the *Essentials for Doctoral Education for Advanced Practice Nursing.*
Findings: Resources identified as having the highest relevency to nursing curricula development and assessment of faculty, students, and beginning and advanced practice nurses included: (1) the *Essential Nursing Competencies and Curricula Guidelines for Genetics and Genomics* (2006) and second phase; (2) *Outcome Indicators* (2008), the Genetics Literacy Assessment Instrument for Undergraduates (GLIA) (2008); (3) the *Genetics Concept Assessment/Inventory* (2008); and (4) the *Rapid Estimate of Adult Literacy in Genetics* (REAL-G) (2007). The resultant matrix identified overlapping/core content as well as areas not assessed.
Discussion: As professional education standards in nursing require the integration of genetic concepts in nursing curriculum for both beginning and advanced practice nurses, there is a concurrent need for the development of outcome assessment. While there are a few well-designed assessment tools, questions remain in terms of their utility for assessing genetic literacy in nurses and/or the genetic concepts most relevent to nursing practice. This study provides the framework for the development of such a tool.

A NURSING 'SEMESTER ABROAD' IN SOUTH AFRICA

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Purpose/Background: Many universities offer opportunities for students to study abroad, recognizing that these experiences bring depth to student learning. Azusa Pacific University's (APU) academic vision includes "intentional internationalization," a series of initiatives designed to facilitate "exploration of events, institutions, peoples, problems, and issues outside of our nation's borders." APU School of Nursing began in 2008 taking students and curriculum to South Africa (SA) for a full semester (14 weeks). What of value do students learn through these experiences? How does immersion in a foreign culture and system of health care challenge and change them?
Project Description: The SA nursing program is built on a foundation established in 2007 when APU took its first group to SA to study arts and science. Students have opportunities to fully explore this beautiful country through visiting key historical sites, having outdoor adventures, and becoming involved with local youth and families. Nurses study history and culture of SA at the KwaZulu-Natal Province campus, and complete three courses: issues & ethics, research, and community health. They fulfill 78 hours of community clinical education in the municipal and state-run health clinics in townships where estimates put the population prevalence of HIV infection above 60%. Students visit families affected by HIV/AIDS through clinical placement in a hospice and family center. Their professional confidence increases and they enjoy providing home care. Students learn about the intricacies of local cultural influences on health behavior, and how history and societal structures may conspire to perpetuate or break a culture of poverty.
Outcomes: Students who study in SA: (1) learn how nursing practice occurs in settings different from North America; (2) increase their passion and compassion for the health needs of the poor; (3) increase their flexibility, adaptability, and responsiveness to healthcare needs in complex cultural environments; and (4) understand the empowering role of the community in organizing public & private entities to provide community health resources. Returning home, students continue to ask provocative questions.
Conclusion: With institutional support and faculty/student team effort, excellent international health experiences are possible. A total of three cohorts of students have experienced healthcare in SA. Challenged and inspired through exposure to a multicultural society and a health system with universal access, returning students apply their newly gained perspectives and skills to the North American healthcare context.

HEALTH PROMOTION AND ILLNESS PREVENTION IN ELDERS

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PREDICTORS OF LIFE SATISFACTION IN PEOPLE 80 YEARS OF AGE AND OLDER

Julie A. Pusztai

ALLOSTATIC LOAD PRIMARY MEDIATORS PREDICT DELIRIUM IN HOSPITALIZED ELDERLY

Ted Rigney

CULTURALLY TAILORED MOTIVATIONAL STRATEGIES FOR INCREASING REGULAR PHYSICAL ACTIVITY IN OLDER KOREAN AMERICANS: CHALLENGES AND RECOMMENDATIONS

Hye-A Yeom, Julie Fleury, Colleen Keller, Michael Belyea

MECHANISMS OF DRUG-RELATED FALLS IN OLDER ADULTS

Ginette A. Pepper, Bob Wong, Gail Towsley, Janelle Bassett

PREDICTORS OF LIFE SATISFACTION IN PEOPLE 80 YEARS OF AGE AND OLDER

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Background: A higher percentage of the US population is living to advanced ages than ever before. Although embraced as desirable by most, living longer presents the challenge of maintaining a sense of satisfaction with one's life. The **purpose** of this descriptive correlational study was to evaluate variables, including religiosity, that predict life satisfaction in a national sample of individuals 80 years of age and older.
Methods: The sample was drawn from a multistage random sampling of persons 65 and older in the Centers for Medicare and Medicaid Services (CMS) Medicare Beneficiary eligibility list that participated in the Religion, Aging, and Health Survey (Krause, 2001). From an original cross-sectional sample of 1500 participants who responded to face-to-face interviews, the subsample for the present analysis included 374 individuals: 144 men and 230 women; 190 Caucasian, 184 African American. Descriptive statistics were used to identify participants' gender, race, and marital status, and to evaluate responses for the independent variables (IVs). A series of three stepwise regressions (SR) were used for this exploratory model building. The first SR entered 11 IVs found in the literature to predict life satisfaction (DV). Seven religion independent variables (RIV) were then explored in a second SR for ability to predict the DV. In a final SR analysis, those variables from the previous regressions demonstrating predictive ability of the DV were explored together for their power in explaining life satisfaction. An ANOVA was used in each step to test for model significance.
Results: In the first SR, five IVs emerged as significant: quality of life (QOL), locus of control, financial burden, optimism, and health status. Collectively they explained 21% of the variance of the DV. In model two, three RIVs remained as predictors and explained 10% of the DV: forgiveness of others, forgiveness from others, and centrality of faith. The final SR included the five IVs and three RIVs to explore the combined predictive ability. Only optimism was excluded in the analysis. These seven IVs and RIVs collectively demonstrated the ability to predict 27% of the experience of life satisfaction. ANOVAs for all SR models were significant ($p<.001$). QOL was shown to be the most powerful predictor at 12% (Beta=.23, $p\leq.001$). Three RIVs were entered and remained in the final model adding 5% to the collective ability of the IVs studied for their effect on the DV.
Implications: Results suggest that while multiple factors previously identified in the literature proved predictive of the experience of life satisfaction in older persons, enhanced predictive power is provided by including spiritual variables. As spiritual aspects of interpersonal forgiveness and centrality of faith contributed significantly to the predictive ability of the model, this study offers support to areas of research and practice that explore the usefulness of these experiences in understanding and supporting life satisfaction in older persons.

ALLOSTATIC LOAD PRIMARY MEDIATORS PREDICT DELIRIUM IN HOSPITALIZED ELDERLY

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Purpose: The purpose of this study was to investigate the relationship of Allostatic Load (AL) and the incidence of delirium in the hospitalized older adult.
Background: Allostasis is a continuous process of physiological adaptation to potentially stressful challenges or in anticipation of stressful challenges. Allostasis describes wide variability in the physiological parameters of several regulatory systems as an integrated response that indicates a healthy functioning system, able to anticipate and respond effectively to stress. However, these regulatory systems are vulnerable to overload and dysfunction, particularly when there are unpredictable, exaggerated, repetitive or chronic exposures to stress. This state of dysfunction is described as AL and reflects the cumulative negative effects of adaptation to immediate and past environmental stressors and psychosocial challenges. The cascade of pathophysiological events that lead from allostasis to AL begins as primary mediators, such as catecholamines and cortisol, cause primary effects that lead to the development of secondary outcomes. The effects of secondary outcomes then lead to tertiary outcomes, or actual disease.
Methods: English-speaking participants $\geq$ 65 years of age admitted to the intensive care unit were included. Participants were excluded if they had severe cognitive dysfunction, defined as a Standardized Mini-Mental Status Exam (SMMSE) score of 23 or less and/or had prevalent delirium, defined as a positive finding on the Confusion Assessment Method (CAM). Ten components reflective of primary effects and secondary outcomes were collected on admission to the hospital. Each of the 10 components participants were classified into quartiles based on the distribution of scores in the sample. Allostatic load was calculated as the sum of the number of components for which the participant was rated in the highest risk quartile. Separate scores were also derived for components of primary effects and secondary outcomes. Incident delirium was assessed 48 to 72 hours after admission using the CAM.
Results: Mean age was 75.7 with a range of 66 to 93 years. Fifty-seven percent were men. Mean SMMSE score was 28.8 with a range of 25 to 30. The incidence of delirium was 29%. The AL score derived from the composite measure of primary effects: urinary cortisol, epinephrine and norepinephrine and serum dehydroepiandrosterone sulfate, predicted the incidence of delirium. For every point increase in the primary effects score the odds of developing delirium increased by 2.54. The AL score, the secondary outcomes score and individual AL components were not related significantly to the incidence of delirium.
Implications: These findings suggest an AL score derived from a composite measure of primary effects may be useful in predicting delirium in the hospitalized older adult. Delirium leads to a number of poor outcomes and questions remain unanswered regarding the pathophysiology of delirium. The theory of AL considers the cumulative physiological dysfunction that can occur because of exposure to psychosocial and environmental stress. The idea that such stress may cause a differential risk for delirium in the hospitalized older adult may suggest additional avenues of research, ultimately leading to improved prevention of delirium in this vulnerable population.

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CULTURALLY TAILORED MOTIVATIONAL STRATEGIES FOR INCREASING REGULAR PHYSICAL ACTIVITY IN OLDER KOREAN AMERICANS: CHALLENGES AND RECOMMENDATIONS

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Purpose: To describe the development and implementation of a theory-based, culturally-tailored motivational strategy to enhance the initiation of regular physical activity (PA) in older Korean Americans. Specific challenges and recommendations for designing a community-based, culturally-relevant physical activity program for this growing ethnic subgroup will be discussed.

Rationale/Background: With the increasing racial diversity among geriatric populations, the need for culturally-relevant health promotion interventions has been emphasized as a key public health goal. Older Korean Americans are known to engage in less regular PA than the general US elder population and Korean seniors living in mainland Korea. However, there has been limited PA intervention research on the older Korean Americans and discussion on the strategies to provide them culturally-relevant PA interventions.

Methods: The study was guided by Wellness Motivation Theory. A total of 64 convenient sample of sedentary older Korean Americans were assigned into a 12-week group physical activity intervention group (n=33) or to a control group (n=31). Intervention was composed of culturally-tailored motivational strategies including moderate intensity walking, social support, empowering education focusing on the creation of social and contextual resources, and motivational support for enhancing skills and resources to initiate and sustain regular physical activity. Outcome measures include the level of physical activity measured using ACSM criteria and level of physical performance measured using Short Physical Performance Battery. Mediating variables include social support, social contextual resources, self-readiness, and self-regulation as well as self-efficacy for exercise.

Results: There was a significant effect of the motivational intervention in increasing the level of physical activity (F=79.596; p=.000), walking endurance (F=16.369; p=.000), and flexibility in OKA (F=15.455; p=.000). There was no significant effect of the motivational intervention on balance and walking speed. Adherence rate for the 12-week intervention program was 80% in intervention group and 97% in control group. Reasons for attrition included physical illness, group pressure, interpersonal conflict, and frequent travel/social events. Challenges for implementing the community-based ethnic PA program included participants' difficulty with understanding the concept of research, contamination between intervention and control groups, increased attrition over time, participants' individual differences in knowledge and attitude toward regular PA. Recommendations for future cross-cultural research include consideration of transportation issue in implementing the intervention, a sound community-partnership, the need for focusing on frail older old groups with development of individually tailored motivational strategies, consideration of multi-center trials for minimizing contamination, and making inter-disciplinary approaches as well.

Implications/Conclusions: This study addresses intervention feasibility, acceptability, and the effectiveness of culturally-relevant motivational strategies designed to promote PA in sedentary OKA. Implementing the intervention clarified the challenges as well as useful strategies for designing further community-based ethnic PA intervention research by providing understanding of culturally relevant approaches to enhance regular PA in older Korean Americans.

MECHANISMS OF DRUG-RELATED FALLS IN OLDER ADULTS

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Purposes/Aims: The purpose of this pilot study was to determine if muscarinic blockade is a viable hypothesis for the pharmacologic mechanism of drug-related falls in older adults.
Rationale/Conceptual Basis/Background: Studies of medication-related falls yield contradictory results that may be attributable to classification of drugs by therapeutic group rather than pharmacologic mechanism in previous studies. Three candidate pharmacologic mechanisms of drug-related falling are muscarinic blockage ("anticholinergic"), sedation, and orthostatic hypotension. Unstable balance and fear of falling are likely mediators between drug mechanism and falling.
Methods: Using longitudinal, descriptive, correlational design, a sample of 47 adults >70 years (mean 78.3 years; 75% female) taking medications associated with falling were assessed on predictor variables of demographics, functional status, depression (GDS-SF), cognitive function (MMSE), postural hypotension, sedation (MRS, DSST) and anticholinergic burden score. Dependent variables were postural sway, dynamic balance, and fear of falling (MFES). Fall events were ascertained over a one year period by diaries and telephone interview.
Results: Neither cumulative anticholinergic burden, highest potency, nor number of anticholinergic agents used were associated with fall events. There were no differences in balance parameters between putative peak and trough of drug action. In multivariate analysis imbalance was predicted by postural hypotension and use of anticholinergic drug(s) (R^2=22%, p<.05). The only predictor of incidence of fall events was DSST sedation ($R^{10.3\ pt}$=14%, p=.039), while age, MRS and postural hypotension predicted fear of falling ($R^{10.3\ pt}$=50.2%; p<.001). Univariate analysis implicated a role for sedation. Fall events were associated with sedation (p=.05) and history of falling (p<.001). Fear of falling was associated with sedation (r= 45; p<.001) and postural hypotension (r=0.35; p<.05). Balance was associated with sedation (r=0.47; p<.001), while postural hypotension was associated with sway (r=.30; p<.05).
Implications: Muscarinic blockade is one possible mechanism of drug-related falling, though a larger study is needed to determine the relative contributions of various pharmacologic mechanisms, due to overlapping drug effects. Results suggest healthcare providers should assess for postural hypotension and minimize the anticholinergic and sedative burden of medication regimens. Genetic research and personalized medicine frameworks may be useful avenues for future research on pharmacologic mechanisms of drug-related falling.

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INNOVATIONS IN EDUCATION

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COMPARING LEARNING OUTCOMES BETWEEN TWO EXPERIENTIAL TEACHING STRATEGIES

Katie Anne Adamson, Suzan Kardong-Edgren, Kenn B. Daratha

EVIDENCE-BASED PRACTICE IN ADMISSION, PROGRESSION, & RETENTION POLICY DECISIONS

Tina D. DeLapp

THE 'DANCE' OF CIVILITY IN NURSING EDUCATION: TESTING A CONCEPTUAL MODEL

Cynthia Clark, Pamela Springer

CLICKERS: TEACHING NURSING WITH AUDIENCE RESPONSE SYSTEMS

Lynne C. Andrus

COMPARING LEARNING OUTCOMES BETWEEN TWO EXPERIENTIAL TEACHING STRATEGIES

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Purpose: The purpose of this pilot study was to compare cognitive, affective, and psychomotor learning outcomes between students who were exposed to two different experiential teaching strategies: human patient simulations (HPS) and case study clinical conferences (CCC).

Background: Experiential learning activities allow students to apply abstract concepts in realistic patient-care scenarios. Investigators are interested in comparing how CCC and HPS contribute to the goal of nursing education- to prepare nurses for practice. The knowledge, values and abilities that are essential to nursing practice require aptitude in the affective, cognitive and psychomotor domains. Therefore, research aimed at assessing the effectiveness of teaching strategies should address how they impact learning outcomes in each of these domains.

Methods: This pilot study used a quasi-experimental, non-equivalent comparison, Solomon four-group design. A total of 14 students participated in the study. Participants were exposed to either CCC or HPS learning activities. Cognitive, affective, and psychomotor learning outcomes were measured and compared between groups.

Results: No significant differences in cognitive, affective, or psychomotor learning outcomes were detected between the groups.

Implications: There is much to be learned from the design, methods, analyses, and results of this study. As a pilot, this study tested the feasibility of coordinating and carrying out the complex study procedures. This pilot also provided a platform for testing the HPS and CCC activities and the evaluation tools. Post-test knowledge exam scores were used to complete a power-analysis which indicated that, to power the study at 80%, at the alpha = .05 level, a future replication of the study will require a total of 70 participants. Finally, the resources required for HPS learning activities are more costly than the resources required for CCC learning activities. Non-significant differences in learning outcomes between students who were exposed to one teaching strategy versus the other may provide a basis for future experiential teaching resource allocation.

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EVIDENCE-BASED PRACTICE IN ADMISSION, PROGRESSION, & RETENTION POLICY DECISIONS

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Background: The literature is replete with articles on effective methods of selecting students likely to be successful in completing nursing education programs. Evidence of systematic evaluation of the impact of changing existing admission or progression standards in advance of adoption is lacking. Nurse educators are challenged to employ evidence in their practice arena, i.e. the nursing education arena. The purpose of this study was to examine use of existing data used to anticipate the impact of changing admission and progression/retention policies on the graduation and NCLEX pass rates of baccalaureate nursing students and on characteristics of graduates.
Method: The records of all baccalaureate nursing students admitted to the clinical major in a public baccalaureate program from January 1997 – Summer 2005 were examined. The sample was predominately female, Caucasian, single, 19-30 years old, and without a prior 4-year degree or a parent with a college degree. 594 (93.1%) successfully completed the degree; 585 (98.4%) eventually were successful on NCLEX, the majority (91.1%) on first attempt. The potential impact of raising admission and progression standards regarding the following were examined: required extracted admission GPA, required science GPA, and number of allowable nursing course repeats.
Results: When the extracted admission GPA was increased from 2.7 to 3.0, the number of graduates was reduced (n=136; 21.3%). There was no significant impact on gender, marital status, ethnicity, or age of graduates; however, students whose parents had not attained a degree were significantly less likely to be admitted and graduate compared to those whose parents had attained a degree (x^2=5.25, p=0.21). There was no significant difference in the first attempt or eventual NCLEX pass rates of students with an extracted admission GPA of more or less than 3.0 (x^2=5.97, p=0.16; x^2=5.83, p=0.44, respectively). There was no significant difference in graduation rates of ethnic minority students with higher or lower GPAs, although the number of minority graduates were lower for the following ethnic minorities: Asian-Pacific Islander (↓ 26%), Black (↓ 26%), Hispanic (↓39%), & Alaska Native/American Indian (↓22%). There was a significant difference in graduation rates of students who had a science GPA of less than 3.0 and more than 3.0 (x^2=4.93, p=0.026). Students who self-identified as being ethnic minority were more likely to have a science GPA of less than 3.0 (x^2=10.02, p=0.002). Still, the first time NCLEX pass rates were significantly lower among with a lower science GPA (47% vs. 53%) (x^2=4.628, p=0.12). When limiting the number of second attempts on any nursing course revealed that only one graduate who required more than two re-enrollments had required a second attempt to pass NCLEX.
Implications: The results make clear that, when higher admission & progression standards are proposed, it is indeed possible to utilize existing data to anticipate their. Nursing faculty would do well to base such change decisions on evidence to avoid being surprised by unanticipated outcomes.

THE 'DANCE' OF CIVILITY IN NURSING EDUCATION: TESTING A CONCEPTUAL MODEL

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Purposes/Aims: Incivility in American society is on the rise and rude and disruptive behavior is increasing in institutions of higher learning. In nursing and other health-related disciplines, the risk assumed by not addressing uncivil behavior reaches well beyond the college campus and can negatively impact patient safety. Because nursing programs are places where students provide direct care to patients through clinical experiences, uncivil and disruptive acts must be addressed so that such behaviors do not spiral into aggression and jeopardize patient safety. The purpose of the study was to empirically test a conceptual model designed to foster civility in nursing education.
Rationale/Background/Conceptual Framework: Several empirical studies reveal that stress plays an integral role in the display of uncivil and disruptive behaviors. A conceptual model developed by Clark (2008) illustrates the relationship between stress and uncivil behavior in nursing education. When heightened stress levels co-occur with negative attitudes of faculty superiority and student entitlement, encounters between faculty and students can be more intense and may lead to aggressive and threatening situations. The model suggests that reducing stress and seizing opportunities for effective engagement help foster civility. Further, when faculty and students work together to resolve conflict, the potential for the 'dance of civility' is enhanced and a safer, more civil learning environment is created.
Methods: One hundred and thirty (130) academic nurse leaders responded to several questions designed to test the conceptual model for fostering civility in nursing education. The numerical survey data were analyzed using descriptive statistical analysis and the narrative comments were transcribed verbatim into spreadsheets and significant statements were formulated and reduced into themes.
Results: Virtually all (94%) respondents perceived a relationship between stress and incivility. Respondents rated student stress as moderate (49.2%) to high (50%). Faculty stress was rated as moderate (60%) to high (33%). Forty six percent (46%) rated the level of student entitlement as high in their institution and 11% rated faculty superiority as high. Ninety four percent (94%) indicated communication is highly important in preventing incivility.
Implications: Results provide preliminary support regarding the accuracy of the conceptual model supporting the relationship between stress and academic incivility. Findings from this study suggest that reducing stress and improving communication may decrease incivility. Further empirical testing is needed to strengthen the conceptual model in order to develop 'best practices' to foster civility in nursing education.

CLICKERS: TEACHING NURSING WITH AUDIENCE RESPONSE SYSTEMS

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Purpose/Aims: The purpose of this presentation is to demonstrate the use of "clickers" within an audience response system that engages students interactively by polling student responses and eliciting feedback within nursing lectures and small group discussions. In this WIN presentation, attendees will learn about clicker use at an undergraduate nursing program and try out an audience response system.

Background: With the explosive growth of nursing admissions, the number of students in a typical nursing lecture course often number thirty to fifty or more. In these environments, nursing professors struggle to develop thought-provoking presentations that capture the nuances of the nursing profession. More disheartening is that students, at best, can generally retain only half of the information in even the most carefully prepared audiovisual presentations. Furthermore, neither the instructors nor the students in a large lecture classroom receive the feedback needed to check for immediate understanding of the content.

Brief Description of the Project: Using constructivist learning theory, the nursing professors at an undergraduate nursing program regularly use clickers within an audience response system to engage students in lectures on nursing pathophysiology, nursing ethics, and cultural diversity. Within an interactive and entertaining learning environment, thought-provoking questions are embedded within regular presentations to invoke critical thinking and reasoning. For difficult or sensitive questions, students can respond anonymously without fear of ridicule or peer pressure as only the cumulative responses are displayed. With feedback from polled responses, understanding of the lecture material is verified immediately and key points are reinforced through class or small group discussion on contentious results.

Achieved Outcomes: The use of clickers within an audience response system at this undergraduate nursing program has improved attendance at lectures and increased voiced student satisfaction. Specific examination scores have been raised by an average of one letter grade after initiating clicker use on lectures such as the content on fluids and electrolytes. In addition, clicker results showing diverse opinions on ethical issues have prompted lively and productive discussions among students.

Conclusions: Anecdotal evidence at this undergraduate nursing program and the literature supports the use of audience response systems in nursing. Next steps call for rigorous research studies to further explore and validate these findings. Audience response systems may also provide the tools for this research as the clickers can be used to gather data for research and analysis.

INNOVATIONS IN METHODOLOGY

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USING THE E-DELPHI (ONLINE) METHOD TO DEVELOP AN ASSESSMENT GRADING SYSTEM

Thomas Oertel

RE-EVALUATION OF THE MASLACH BURNOUT INVENTORY HUMAN SERVICES SURVEY

Ann E. Tourangeau, Greta Cummings, Lisa Cranley

USE OF AUTOETHNOGRAPHY IN POST-GRADUATE EDUCATION: ONE STUDENT'S STORY

Barbara Plovie

MEASURING COGNITIVE PROCESSING ABILITY IN ADOLESCENTS WITH SCHIZOPHRENIA

Karen G. Schepp, HyunJung Kim

A GLOBAL MEASURE OF MOTIVATION IS RELATED TO EXERCISE PERFORMANCE

Chuck Kitchen, Bonnie Fahy, Amy H.T. Davis

USING THE E-DELPHI (ONLINE) METHOD TO DEVELOP AN ASSESSMENT GRADING SYSTEM

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Purposes/Aims: This research demonstrates that nursing researchers can use online surveys to conduct Delphi research. The e-Delphi method was used to develop a grading scale and steps in the administration of the heel-shin test.
Rationale/Conceptual Basis/Background: The heel-shin test, a common cerebellar test, may be a rapid clinical screening instrument for mobility safety and balance. However, there is no standard reference for the administration or scoring of the heel-shin test. Further research into the clinical application of the heel-shin test cannot proceed until a scoring system is developed. Tanner's Decision-Making Model was used as the conceptual basis.
Methods: This research was conducted using the Delphi methodology and "snowball sampling" (network sampling). Two online surveys were used. Both online surveys contained short videoclips of impaired and unimpaired subjects performing the heel-shin test. Professionals from a variety of backgrounds self-identified themselves as content experts based on the study's inclusion criteria and scored the videoclips.
Result: A total of 50 healthcare professionals participated during the two online surveys. The content experts agreed on consensus statements for a scoring system and on verbal instructions for administering the heel-shin test. The diverse, interdisciplinary backgrounds of the content experts added to the study's validity. Lack of participation by physicians was a significant problem.
Implications: Consensus statements for the scoring and administration of the heel-shin test were successfully developed using web-based survey instruments. Use of the e-Delphi (online) survey methodology may greatly aid nursing researchers.

Funding/Grants: This research was partially funded through The 2008 Research Award from Zetu Mu Chapter-at-Large, Sigma Theta Tau International, San Diego, CA

RE-EVALUATION OF THE MASLACH BURNOUT INVENTORY HUMAN SERVICES SURVEY

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Purposes: The purposes of this paper are to re-examine the psychometric properties of the Maslach Burnout Inventory Human Services Survey (MBI-HSS) and to identify a more relevant and current instrument to measure burnout with nurses that is based on strong conceptual groundwork.

Background: The MBI-HSS has frequently been used in research involving nurses, their work environments and their responses to these work environments. The MBI-HSS was founded on the three hypothesized components of burnout: emotional exhaustion, depersonalization, and personal accomplishment. Although this has been a remarkably stable instrument, psychometric testing of the MBI-HSS with a recent large nurse sample yielded different psychometric properties than expected.

Methods: A large sample of 4,024 Canadian registered nurses completed the MBI-HSS as part of a larger nurse survey examining determinants of nurse retention. Entering all 22 original items of the MBI-HSS, an exploratory principal components factor analysis with varimax rotation yielded a 4-factor solution rather than the anticipated 3 factors. A second factor analysis was implemented including only those of the 22-items with factor loadings greater than .50 and that did not double load on any other factor loading more than .35. Conceptual examination and reliability testing was completed on those remaining items in the instrument.

Results: Three iterations of factor analyses and reliability testing yielded a shorter 16-item instrument with three distinguishable and conceptually relevant subscales that clearly aligned with the original subscales: emotional exhaustion, depersonalization, and personal accomplishment. These three factors explained 59.8 percent of variance. Alpha coefficients for the three scales ranged from .72 to .91.

Implications: Completion of instruments in practice and in research carries a significant respondent burden. In research, longer instruments also incur considerable data coding and data entry costs. Furthermore, because instruments may be time-bound, instrument psychometric properties should be reevaluated regularly to ensure relevance and soundness of psychometric properties. A shorter version of a well-used instrument to measure nurse burnout is suggested. This instrument may be useful for researcher use, for administrators who measure work-related burnout of nurse employees, and for nurses who complete surveys measuring burnout.

This study was funded by the Canadian Institutes of Health Research (# MOP-81240).

USE OF AUTOETHNOGRAPHY IN POST-GRADUATE EDUCATION: ONE STUDENT'S STORY

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Purpose: The purpose of this study is to describe my personal knowing and lived experience of breast cancer through prospective autoethnography. My specific aims were to: (1) search the literature for prospective autoethnography design and methods, (2) develop my own methods if existing methods did not meet my research criteria, (3) identify and analyze themes within my prospective autoethnography process, and (4) reflect on the appropriate application of autoethnography in post-graduate nursing education.
Background: In 2008, I was one of approximately 182,000 women diagnosed with invasive breast cancer in the United States. I was also beginning the second year of my master's in nursing program. In order to graduate with my cohort, a significant source of personal support, I decided to document my lived experience from my cancer diagnosis through completion of chemotherapy (June through mid November 2008) and prospectively analyze my reflections on my experience.
Methods: I compiled a patchwork of stories including prose and poetry while I simultaneously maintained a journal and retained copies of letters I wrote to two close friends (Phase I). I identified the themes within my field notes while simultaneously reflecting on each story (Phase II). In order to document my personal knowing throughout my autoethnography process, I analyzed my patchwork of stories and reflections according to type of illness narrative (Phase III).
Results: I concluded that: (1) I was able to identify hope within my aesthetic writing process, (2) prospective autoethnography was an emerging form of qualitative research that could be analyzed according to the methods I developed, and (3) my prospective autoethnography process was personally therapeutic.
Implications: Nursing students may experience a variety of life altering events during their post-graduate studies. Nursing faculty have the opportunity to embrace those events as a means to enhance student personal knowing. One method to do so is through prospective autoethnography. And the prospective autoethnography process may be personally therapeutic for the post-graduate student.

MEASURING COGNITIVE PROCESSING ABILITY IN ADOLESCENTS WITH SCHIZOPHRENIA

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Purpose: The purpose of this presentation is to describe the procedure used to measure adolescents' cognitive processing ability prior to their participation in an RCT treatment. The RCT was a symptom management program for adolescents with schizophrenia.
Rationale: Research with individuals with schizophrenia is challenging because of the fluctuations in their cognitive processing ability. Positive symptoms (hallucinations, delusions) and negative symptoms (withdrawal, apathy, and ambivalence) affect their ability to make sense out of the everyday experiences they encounter. Their ability to think logically is hampered when the symptoms escalate and consume their attention. Most often in the research with individuals with schizophrenia, cognitive processing ability is not measured and so it is not clear how much of the information presented to them was actually received and processed by them. The theoretical basis for the treatment was symptom management theory.
Methods: The sample for this RCT was 40 adolescents with schizophrenia, ages 15 to 19, and their family members. Families were randomly assigned to a treatment group or a control group. The treatment involved 12 2-hour sessions in symptom management administered over 14 months in multifamily small group cohorts. Prior to each session, The Symbol Digit Modality Test (SDMT) was administered to all family members. The SDMT is a one page test with figures and assigned numbers. The purpose of the test is to evaluate one's cognitive processing ability. The page is arranged with multiple figures. The individual writes the number below the figure as it is shown on the top of the page. The test is a timed test and is administered in 90 seconds. The test was used before each intervention session to determine the degree of cognitive processing of each adolescent/ family member. The test is scored by counting the number of correctly numbered figures at the end of the 90 seconds. The total possible score is 120. A higher number indicates the individual is processing information more readily. The test is routinely used to validate subjects' cognitive processing. The SDMT was tested with 25 adults with chronic schizophrenia whose mean age was 40.5 years. The mean score for the adults was 25.33. No norms were available for adolescents with schizophrenia.
Results: The adolescents' average scores for total responses ranged from 14.5 to 51.5. The average number of correct responses ranged from 14.25 to 49.13. In comparison to the scores for family members, adolescents tended to score considerably lower in total responses and in correct responses indicating less cognitive processing ability.
Implications: The adolescents tended to score higher than the sample of adults with chronic schizophrenia but lower than other members in their family. Their cognitive processing ability is not as compromised as in those with chronic schizophrenia so they have potential to prevent further loss of ability by close monitoring of symptoms to prevent relapses. The lower scores in comparison to family members' validate the presence of the illness and the severity. These findings suggest how crucial early symptom management training and medication adherence are for these adolescents.

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A GLOBAL MEASURE OF MOTIVATION IS RELATED TO EXERCISE PERFORMANCE

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Introduction: Regular exercise reduces morbidity and mortality from cardiovascular and pulmonary diseases. Motivation is presumed important for behaviors, but few have studied motivation and exercise performance.
Purpose: The purpose of this study was to examine the relationship between motivation and exercise performance in subjects with lung disease recruited from community medical practices.
Design: This was a prospective correlational study.
Methods: All subjects had to be able to walk unassisted on a flat surface and have no contra-indications for exercise. Spirometry, medical history, and current medication lists were reviewed. Exercise performance was measured by two six-minute walk tests. Subjects walked indoors, in a straight and flat hallway (100 feet, with markings every 10 feet) at their own pace. A 30-minute rest period separated the two six-minute walks. Global motivation was measured by a self-report questionnaire, the Self-Motivation Inventory. The questionnaire has 40 items (five-point Likert format), with an internal consistency of 0.91. Descriptive statistics and Pearson correlations were used to describe the sample and to test the relationship between motivation and exercise performance.
Results: The sample included 45 subjects (mean age 71 ± 8.7; 24 women and 21 men). All of the subjects had chronic airflow obstruction (mean FEV_1/FEV=53%), and of these, 49% also had evidence of coronary artery diseases based on their medical history and medication lists. There was a significant correlation (r=.40; p=.009) between motivation (mean score 4.26 + .69) and average distance walked (1297.37 ft + 334.71).
Conclusions: People who reported higher global motivation had better exercise performance. A better understanding of the mechanisms of motivation might be useful to design future interventions to improved exercise performance, and ultimately maintenance of exercise across the lifetime.

ISSUES IN DIABETES CARE

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SELF–EFFICACY, HOPE, INSULIN RESISTANCE, & HEALTH IN MEXICAN AMERICAN ADOLESCENTS

Anne Rath Rentfro

CLINICAL IMPLICATIONS OF TIGHT GLYCEMIC CONTROL IN INTENSIVE CARE

Teresa Tarnowski Goodell, Quin Denfeld, Kelly Stafford

THE LINK BETWEEN CULTURE, FOOD HABITS, AND TYPE 2 DIABETES AMONG MEXICAN AMERICAN WOMEN

Sandra Benavides-Vaello

SELF-EFFICACY, HOPE, INSULIN RESISTANCE, & HEALTH IN MEXICAN AMERICAN ADOLESCENTS

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Purpose/Aims: The aims were to test predictive ability of self-esteem, self-efficacy, and hope on (1) Health Promoting Behaviors (HPB) and (2) Insulin Resistance (IR) in overweight Mexican American adolescents living in Texas (TX) along the United States (US)–Mexico border.

Theoretical Framework: Hendricks' Perceptual Health Promotion Determinants (HPHD) Model, first tested with predominantly Black adolescents, based on Social Cognitive Theory and Pender's Health Promotion Model, provided theoretical underpinnings. Aim 1 tests the HPHD Model in a new population and Aim 2 tests an expanded (HPHD) model with biological markers of IR.

Methods: Demographics included age, gender, ethnicity, grade, living situation, social status (MacArthur Subjective Social Status), and acculturation (Acculturation Rating Scale–Mexican Americans (ARSMAII)). Predictors' instruments included Rosenberg self-esteem, Perceived self-efficacy, Dietary self-efficacy: Lower Fat & Sodium, Fruit/Vegetable self-efficacy, Hopefulness, and for HPB, Adolescent Lifestyle Profile. Outcome variables included body mass index (BMI), waist circumference (WC), and Homeostasis Assessment Model for Insulin Resistance (HOMA–IR), a commonly used IR biomarker calculated from fasting glucose (FG) and insulin.

Results: Forty-five Mexican American adolescents (females=62%; males=38%) participated in the study. Blood samples determined FG/insulin; BMI and WC percentile for age and gender were obtained. Mean grade (10.76±1.37) was lower than expected for age (16.4±1.27); 36% lived in single parent homes. Social–status rankings were consistent with other studies; higher for community (7.40±1.37) vs. society (5.82±1.30). Acculturation revealed similar means for Mexican and Anglo orientations, 3.34 and 3.73, respectively. The majority (60%) were obese (BMI$\geq 95^{th}$) and 75% had IR using 3.16 as cutoff.

Statistically significant variance was explained (38–49%) by the HPHD Model (HPB = $\beta_0 + \beta_1$Self-Esteem + β_2Self-Efficacy + β_3Hope). The self-efficacy for nutrition: fruits/vegetables model explained the most variance (49%). Hope remained a significant independent predictor (β=1.97–2.02); whereas, self-esteem offered little explanatory value.

For aim 2 21% (p<0.05) of the IR variance was explained with WC regressed on self-esteem, self-efficacy for physical activity, hope, and HPB with two significant independent predictors, self-esteem (β=*1.08)* and self-efficacy for physical activity (β=-0.77). With HOMA–IR as the outcome variable, two significant models emerged, one with 22% and the other with 23% of the variance. In these models significant independent predictors were self-efficacy for physical activity (β= -0.2324) and for nutrition: Fruits/Vegetables (β= -0.2364).

Implications: Data collection occurred in one of the poorest US regions. These data provide strong evidence to support Aim 1 and the use of the HPHD Model with Mexican American adolescents. Data also support Aim 2, using an expanded model with biological markers. Several models explained IR variance; however, with less strength than self–report models. These findings, consistent with other reports of prediction using objective measures, support the existence of other IR influences: social desirability, genetics, inflammation, and physiologic conditions. These findings support intervening with self-efficacy interventions to prevent overweight and IR. These IR prediction equations contribute new information to complex health issues of overweight in Mexican American adolescents.

CLINICAL IMPLICATIONS OF TIGHT GLYCEMIC CONTROL IN INTENSIVE CARE

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Purposes/Aims: The purpose of this study was to determine the difference in blood glucose values obtained at the bedside with a point-of-care (POC) device and in the hospital laboratory. We were interested in the degree of error in glucose measures and their implications for hypoglycemia in the context of tight glycemic control.
Rationale/Conceptual Basis/Background: In the 1990s, clinical trials showed decreased mortality and shorter LOS with tight glycemic control in intensive care units. More recent studies have raised concern about increased risk of hypoglycemia as a result of these protocols. Intensive care nurses may spend over 2 hours per day on glycemic management alone, which may draw the nurse away from other aspects of nursing care. Glycemic management issues such as measurement error with different devices and nursing time have garnered little attention by researchers.
Method: The sample consisted of post-op day #0 cardiac surgery patients. All had an arterial line in place and had orders for a renal function set and a complete blood count. IRB approval was obtained. A single sample of arterial blood was drawn and analyzed both by the RN at the bedside with the Precision XCeedPro glucometer (to obtain the POC glucose value) and in the hospital laboratory with the Beckman Coulter DXC 800 or LH 780 machines. The POC glucose value, the laboratory glucose value, hematocrit and the demographic data were recorded by the RN caring for the patient.
Results: Data were collected from 46 adults; of these, mean age of the sample was 60.8 years (SD 13.3), 44 (96%) were White, 29 (63%) were male, and 29 (63%) had undergone coronary artery bypass grafting. Thirteen (28%) had a diagnosis of diabetes mellitus. Mean Hct was 27.7 (SD 4.8), mean POC glucose 110.2 mg/dL (SD 28) and mean lab glucose was 97.8 mg/dL (SD 24.7). The mean difference between POC and lab glucose was 12.3 mg/dL (SD 9.8), with POC glucose the higher value. Difference scores ranged from 33 mg/dL to -7 mg/dL. A paired t-test revealed $t=8.5$, $p<.001$. Non-parametric correlation was used because hematocrit and difference scores were not normally distributed; Spearman's rho correlation between the difference scores and hematocrit was -.43, $p=.003$.
Implications: Much research on tight glycemic control has been done in the context of controlled clinical trials with dedicated staff. Our study, conducted in usual clinical practice on day 0 post-operative cardiothoracic patients, demonstrates considerable error in bedside glucose testing that may be accounted for by device limitations and by variable techniques used by intensive care registered nurses. We recommend reconsideration of insulin titration protocols with consideration of both nursing time and the degree of error inherent in bedside glucose testing devices. Hypoglycemia, a contributor to poor ICU outcomes, may go undetected in intensive care patients when POC values exceed those typically obtained by the "gold standard" laboratory devices.

THE LINK BETWEEN CULTURE, FOOD HABITS, AND TYPE 2 DIABETES AMONG MEXICAN AMERICAN WOMEN

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Purpose/Aims: This presentation describes the findings from an ethnographic study that examined the interrelationship of food habits, culture, and type 2 diabetes among low income Mexican American women. The specific aims of the study were to: (1) explore the relationships between culture, food habits, and type 2 diabetes as experienced by low income Mexican American women; (2) examine the role of food in the cultural identity of low-income Mexican American women; and (3) examine how trying to adhere to the ADA dietary guidelines for people with diabetes impacts the relationship between food and culture of low income Mexican American women with type 2 diabetes.

Background: Much of the research surrounding diabetes and other chronic diseases is focused on the pathology or the biomedical aspects of such disorders, with less attention provided to sociocultural issues, such as food habits, which are also connected to these maladies. However, the sociolcultural aspects of illness do affect outcomes, and these constructs remain largely understudied, especially for low-income Mexican American women in rural South Texas.

Methods: The method of inquiry employed for this study was ethnography. Purposeful sampling methods were employed to identify the interviewees with diabetes. Sixteen low-income Mexican American women from Starr County, Texas were interviewed during this study.

Results: Six themes were identified during the analysis of the data. Six themes were identified during the analysis of the data: (1) “la dieta,” (2) the location and fluidity of food (3) confidence-defiance self-management connection, (4) negotiating sociocultural and biomedical expectations, (5) eating for diabetes is a family affair, and (6) strategies for self-care.

Implications: Clinical guidance that is deeply entrenched in the biomedical model should be reconsidered given that: (1) moderation or balance was a key convention in this study group. Thus, the diabetes management plans formulated by the informants intersected at some points with the biomedical and cultural domains, and at times these domains were in tandem with one another, but balance remained an essential tenet. (2) “Good control” of one’s diabetes was frequently described by actions rather than a single quantifiable event, such as a fasting blood sugar or other criteria more readily employed by clinicians. (3) All of the informants were aware that dietary changes were expected, and most had heard via different health providers (clinic, hospital, private practice) of the ADA guidelines for diabetes. All had made some modifications to existing foodways, but none were willing to expunge traditional foods from their repertoires. Finally, while difficult to articulate by the informants who alluded to this notion, the perception of being condemned by the biomedical community for maintaining cultural values was raised. When the biomedical community draws upon such tactics, consciously or unconsciously, for the sake of reducing diabetes or chronic disease morbidity, these machinations can backfire, and the ethics of such practices must be evaluated.

ISSUES IN MENTAL HEALTH

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REDUCTION OF DRUG USE AMONG METHADONE MAINTAINED CLIENTS

Adeline Nyamathi

ME AND MY KIDS: A TRANSMETHODOLOGICAL STUDY OF WOMEN'S ADDICTION

Roxanne Vandermause, Pauline Sameshima, Carrie Santucci, Sheila Kearney Converse, Linda Kittel

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MIND-BODY THERAPY IN WOMEN'S ADDICTION TREATMENT: FEASIBILITY AND ACCEPTABILITY

Cynthia Price, Elizabeth Wells, Dennis Donovan

APPRECIATIVE INQUIRY: A HOPEFUL METHODOLOGY FOR YOUNG ADULTS WITH SCHIZOPHRENIA

Helen Teresa Buckland, Karen Schepp

SOCIAL DETERMINANTS OF FILIPINO IMMIGRANT WORKER MENTAL HEALTH AND SUBSTANCE USE

Jenny Hsin-Chun Tsai, Elaine Adams Thompson

REDUCTION OF DRUG USE AMONG METHADONE MAINTAINED CLIENTS

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Aims: To evaluate the impact of a Nurse-led hepatitis health promotion program (HHP) compared with Motivational Interviewing (MI), delivered by trained therapists in group sessions or one-on-one, on reduction of drug use among methadone maintained clients.
Background: Methadone-Maintained (MM) clients have reported ongoing opioid use; in fact, nearly 50% of this population has reported chronic drug use. Injection drug using (IDU) clients in particular are at high risk for HIV, HBV and HCV infections. MI may be one strategy to decrease drug use in this population. To date, however, no studies have compared MI intervention to Nurse-led HHP among MM clients.
Methods: A three-arm randomized, controlled trial was conducted with 256 MM adults attending one of five MM outpatient clinics in the Los Angeles area. Within each site, moderate-to-heavy alcohol-using MM participants were randomized into one of three conditions: (1) MI delivered in group session (MI-group; n=79), (2) MI delivered one-on-one (MI-single, n=90), and (3) nurse-led HHP (n=87). Participants in either MI program were offered three, 60-minute sessions that were delivered (one-on-one or via group format) by trained MI specialists. The MI sessions were focused on the impact of substance use on health, risky behaviors and subsequent life goals. The HHP sessions focused on hepatitis education; specifically, the progression of HCV infection and the behaviors that infected individuals can adopt to prevent or reduce accumulated damage to liver functioning. For both MI and HHP programs, the three-series HAV/HBV vaccine was administered by the research nurse, if the participant was eligible for the vaccine. The Comprehensive Health Seeking and Coping Paradigm served as the theoretical guide for the study. Culturally sensitive instruments were administered by the research staff. A composite drug score was determined by taking a weighted sum of the drug route and the frequency for each of the various drugs taken. Two of these composite scores were created, one to measure the 6 month recall and the other, a 30 day recall.
Results: More than half the sample (59%) was male and predominantly African American (45%) or Latino (27%). The mean age of the sample was 51 years (SD: 8.4). A total of 86.7% of participants completed all three sessions and 91.3% completed the six month follow-up. Almost half of MM participants disclosed IDU during the past six months prior to enrollment. While no differences were apparent in intervention type, drug use behavior was significantly reduced from baseline to six month follow-up. Multivariate analysis revealed that having support from non-drug users was associated with improvement in drug use in the past 30 days (p=0.05). At six-month follow-up, recruitment site, no lifetime sex trade, and no IDU at baseline were all associated with improvement in drug use (p=0.001, p=0.05, p=0.03, respectively).
Implications: As compared to two programs delivered by MI specialists, a culturally-sensitive and easy to implement nurse-led HHP produced similar reductions in drug use over six months. Cost effectiveness investigations to assess differences across programs using a larger sample base will be critical.

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ME AND MY KIDS: A TRANSMETHODOLOGICAL STUDY OF WOMEN'S ADDICTION

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Purposes/Aims: The purpose of this transmethodological exploration was to inspire nursing practitioners and educators to think about new ways to approach women in addiction, to stimulate thinking about relevant preventive interventions, and to raise awareness about addiction among diverse groups. Specific aims were to: (1) illuminate common experiences associated with the onset, duration, and impetus for recovery in three women following their methamphetamine addiction; and (2) generate thematic and artistic interpretations that represent these common experiences in novel ways.

Rationale/Conceptual Basis/Background: Methamphetamine (meth) addiction can produce devastating consequences to persons and communities. Women's addiction is particularly grievous because of the potential harm to children. This, along with the rising prevalence of meth use in women, prioritizes methamphetamine addiction among serious threats to the health of women and communities. National groups call for attention to prevention and treatment but community level receptivity and understanding is lacking. The voices of women who have experienced addiction and recovery are absent from many educational and social discourses. Blending the sciences and humanities in a novel project, this research resulted in new understandings about the experience of addiction and recovery unique to women. Such understandings can reshape practitioner and community responses. This presentation exemplifies a methodological approach that could be usefully applied to other complex, socially-embedded healthcare problems.

Methods: This interpretive methodology, grounded in hermeneutic and arts-informed research methods, evolved from an interdisciplinary collaboration of scholars in Nursing, English, Teaching and Learning, Music, Visual and Performing Arts. Each discipline offered analytical input and guiding interpretive processes. This presentation focuses on the hermeneutic findings, presented as patterns and themes and augmented by artistic renderings, resulting from the analysis of repeated in-depth audiorecorded interviews with three women in recovery.

Results: Hermeneutic analysis revealed the constitutive pattern *"Me and My Kids,"* a compelling phenomenon that illuminated the addiction and recovery experience. Subsumed in this pattern were themes named "Making Sense" and "Making a Family." Struggles with personification of the drug, needing and creating protection, security, drama, and love, and breaking the generational cycle of addiction are demonstrated and explicated.

Implications: The effect of addiction on children is often described in a manner that stigmatizes women who suffer from addiction. When their narratives are artfully elicited and freely given, their perceptions and experiences surrounding their children are surprisingly revealing, casting new light on problems that nurses can impact through insight and demeanor.

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MIND-BODY THERAPY IN WOMEN'S ADDICTION TREATMENT: FEASIBILITY AND ACCEPTABILITY

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Background: A remarkably high proportion of women entering substance abuse treatment have a history of interpersonal violence and risk of relapse among women is associated with vulnerability to interpersonal stress. This is a study of 'Mindful Awareness in Body-oriented Therapy' (MABT), a novel therapy delivered in women's addiction treatment. MABT is designed to facilitate emotional regulation and reduce avoidant coping and trauma symptoms, behavioral outcomes identified as important for relapse prevention in women. Primary elements of MABT include massage and body literacy to increase sensory and emotional awareness, mindfulness training to reduce avoidant coping, and body awareness exercises to teach skills for stress management.

Purpose: The primary two aims of the study are to examine: (1) recruitment and retention feasibility, and (2) MABT acceptability.

Methods: The design is a 2-group RCT involving randomization to MABT plus usual care or usual care only. All participants were inpatients in a women-only addiction treatment center and eligibility required continued enrollment in the center's outpatient program. Assessments were administered at baseline, post-test (3), and 6 & 9 month follow-up. The MABT sessions were scheduled weekly for 8 weeks, each lasting 1.5 hours. The first MABT session was typically scheduled during the last week of a 3-5 week inpatient program and subsequent sessions were scheduled as adjuncts to the 8 week outpatient program. A satisfaction survey and written questionnaire with open-ended questions aimed at treatment experience were used to examine treatment acceptability. Analysis involved descriptive statistics and content analysis.

Results: Sixty women were screened, and 46 were eligible for study participation. Reasons for ineligibility included change in outpatient treatment plan (7), current violent interpersonal relationship (4), and scheduling limitations (3). Forty five women enrolled and were randomized; there was no loss due to randomization. Using a 2:1 randomization ratio, 30 were assigned to MABT and 15 to usual care only. Twenty-five percent screened positive for PTSD; 80% reported childhood or adult sexual and/or physical assault. Two participants requested study withdrawal, one from each group. Of those randomized to MABT, 12 were discharged from, or ended, outpatient treatment: 8 due to substance use, 3 for financial reasons, and 1 due to lack of attendance. Receipt of MABT sessions was contingent on attendance in the outpatient program. Of the remaining 18, 16 completed 6-8 (75-100%) MABT sessions. The MABT group retention rate is typical of behavioral interventions in addiction research, indicating MABT treatment feasibility; the retention rate among participants not discharged from treatment indicates high treatment acceptability. The responses to post-test survey and questionnaire were also positive; participants perceived that MABT increased emotional awareness, and provided new tools for self-care that increased their capacity to cope with stress; newly acquired awareness and tools were perceived to reduce risk of relapse.

Conclusion: It is feasible to recruit and implement a practice-based randomized clinical trial of MABT in women's addiction treatment. The acceptability and perceived benefit of MABT is high. The clinical implication is that MABT is an acceptable complementary therapy to integrate into addiction treatment services for women.

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APPRECIATIVE INQUIRY: A HOPEFUL METHODOLOGY FOR YOUNG ADULTS WITH SCHIZOPHRENIA

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Purpose/Aims: This mixed methods descriptive study had two aims: (1) to define happiness evidenced in lives of young adults (ages 18–35) with schizophrenia / schizoaffective disorder (SCZ) through use of Appreciative Inquiry (AI), a strength-based methodology and (2) to explore use of an AI intervention to increase hope among young adults with SCZ.

Background: Happiness, variably defined in the literature, has not been defined for young adults with schizophrenia. Unique developmental needs related to age, mental illness, and co-morbidity of substance use make it important to define happiness from their perspective to engage them effectively in treatment planning. Additionally, increasing the experience of hope, a concept critical to recovery, is important as a motivator for engagement.

Methods: AI was used to develop an interview schedule of three one hour long semi-structured interviews with each of twelve study participants over a six week period. Sample first interview items addressed peak experiences in their lives, characteristics valued in themselves and wishes for happiness. Collage, storytelling and goal setting were used in the second interview to describe their ideal happy life. Third interview items identified supports for their happiness goals. Reflections on happy experiences between interviews were discussed at the beginning of each session. Individual hope measures occurred at three time points: beginning of the first interview (week one), end of the second interview (week two), and end of the third interview (week six). Interpretive analysis of qualitative data was followed by content analysis. Two additional coders from other disciplines, Social Work and Psychology, determined the validity and reliability of happiness themes. Changes in levels of hope were demonstrated through use of paired t-tests. Pearson's Correlation at the .05 level of significance was used to show correlations among measures.

Results: A definition of happiness emerged similar to that of peers without SCZ: a subjective feeling that increased positive affect and decreased negative affect, leading to a sense of contentment and satisfaction with life. Themes included: material happiness (owning/having access to things and experiences), relational happiness (connecting with self, others, and/or a spiritual entity), and health happiness (experiencing bodily, mental positive states). Unique challenges to happiness surfaced related to experiences of safety, medication, isolation, boredom, and normalcy. Statistical significance, demonstrating increased hope using the AI intervention, resulted for two of three hope measures. A third measure, highly correlated with the others, demonstrated a trend toward increased hope.

Implications: Availability of a definition of happiness for this population leads to the possibility of developing a tool to measure happiness, testing a causal model that includes happiness as instrumental in recovery, and piloting improved psychiatric nursing initiated behavioral treatments related to identification of unique challenges to happiness. As well, AI may potentially support recovery in individuals with other chronic conditions.

Funding Support: This study was funded in part through the Dorothy Crowley Fund and the Hester McLaws Fund, both from the School of Nursing at the University of Washington, and the University of Washington Multidisciplinary Predoctoral Research Training Program – a Roadmap Initiative From the National Institutes of Health/National Center for Research Resources (TL1RR025016).

SOCIAL DETERMINANTS OF FILIPINO IMMIGRANT WORKER MENTAL HEALTH AND SUBSTANCE USE

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Purpose: This study was designed to test a multi-dimensional model examining the effects of social discrimination, job concerns, and social support on Filipino immigrant workers' mental health problems and substance use, using data from the Filipino American Community Epidemiological Study (fACES).

Background: Mental health problems and substance use are debilitating problems that are often experienced as co-occurring problems, with ramifying consequences on individuals, their families, and their work life and productivity. Researchers have examined the pervasive influence of social factors such as racism, socioeconomic position, social networks, and workplace on racial/ethnic health disparities—a growing concern of the United States and of the globe. However, mental health and substance use have received considerably less attention than physical health. This unique study addresses a striking gap in our health knowledge by examining the impact of social factors on a specific group of Asian immigrants, understudied and underrepresented in research.

Methods: The analysis was based on a subset (n=1,397) of Filipino immigrants from the fACES sample identified as foreign born and employed at the time of interview. *Mental health problems* were indexed using items from the fACES dataset related to psychosocial distress, somatic symptoms, and daily functions. *Substance use* was indexed by number of non-medical use of drugs, drug and alcohol abuse symptoms, and amount of alcohol consumption. *Social discrimination* was defined as unfair treatment and hassles experienced by individuals because of their social characteristics (e.g., skin color, accent, immigrant status). *Job concerns* referred to frequency of concerns related to immigration or immigrant status and concerns people typically have in work situations. *Social support* was defined as perceived support received from family/relatives and/or friends. Rated on Likert-type scales, high scores were indicative of higher levels of the variable of interest. Confirmatory factor analysis (CFA) was used to specify the measurement model. Structural equation modeling (SEM) was used to estimate the full hypothesized model. Multiple general and specific fit indices were used to determine model fit.

Results: The length of time study participants had been in the United States ranged from less than a year to 52 years (Mean=15.3, SD=10). Sixty-four percept (n=892) were naturalized US citizens. The majority (n=1,033, 73.9%) were proficient in English. The mean age was 42.7 years (SD=11.8); 60% (n=838) were female, 40% male. CFA indicated acceptable goodness-of-fit indices for a six-factor model and revealed satisfactory reliability. Mental health problems and substance use were positively correlated (r=.38, p=.05). SEM findings revealed support for the hypothesized model, particularly related to mental health. Social discrimination and general job concerns showed significant direct effects on mental health problems (β=.13 & .53, p=.05). Social factors were not directly linked to substance use.

Implications: This research uncovered new information about the impact of rarely studied social determinants on Filipino immigrant workers' mental health problems and substance use. This knowledge has contributed to model refinement and will allow specification of nursing interventions, program development, and policy decision likely to work for this vulnerable workforce population, reducing mental health disparities among Filipino immigrants.

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ISSUES IN PEDIATRIC CARE

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RELATIONSHIPS BETWEEN SLEEP AND THE HOSPITAL CARE ENVIRONMENT IN CHILDREN WITH CANCER

Lauri A. Linder

BARRIERS TO HEALTHY EATING FOR CHILDREN IN RURAL OREGON

Nancy E. Findholt, Victoria W. Brogoitti, Linda Jerofke, Yvonne L. Michael

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STRATEGIES USED BY PARENTS TO MANAGE FATIGUE IN CHILDREN WITH DISABILITIES

Linda L. Eddy

GAPS IN RESOURCES: FAMILIES OF CHILDREN WITH CHRONIC PULMONARY CONDITIONS IN A RURAL STATE

Marie L. Lobo, Patricia Marshik

EMOTIONAL DISTRESS INFLUENCES VAGAL TONE IN CHILDREN WITH RECURRENT ABDOMINAL PAIN

Monica E. Jarrett, Robert L. Burr, Margaret M. Heitkemper, Robert Shulman

RELATIONSHIPS BETWEEN SLEEP AND THE HOSPITAL CARE ENVIRONMENT IN CHILDREN WITH CANCER

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Purpose/Aims: The purpose of this study was to examine sleep-wake patterns and influences of environmental stimuli on sleep-wake patterns among children with cancer. Aims were to describe nighttime sleep-wake patterns among children with cancer receiving inpatient chemotherapy and to describe relationships between sleep-wake patterns, environmental, and clinical variables.

Rationale/Conceptual Basis/Background: Thirty to 45% of children with cancer experience disturbed sleep, yet sources of sleep disturbances are not well understood. Disturbed sleep in the child with cancer may contribute to other cancer-related symptoms, impair normal growth, delay physical recovery, and increase infection risk. Hospital environmental stimuli are associated with impaired sleep quantity and quality; however, the influence of the hospital environment has not been investigated outside critical care settings. Nursing care activities and the presence of other symptoms also may contribute to disrupted sleep.

Methods: The UCSF Symptom Management Model guided this exploratory, descriptive study. The setting was an inpatient pediatric oncology unit in a tertiary pediatric hospital. Participants were 15 children with cancer 5 to 12 years of age (mean=8.8; SD=2.3) receiving inpatient chemotherapy 3 days or longer. Sleep-wake patterns were measured using wrist actigraphs and sleep diaries. Light and temperature levels in the child's room were measured continuously using data loggers. Sound was measured using digital sound pressure level meters. Children's medical records were reviewed to identify medication doses and occurrences of pain, nausea, and vomiting.

Results: Children's nighttime sleep was marked by frequent awakenings (mean=12.4; SD=5.3) with mean nighttime sleep episodes of 53.4 minutes (SD=25.4). Mean nighttime sound levels were persistently greater than 45 dB with spikes above 80 dB each night.

Data were organized into 2-hour epochs within each 12-hour night shift. A basic mixed linear model indicated that children's total sleep minutes varied based on epoch ($F=56.27$, $p<.01$) with sleep onset delayed past 10:00 pm.

A basic mixed linear model also analyzed the influence of environmental variables on minutes of sleep. Significant fixed effects were identified for both sound ($F=50.87$, $p<.01$) and light ($F=7.04$, $p<.01$), indicating that both sound and light influenced the children's sleep. Minutes of sleep within an epoch were negatively correlated with sound, light, number of medication doses, and pain ($p<.01$). A backward regression model including sound, light, medication doses, pain, and nausea accounted for 57.4% of the variance in sleep minutes within each epoch ($F=62.85$, $p<.01$).

Implications: Multiple factors in the hospital care environment contribute to children's disturbed sleep, including noise and light, nursing care activities, and the presence of other symptoms. This study was the first to provide direct measurements of environmental variables, including variation within a night shift, outside of a critical care setting. Areas for future research include investigating sources of nighttime sound and their relative intensities. Additional research is warranted to develop and test interventions modifying the care environment to promote nighttime sleep in the hospital for children with cancer.

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BARRIERS TO HEALTHY EATING FOR CHILDREN IN RURAL OREGON

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Purpose: The purpose of this presentation is to describe environmental barriers to healthy eating among rural children. Policy recommendations for addressing the barriers and creating a more healthful environment will be provided.

Background: Rural populations are at high risk for childhood obesity. A recent national study found that rural children were 25% more likely to be overweight than their urban counterparts, even after controlling for income, race, and other known risk factors (Lutfiyya et al., 2007). Although it is believed that environmental factors are at the root of this disparity, little is known about the effect of the rural environment on children's diets. Using community-based participatory research, community and university collaborators conducted an assessment of rural schools and communities to identify factors that influenced children's food choices. This research was the first phase in a multi-year effort to reduce childhood obesity in a rural Oregon county.

Methods: Data were collected in all county schools and communities. Semi-structured interviews with school and community leaders; focus groups with elementary school teachers, students, and parents; a school self-assessment using the Centers for Disease Control's School Health Index; photovoice, which involved high school students in taking pictures of community features; document review; and field observation in grocery stores and schools provided data that were triangulated to produce a composite of environmental barriers and assets.

Results: Limited access to healthy foods in small community markets, easy access to convenience stores selling unhealthy foods, and busy lifestyles (which made preparation of home-cooked meals an uncommon practice) were factors within communities that hindered healthy eating. The extensive use of USDA-donated commodities and other pre-packaged, processed foods in school meals; access to high fat and sugar-sweetened snacks or beverages; frequent use of candy and other "sweets" as incentives or rewards for good behavior; and the fact that teachers did not always model healthy eating habits were barriers within the school setting. The agricultural surroundings and the popularity of gardening were assets, but had little effect on children's diets.

Implications: Addressing these barriers will require economic, structural, and social change. Potential interventions include providing incentives or subsidies to expand the variety of healthy foods in small community markets; implementing school gardens and farm-to-school programs; strengthening and enforcing School Wellness Policies; and improving the nutritional quality of USDA-donated commodity foods. To achieve these changes, policy-makers must be educated about the barriers to healthy eating that exist in rural communities. Nurses can play an important role in educating policy makers and advocating for change.

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STRATEGIES USED BY PARENTS TO MANAGE FATIGUE IN CHILDREN WITH DISABILITIES

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Aims: The aims of this paper are to better understand the salience of fatigue for children and adolescents with disabilities and their families and to explore fatigue-management strategies identified by their parents.
Background: According to the National Survey of Children with Special Health Care Needs, fourteen percent of children in the United States are estimated to have special healthcare needs. Fatigue is one of the most common patient reported symptoms across a broad range of chronic diseases and conditions. However, little is known about fatigue in children with disabilities and even less about its management.
Methods: As part of a broader study of longitudinal patterns of pain and fatigue in children and adolescents with physical disabilities, ninety eight parents responded to a mailed survey about their child's chronic health problem. The survey, comprised of items from well-established tools, contained questions asking how much of a problem fatigue was for their child and how much their child's chronic health problem limited types of activities that they participated in or interrupted typical family activities. In addition, parents were asked to identify fatigue management strategies used in the home or in other settings. Nomination of commonly used strategies occurred both through forced choice questions as well as through an open-ended question that encouraged parents to identify other useful strategies. Descriptive statistics, correlations, and parametric and nonparametric group difference tests were used to analyze most survey questions. Content analysis was used to explore the open-ended question about fatigue management strategies by parents.
Results: Sixty one percent of parents in the sample (n=60) described fatigue as a current problem for their child. Having a child for whom fatigue was problematic was significantly correlated with having less time for the parents' own needs and limiting the types of activities that their family was able to participate in. Most parents were quite creative in developing strategies to minimize the impact of fatigue on their child's life. Only a few parents, however, described strategies that would empower the child to manage their own fatigue and thus result, hopefully, in less impact on family life. More empowering and less empowering strategies are described.
Implications: Symptom management for children with disabilities and their families should include more of a focus on fatigue. In addition, studies targeting fatigue management need to incorporate the entire family as client and should include strategies aimed at empowering children and adolescents with disabilities to begin to manage their own fatigue.

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GAPS IN RESOURCES: FAMILIES OF CHILDREN WITH CHRONIC PULMONARY CONDITIONS IN A RURAL STATE

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Purpose/Aims: Describe the gaps in resources for families living in a rural state who are caring for a child with a chronic pulmonary illness**.**
Background: Many studies focusing on children with chronic pulmonary conditions examine families living in urban environments. Rural states provide challenges to families caring for children with chronic pulmonary conditions. Access to healthcare can be difficult due to distance or a lack of providers. This paper describes the gaps in resources for their child's chronic illness when families live in a rural environment.
Sample: The sample of 150 families of children with chronic pulmonary conditions was drawn from the Pediatric Pulmonary Clinic (PPC) at major medical center in the SW. English-speaking families were selected from a non-categorical group of families with a child receiving care for a pulmonary condition at the PPC.
Methods: This descriptive study was conducted using a structured interview (30 minutes long) where parents/primary caregivers were asked about their demographics and gaps in resources. Families were recruited when they came to the clinic for regularly scheduled appointments. The study was reviewed and approved by the IRB.
Results: Structured interviews were completed in clinic with 150 families from rural and urban areas in New Mexico. The sample included 66 females (42.3%) and 90 males (57.7%), 6 families had two children attending an appointment. The median age was 7 years old (3.5 mo – 17 y). The majority of the families identified themselves as Hispanic (46%); the rest were Caucasian (27%), Other (14%), Native American (9%), African American (3%) and Asian (1%). Most families reported English as the primary language spoken at home (N=137) and 42% of the families reported being bilingual. The most frequently reported pulmonary condition was asthma (69.3%). Other pulmonary conditions were cystic fibrosis (4%), bronchopulmonary dysplasia (2%). A minority of families had problems accessing additional resources. The numbers varied from none having difficulty accessing a pharmacy to 3 families not having access to recommended mental health services to 6 families not having access to dental care. The intriguing findings were the lack of family support or services available during times other than work time. Parents also noted a lack of support specifically for them. Requests were also made to have outreach clinics in some of the most distant cities. The frequency of existing outreach clinics was also cited as a gap. Additional challenges including delivery people leaving iced medications in the sun when the family is not home and medication being ruined.
Implications: This study revealed that the gaps in services are not consistent across rural areas in a state with the 5th largest landmass in the states. Creative approaches to alleviating gaps in services for children with a chronic pulmonary condition and their families in New Mexico are the next challenge. Findings may be used to influence the development of health policies that affect families who travel long distances to seek healthcare for their children.

Funded by a grant from the Robert Wood Johnson Center for Health Policy at the University of New Mexico.

EMOTIONAL DISTRESS INFLUENCES VAGAL TONE IN CHILDREN WITH RECURRENT ABDOMINAL PAIN

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Purpose: To examine the association between emotional distress and indicators of vagal tone in children with Recurrent Abdominal Pain (RAP) compared to healthy control children.

Background: Abdominal pain is a common symptom in children and adolescents. The prevalence of recurrent abdominal pain varies from 2.4%-16% in school age children. When abdominal pain persists for at least three months without an identifiable cause children are given a diagnosis of RAP. These children often have higher levels of anxiety, depression, and somatization than healthy control children. In adults with similar disorder, irritable bowel syndrome, our group has reported differences in measures of vagal tone associated with depression and anxiety symptoms.

Methods: An observational design was used to compare children, 7 to 10 years of age, with a diagnosis of RAP seen in a pediatric gastroenterologist's practice or in a pediatrician's practice to a comparison group of healthy children (Control). Emotional distress was measured with Children's Depression Inventory (CDI), State-Trait Anxiety Scale for Children (STAIC), and Children's Somatization Inventory (CSI). Cardiac vagal modulation was assessed using a 24 hour Holter recorder of heart rate aviaiblity.

Results: Overall, 50 boys and 117 girls contribute data to this analysis. Within the subgroup of girls, those in the RAP group had significantly elevated scores for depression, trait anxiety, and somatization compared to controls. Within the smaller subgroup of boys, only depression was significantly higher. None of the HR and HRV measures were significantly different between the RAP and the control children in separate analyses of the boy or the girls, using age and BMI as controlling covariates. The most statistically significant hypothesis-consistent effects are moderate relationships ($r>0.34$, $p<.004$) between the nocturnal vagal modulation and the psychological scales measuring trait anxiety and depression that are concentrated within the stratum of RAP girls.

Implications: School age girls with RAP have relatively high levels of self-reported anxiety and depression and have lower vagal tone. If these patterns persist into adulthood it may perpetuate this constellation of symptoms either as IBS or some other functional gastrointestinal disorder.

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ISSUES IN WOMEN'S HEALTH

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MEASURE OF HYPERTENSION TREATMENT ADHERENCE FACTORS IN BLACK WOMEN

Marie N. Fongwa, Karabi Sinha, Qing Yang, Ron D. Hays

BACK PAIN DURING THE MENOPAUSAL TRANSITION AND EARLY POSTMENOPAUSE: OBSERVATIONS FROM THE SEATTLE MIDLIFE WOMEN'S HEALTH STUDY

Nancy Fugate Woods, Ellen Sullivan Mitchell

PREMENSTRUAL SYMPTOMS AND ACADEMIC STRESS IN EMERGING ADULTHOOD WOMEN

Pamela L. Hulstein

AROMATHERAPY: FMRI AND MOOD CHANGES IN FEMALES WITH FUNCTIONAL ABDOMINAL PAIN

Ann Elizabeth Lowe, Leah FitzGerald

DISPARITIES IN CERVICAL CANCER SCREENING AMONG LATINAS IN CALIFORNIA

Geri L. Schmotzer

MEASURE OF HYPERTENSION TREATMENT ADHERENCE FACTORS IN BLACK WOMEN

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Background: Despite evidence that adequate and sustained blood pressure (BP) reduces morbidity and mortality, lack of adherence to recommended treatment regimens is a major cause of uncontrolled BP among African/Black American (AA) women. The national initiative to increase BP control among AAs by 50% makes clear the need for culturally appropriate instruments to assess factors related to adherence to recommended treatment. But there is a paucity of measures sensitive to the needs of hypertensive AA women.
Objective: The objective of the study was to develop a culturally sensitive instrument (*Adherence to Hypertension Treatment Factors Questionnaire*) to measure factors that influence adherence to high BP treatment regimens in AA women.
Methods: Focus group interviews with 20 AA women were used to construct an 18-item questionnaire. The questionnaire was based on the Hill-Levine model of predisposing, enabling, and reinforcing factors. To evaluate content validity, three experts (two adherence to treatment researchers and a cardiovascular health researcher) and five randomly selected AA women from the participant pool reviewed the questionnaire. A total of 147 hypertensive AA women who met the inclusion criteria (AA woman receiving treatment for HBP, 35 years or older, able to read 6th grade level English, and not having a condition that prevents her from completing a survey), were asked to complete a survey that tapped adherence and factors related to adherence as well as demographic information. The study participants were recruited from a free inner city clinic in West Los Angeles, California. The participation rate was 48% (70/147). Distributions and summary statistics (e.g., mean, SD) were examined for items and scales. Internal consistency reliability for multi-item scales was estimated using Cronbach's coefficient alpha. The associations of predisposing, enabling and reinforcing factors with adherence were estimated using linear regression. Pearson product moment correlations were computed between the new18-item adherence measure and the Hill-Bone High Blood Pressure Compliance Scale, Enhancing Recovery from Coronary Heart Disease (ENRICHD) Social Support Inventory (ESSI), Alcohol Screening instrument (CAGE), and Check Your High Blood Pressure prevention IQ Quiz.
Results: Internal consistency reliability for the 18-item measure of adherence factors related to treatment recommendations was 0.79 (standardized). The measure was significantly correlated with: Hill-Bone scale, 0.40 (p=0.0017), ESSI, 0.32 (p=0.0112), and CAGE, - 0.29 (p=0.0273). The ESSI, 0.15 (p=0.0098) and CAGE, - 0.43 (p=0.0305) were significantly associated with the new adherence measure even after adjusting for BP stage. These reported betas were not standardized. Standardized values for the ESSI was 3 (p=0.0098) and – 2.26 (p=0.0305) for the CAGE.
Discussion: Social support has a positive association and alcohol abuse a negative association with adherence, even controlling for HBP diagnostic stage The new measure of HBP adherence factors contributes to closing the gap on paucity of culturally sensitive measures for hypertensive AA women.

BACK PAIN DURING THE MENOPAUSAL TRANSITION AND EARLY POSTMENOPAUSE: OBSERVATIONS FROM THE SEATTLE MIDLIFE WOMEN'S HEALTH STUDY

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Purposes: The purpose was to describe changes in levels of back pain during the MT stages and early PM, including effects of age, MT-related factors (estrone, FSH, testosterone, menopausal transition stages, symptoms (hot flash, sleep, mood, cognitive), health-related factors (BMI, alcohol use, smoking, well being), stress-related (history of sexual abuse, cortisol, catecholamines) and social factors (partner status, parenting, education).
Rationale: Reports of increased prevalence of pain symptoms during the menopausal transition (MT) and early postmenopause (PM) and after hormone therapy withdrawal suggest a potential role for endocrine changes in pain symptoms during midlife.
Methods: A subset of Seattle Midlife Women's Health Study participants who provided data during the late reproductive, early and late menopausal transition stages or postmenopause (N=292) including menstrual calendars for staging the MT, annual health reports between 1990 and 2006, and morning urine samples assayed for estrone glucuronide (E1G), testosterone (T), follicle stimulating hormone (FSH), cortisol and catecholamines, and symptom diary ratings several times each year was studied. Multilevel modeling with an R program was used to test patterns of pain symptoms related to age, MT-related factors, symptoms, health-related, stress-related, and social factors with as many as 6812 observations. Age was centered at 47.4 years.
Results: Women experienced a slight nonsignificant rise in back pain with age. When menopause-related factors were tested individually, women experienced a significant increase in back pain during the early ($p=.003$) and late MT stage ($p=.002$) and early PM ($p=.02$). Using hormone therapy was associated with less severe back pain ($p<.0001$), but urinary E1G, FSH, and T levels were unrelated. Of the stress-related factors, perceived stress ($p=.01$) and lower overnight urinary cortisol levels were associated with more severe back pain ($p=0.03$); history of sexual abuse and catecholamines did not have a significant effect. Those most troubled by symptoms of hot flashes, depressed mood, anxiety, night-time awakening, and difficulty concentrating reported significantly greater back pain (all $p<.0001$). Of the health-related factors, having worse perceived health ($p<.0001$), exercising more ($p=.005$), using analgesics ($p<.0001$), and having a higher BMI ($p<.0001$) were associated with more back pain. Of the social factors, having more formal education ($p=.004$) was associated with less back pain. Alcohol use, smoking, parenting, and employment were not significant.
Implications: Women who are progressing through the MT are vulnerable to increased levels of back pain during the early and late MT stages and early PM, experience lower overnight cortisol levels, are troubled by more severe symptoms (hot flashes, sleep disruption, depressed mood and concentration problems), and experience stressful lives. Those who exercise more have more back pain, as do those who have a higher BMI. Those using analgesics report more pain but those using hormone therapy report less. Clinicians working with women traversing the menopausal transition should be aware that managing back pain symptoms among midlife women requires consideration of their changing biology as well as their ongoing life challenges and health-related behaviors.

Funding Sources: NINR R01-NR 04141; NINR P30 NR 04001.

PREMENSTRUAL SYMPTOMS AND ACADEMIC STRESS IN EMERGING ADULTHOOD WOMEN

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Purposes/Aims: (1) Describe follicular and luteal phase symptom perception, severity, and distress in emerging adulthood women; (2) describe academic stress in this sample; and (3) explore the relationship between follicular and luteal phase symptom perception, severity, and distress and academic stress (student-life stress and academic demand).

Conceptual Basis/Background: Premenstrual symptoms are a universal experience and up to 90% of reproductive age women experience a collective constellation of symptoms. Stress is known to have negative impact (heightened symptom severity, more symptoms) on women's experience of premenstrual symptoms. Emerging adulthood women in an academic setting face additional stress (social support, residential living, and academic demand), which may enhance or exacerbate symptom experience. Aday's Framework for Studying Vulnerable Populations guided investigation of individual well being for women experiencing premenstrual symptoms and academic stress.

Methods: A descriptive longitudinal design included a baseline measure of academic stress with Gadzella's Student-life Stress Inventory. An electronic daily symptom diary was used to collect data across one complete menstrual cycle via the Menstrual Symptom Severity List (MSSL) to record symptom perception, severity and distress; and academic demands (assignments, papers, projects due, and time spent studying) and distress ratings.

Results: The answer to study aim 1 was evident as the sample of 50 fulltime undergraduate women, mean age 20 (±.9) years had significantly higher numbers of symptoms perceived (7.16±3.8 follicular and 6.18±3.3 luteal, $p=.001$) and higher distress (.39±.3 follicular and .31±.3 luteal, $p=.003$) in the follicular phase than in the luteal phase. These findings were unexpected, as previous research demonstrated more symptoms with higher distress in the luteal phase. Academic stress findings, related to study aim 2, indicated mild stress and overall perceived stress level in the minimal to mild range. The answer to specific aim 3 indicated that within the follicular phase, number of assignments due was significantly correlated to symptom perception and distress (.32, .37, respectively) and the number of projects/presentations due was correlated to symptom distress (.25) at $p<.05$. Significant correlations occurred between follicular phase symptom perception and distress and luteal phase symptom distress with all academic demand types whereby a relationship between distress components of symptom experience and demand components of academic stress was demonstrated.

Implications: This study provided a foundation from which individual symptom experience, in a relatively obscure population of emerging adulthood women, could be ascertained. The premier results warrant further exploration. The residential college context provided a unique opportunity to explore the relationship between symptom experience and academic stress. Future research can utilize the knowledge generated from this study to improve the use of daily electronic diaries for individual data collection about follicular and luteal symptoms with computer savvy emerging adulthood women.

AROMATHERAPY: FMRI AND MOOD CHANGES IN FEMALES WITH FUNCTIONAL ABDOMINAL PAIN

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Irritable bowel syndrome (IBS) is a stress-mediated condition that affects women by a 2:1 ratio, significantly impacting their quality of life. Traditional treatments have frequently been ineffective.

Conceptual Basis: According to the chronic pain model (Mayer et.al., 2006), perception is modified by emotion and cognition, with victims of chronic pain preferentially activating emotional pain-enhancing neural circuits. Smell is connected to taste, and has a direct connection to the amygdala, the brain's fear center. Odor impacts pain indirectly through its intermediary impact on mood. Subjects with IBS have shown increased perceptual responses to visceral, somatic and auditory stimuli, but olfaction has not been studied. We hypothesized that responses to odors would be stronger in the IBS group.

Purpose: To determine if odor perception, mood changes, and brain activation patterns differed between groups (IBS: N=8; and healthy controls [HC]: N=9) when exposed to pleasant and unpleasant odors in an emotionally evocative and cognitive context.

Method: The Positive and Negative Affect Scale (PANAS-X) measured mood. Functional magnetic resonance imaging (fMRI) was used to determine brain activations in response to odors during exposure to a validated emotional faces protocol used to evoke emotional arousal (Match Emotions) and emotional modulation (Identify Gender).

Results: Compared to HCs, the IBS group was more accurate in rating odors, better able to perceive odors, and gave (by %) higher ratings for odor hedonics (pleasant: 35%; unpleasant: 29.76%), intensity (pleasant 6.81%; unpleasant 11.11%), and familiarity (pleasant 13.69%; unpleasant 12.30%). While HCs did not evidence any mood changes in response to odors, patients responded to both pleasant and unpleasant odors with more negative emotions (PANAS-X; guilt, sadness, hostility; [group difference; ANOVA: pleasant $p=.05$; unpleasant $p=.02$]). The emotional arousal task evoked more limbic brain responses in the IBS group. Conversely, the emotional modulation task evoked more in the HC's. However, unpleasant odors enhanced neural activity in limbic structures for IBS subjects (insula and anterior cingulate cortex); while evidencing no significant changes in the HC group. Pleasant odors evoked cognitive circuits (dorsolateral prefrontal cortex and ventrolateral prefrontal cortex) in both groups. Findings were more pronounced during the emotional modulation task. Significant activations occurred in the insula, a region involved in the processing and modulation of interoceptive information and emotion regulation. Right anterior insula activations occurred for both IBS and HCs during the pleasant odor condition, consistent with conscious perception of odors; posterior insula activations occurred for IBS patients, but not for HC's during the unpleasant odors. Findings suggest enhanced odor sensitivity in the IBS group most evident during the emotional task, with a preferential response of negative affect to either odor condition.

Implications: Unpleasant odors, which only evoked changes in the IBS group, may play a prominent role in symptom perpetuation. Pleasant odors increased cognitive circuitry. As women with IBS are more sensitive to odors, aromatherapy, a popular alternative treatment modality, may be particularly effective for this patient group in down-regulating emotional circuitry.

Funded by the Oppenheimer Foundation, Sigma Theta Tau, and UCLA Brain Mapping Center.

DISPARITIES IN CERVICAL CANCER SCREENING AMONG LATINAS IN CALIFORNIA

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The purpose of the descriptive cross-sectional study is to examine the factors that enable or impede cervical cancer screening among Latinas in California. This study applied a well-known theoretical framework for health service usage, the Behavioral Model for Vulnerable Populations, to examine correlates of Pap testing practices among Latinas who were native-born, recently immigrated or established immigrants.

Data from the combined 2001, 2003, and 2005 California Health Interview Survey (CHIS) for self-identified Latinas was explored to determine Pap testing practices and rates. Weighted data for 13,889 Latinas were analyzed using multivariate logistic regression models to assess factors that facilitated or presented barriers to Pap testing.

This study determined there was an overall decline of 3% by Latinas reporting a Pap test in their lifetime. Latinas who had health insurance, food insecurity, and/or quit smoking were more likely to have received a Pap test in their lifetime. Time since immigration, age, education, marital status, family type, and time since the last physician visit were variables that contributed the least to ever having a Pap test for Latinas in California.

The theoretical model used for this study, with its emphasis on economic as well as social and psychological factors, appears to fit the data well and addresses the relevant explanatory factors. This study found that among the three groups: US-born, recent immigrants, and established immigrants; lifetime use of Pap testing was lowest among the recently immigrated Latinas, controlling for other known factors associated with screening. This finding demonstrates the importance of targeting recent Latina immigrants to increase the use of cervical cancer screening. However, the declining trend for both native Latinas and established immigrants in Pap testing rates suggests a need for health professionals to target all Latinas, regardless of immigration status, to increase the rate of Pap testing among this vulnerable group.

MATERNITY CARE IN VULNERABLE POPULATIONS

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RACIAL IDENTITY AND RACISM: REPORTED COMPLEXITIES FROM WOMEN WITH A PRIOR PRETERM BIRTH

Doris M. Boutain, Shuyuann Wang Foreman, Katie Paul, Joycelyn Thomas, Jane Hitti

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DOULA CARE FOR VULNERABLE POPULATIONS

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EXPLORING PTSD DURING THE PRENATAL PERIOD IN A LOW-INCOME COMMUNITY

Joan E. Dodgson, Mary Francis Oneha

MANAGING MY PREGNANCY: CHILDBEARING BELIEFS OF WOMEN OF MEXICAN DESCENT

Lorena C. Guerrero

OB NURSES' EXPERIENCES COMMUNICATING WITH NON-ENGLISH SPEAKING OB CLIENTS WITH/WITHOUT AN INTERPRETER

Anne Graham, Kathleen Gilchrist, Cherie Rector

GESTATIONAL WEIGHT GAIN IN MEXICAN AMERICAN WOMEN

Ruth T. Mielke, Cheryl Westlake

RACIAL IDENTITY AND RACISM: REPORTED COMPLEXITIES FROM WOMEN WITH A PRIOR PRETERM BIRTH

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Background: Preterm birth disproportionately affects women based on their racial identity, with African American women more likely than White American women to have a preterm birth. For this reason, racial identity based risk profiling is a common public health practice. Racial identity has been used to communicate risk to women and as a proxy indicator for possible racism stressors and life event stressors. However, most researchers do not jointly use structured open-ended and close-ended surveys in one study to gain explanatory insights from women themselves.
Purpose: The purpose of this mixed method study was to describe the relationship between racial identity and racism among women with a prior preterm birth.
Sample: Participants were part of a larger study of parous women (N=400). Data about African American (n=17), Multiracial (n=2) and White American women (n=74) who had a prior preterm birth were used for this study.
Methods: Home-based interviews occurred using a standardized interview protocol. The open-ended surveys were used first to inquire about women's experiences of pregnancy stressors, their preferred racial identity, and if their racial identity affected their last pregnancy. Structured surveys were used second and included questions from the Perceived Stress Scale, the Experiences of Discrimination Survey, and the Pregnancy Risk Assessment and Monitoring System survey.
Results: Using the open-ended survey data, most women (n=77, 79%) did not think their racial identity affected their last pregnancy (n=15 yes racial affected pregnancy, n=2 missing data). The majority of women who thought that racial identity affected their pregnancy were White American women (n=12, 80%). White American women (n=12) viewed racial identity as a (1) social benefit, (2) health benefit, and (3) protective factor against preterm birth. The one African American woman who said that her racial identity affected her pregnancy also reported racism. Using the close-ended survey data, African American women were significantly more (p<0.001) likely than White American women to report racial discrimination in three areas: (1) getting a job (41% versus 0%), (2) at work (53% versus 7%), and (3) in the police/courts (41% versus 0%). African American women were also significantly more likely (p<0.001) to report experiencing any racism (n=13, 77%) compared to White American women (n=8, 11%). There was only one White American woman who said her racial identity affected her pregnancy and also reported experiencing racism.
Implications: More research is needed to investigate how risk communication based on racial identity occurs in clinical practice. There is a disconnect between how racial identity is used as public health risk factor in research and clinical practice, and the study data that women did not think racial identity affected their pregnancy. Given that Africa American women were more likely to report racism than associate their racial identity with their prior preterm birth, more research is needed to explore racism as a preterm birth risk factor. Research is also needed to explore if White American women experience more distress after a preterm birth due to prior assumptions about how racial identity is protective.

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DOULA CARE FOR VULNERABLE POPULATIONS

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Purpose/Aims: The purpose of this study was to investigate the obstetric outcomes and economic implications associated with the provision of doula care, as well as its effect on patient satisfaction.

Rationale/Background: The cesarean birth rate in the United States is among the highest in the developed world and continues to rise at an alarming rate. Few interventions have been identified that significantly and consistently decrease the cesarean birth rate. Among those interventions studied is labor support by doulas. Several studies have demonstrated that doula care lowers the cesarean birth rate and is associated with high patient satisfaction. While strong evidence supports the beneficial impact of doula care on selected birth outcomes, health plans are inconsistent in their willingness to cover the expenses associated with doula services.

Methods: A case-controlled, descriptive design was chosen to reduce the possibility of bias. Laboring women deemed vulnerable by insurance status were prospectively enrolled and assigned to doula care (n=172). Using a random number generator, the control group (n=344) was matched using Robson's criteria (scale 1-10) and infant status to the cases (n=172) (Robson, 2001). Descriptive statistics, X^2 test, and independent samples t-test were performed to determine differences between doula versus non-doula attended labors for the following outcomes: provider type, birth interventions (epidural use, amniotomy, episiotomy), or birth outcomes (operative vaginal delivery, cesarean delivery, Apgar scores ≤7, and infant disposition). The length of stay was analyzed using Wilcoxen Mann-Whitney test. Economic impact was assessed utilizing current fees instituted at the study institution. Provider and patient satisfaction regarding doula care was evaluated using a 5 question, Likert-scale survey in the immediate postpartum period. The p level was set at <.05.

Results: No significant differences were detected between the cases and controls for gravidity, parity, length of gestation, fetal presentation, previous uterine scar, induction of labor, and number of fetuses. Comparison of racial/ethnic groups was limited due to missing data (>20%) in the control group. Women receiving doula care were statistically less likely to have an epidural during labor (p=0.03), have an episiotomy (p=.03), or cesarean delivery (p=.006). On average, doula-attended women had a shorter hospital stay compared to the control group (p=.002). Overwhelmingly, patients and providers rated the doulas as being very helpful to the laboring mother and her family.

Implications: This study demonstrated a significant difference in the cesarean birth rate between doula-attended women compared to matched cases. The results of this study have implications for healthcare providers, organizations, and policy makers. This study strengthens the growing body of evidence that doula care has a positive impact on obstetrical outcomes and patient satisfaction, as well as has the potential to decrease healthcare expense. Future studies are needed to determine the particular aspects of doula care that influence these outcomes.

Reference: Robson, M. S. (2001). Classification of caesarean sections. *Fetal and Maternal Medicine Review, 12,* 23-39.

EXPLORING PTSD DURING THE PRENATAL PERIOD IN A LOW-INCOME COMMUNITY

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Aims: To compare demographic, social, and health-related variables between prenatal women who do not screen positive for PTSD with prenatal women who have screened positive for PTSD and to explore the relationships among demographic, social, and health-related variables in prenatal women who screen positive for PTSD and those who do not screen positive.
Rationale: Women during their childbearing year (prenatally and postpartum) have been identified as a group that may be grossly under diagnosed. It is more likely that the primary care provider will have contact with these women than will any mental health provider. However, perinatal women may consider PTSD symptoms outside the realm of interest of the obstetrical primary care provider and not mention them. Risk factors associated with PTSD in the prenatal population are just beginning to be researched; however, no such work has been done with Asian American and Pacific Islander populations. The occurrence of PTSD in prenatal women is unclear, as screening is far from universal.
Methods: A case-controlled design was used to gather retrospective data from the medical records of women receiving prenatal care from Waianae Coast Comprehensive Health Center in Waianae, Oahu in Hawai‘i. Sample selection criteria were (1) received case management services due to perinatal risk factors and (2) are over 20 years of age. The power analysis was met. The group of women who screened positive for PTSD (n=68) were matched on marital status and ethnicity with the control group (n=108).
Results: Data from both groups were summarized with frequency distributions and descriptive statistics. Mean age control group was 25.64 (4.43) years and case group was 26.14 (5.13) years (t=.667; p=.50) with an age range = 20 – 40 years. The predictors of PTSD (physical trauma, lack of family support, family stress, depression, CPS involvement, perinatal loss, parity of two or more, and substance abuse) were first examined separately (one model for each) via chi-square tests, and then simultaneously (all in the same model) via logistic regression. Physical trauma, lack of family support, family stress and depression were statistically significant (p<.05) in both models.
Implications: PTSD screening is important in high risk populations. If a screen is positive appropriate referrals need to be made.

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MANAGING MY PREGNANCY: CHILDBEARING BELIEFS OF WOMEN OF MEXICAN DESCENT

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Purpose: The purpose of this grounded theory study was to gain an understanding of the pregnancy-specific health beliefs and practices that pregnant women of Mexican origin engage in and to explore the decision-making process related to the adoption, alteration, or rejection of these beliefs and practices.
Background: Hispanics now constitute the largest minority population in the United States. The largest portion of this population is of Mexican ancestry and represents approximately 58% of all Hispanics. Hispanic women incorporate both conventional and biomedical practices with traditional medicine/complementary and alternative medicine in their treatment of illnesses. However, Hispanic women view pregnancy as a natural part of the life cycle that requires little, if any, medical care and intervention. There is limited data on current health beliefs and practices regarding pregnancy for Hispanic women of Mexican ancestry and a paucity of research on the decision making process women use to adopt, alter, or reject these beliefs and practices. Available data are outdated, limited, mostly curative in nature, and often dismissed as benign cultural practices of a mainly homogeneous cultural group.
Methods: Grounded theory methodology allows for exploration and description of the phenomenon of interest. A total of 15 pregnant and postpartum participants with Mexican ancestry were recruited from a community clinic located in the inner city of a large metropolitan area of south Texas. This method yielded a total of 17 interviews that were audio-recorded, transcribed, and analyzed by the bilingual investigator. The findings were derived from a constant comparative analysis of the verbatim transcriptions, demographic questionnaires, field notes, open code notes, theoretical notes, diagrams, and operational notes.
Results: A substantive theory, the process by which women ensure a healthy pregnancy and infant, emerged from the data. A core category, or basic social process, *Managing my Pregnancy*, was identified. *Managing my Pregnancy* is the process that this group of women engaged in as they navigated their pregnancy, learned to care for themselves during their pregnancy, and made decisions regarding which beliefs and health care practices they would choose to implement. *Managing my Pregnancy* is made up of three stages: *Gaining Knowledge*, *Caring for Myself*, and *Constant Monitoring*. *Managing my Pregnancy* describes their decision-making process regarding the adoption, alteration, or rejection of these beliefs and practices.
Implications: *Managing my Pregnancy* describes how these women managed their pregnancy on a day-to-day basis toward the goal of having a healthy pregnancy and newborn infant. Participants had a holistic perspective of how best to accomplish this goal. Women cared for themselves with a variety of self care practices that included only a few traditional Hispanic beliefs and practices. The findings attempt to answer the question regarding which specific "cultural practices" may be retained or lost with subsequent pregnancies and in later generations of US-born Hispanic women.

Funded by: Sigma Theta Tau International, Delta Alpha At-Large Chapter

OB NURSES' EXPERIENCES COMMUNICATING WITH NON-ENGLISH SPEAKING OB CLIENTS WITH/WITHOUT AN INTERPRETER

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Purpose: To explore the lived experiences of obstetric (OB) nurses caring for non-English speaking (NES) laboring clients with and without the use of a bedside interpreter.
Background: The 2000 census reported 47 million residents do not speak English at home. It is estimated by the year 2056, 50% of the population will be minorities. As these numbers rise, one can expect language barriers to also increase. Currently, there are not enough interpreters available to communicate with non-English speaking clients. Language barriers have a negative impact on patient care including misdiagnosis, treatment errors, feelings of stress, frustration, and patients having difficulty forming relationships.
Methodology: A qualitative, phenomenological study guided by van Manen was conducted by interviewing a convenience sample of 12 OB nurses' who worked in a labor and delivery unit at a CA hospital. Once approved by the university and hospital IRBs, the researcher recruited participants by placing a flyer in the OB lounge and interviewed participants in a mutually agreed upon setting. A face-to-face interview, digitally recorded, was conducted with OB nurses. Prompting questions from an interview guide were used and a follow-up telephone interview appointment was made to clarify themes and meanings. The researcher downloaded and transcribed the digitally recorded interviews verbatim. Transcriptions were read, reread, and reviewed several times using a line-by-line approach and across interviews that promoted the unearthing of themes. Themes emerged while the researcher read and re-read the data. Participants were telephoned for a follow-up interview to verify responses and themes. Finally, the findings were integrated into a description of the phenomenon.
Results: The study revealed two major themes: communication and providing care. Four sub-themes emerged from the communication theme: triangular communication, filtering information, retroactive communication, and language line. Four sub-themes were revealed from the theme of providing care: inequality of care, unrealistic expectations, no bonding, and "Bag of Tricks."
Discussion/Conclusions: The experiences of OB nurses caring for NES laboring clients with and without an interpreter were described as challenging, frustrating, and even dangerous. Additional problems discovered included the inability to form a nurse/patient relationship, offering emotional support and the 100% whole package of care. Further, when communication was limited, especially in emergency situations, the NES client often became frightened. Most of the nurses in this study speak a few individual words or phrases in Spanish or other languages to get by. However, when they were required to communicate technical, medical, and legal terms to a NES client, there was no guarantee the patient completely understood what was discussed.
Nursing Implications: Having a trained bedside interpreter available at all times was the number one solution discovered. Moreover, employing nurses that are bilingual with medical translation training would benefit both the NES patients and hospitals. More research is required in fast paced areas of hospitals such as ERs and ICUs to identify if communication issues are similar.

GESTATIONAL WEIGHT GAIN IN MEXICAN AMERICAN WOMEN

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Purpose/Aims: The prevalence in biologic, sociocultural, and behavioral characteristics of Mexican American (MA) women in Los Angeles (LA) with adequate and excessive gestational weight gain (EGWG) were studied.
Rationale/Conceptual Basis/Background: Excessive gestational weight gain (EGWG) is increasingly associated with negative fetal (macrosomia, birth injury) and maternal outcomes [delivery complications, postpartum obesity and associated chronic illnesses (diabetes, heart disease)]. Studies have shown Hispanic women, the fastest growing ethnic minority in the United States (US) demonstrate EGWG; however, MAs, the largest subgroup with the highest fertility/birth rates, have been studied least often. Focused study of factors associated with adequate and EGWG is critical. The conceptual framework, Orem's Self-Care Deficit Theory, provides the theoretical concepts that were applied: (a) Basic Conditioning Factors [pre-pregnancy body mass index (BMI), age, parity, hypertension, acculturation, paternal education, exercise, and maternal food intake], (b) Self-Care Requisite (achieving adequate GWG), and (c) Self-care Deficit (EGWG).
Methods: A retrospective, cross-sectional, descriptive, correlational design was used. Data was obtained by chart review at a federally qualified health center in metropolitan LA. Following Institutional Review Board approvals, charts with a Hispanic surname and a postpartum visit in 2007 through 2009 were screened for study eligibility (n=1257). Inclusion criteria were documented birthplace in Mexico or self-reported Mexican origin (born in US), entry into prenatal care by 28 weeks gestation, term gestation (≥36 weeks), and completion of the LA County Department of Public Health form—the Comprehensive Perinatal Services Program Prenatal Combined Assessment Reassessment Tool. Exclusion criteria were thyroid disease, diabetes, or multiple gestation. The Institute of Medicine (1990) criteria for pre-pregnancy BMI and the appropriate GWG were used. Eligible charts were included for the prevalence analysis (n=681) and charts coded for adequate or excessive gestational weight gain (n= 469) were included for the descriptive analysis.
Results: The prevalence of adequate GWG was 33% (n=223), inadequate GWG was 31% (n=212), and EGWG was 36% (246).

Characteristic	Inadequate GWG n=212	Adequate GWG n=223	Excessive GWG n=246	t
Total GWG (lb)	12.57± .56	25.76 ± 5.96	35.86 ± 9.65	-13.48**
Pre-pregnancy BMI	27.93 ± .43	25.53 ± 4.48	27.74 ± 5.12	- 4.95**
Age (years)	27.34 ± .43	26.21 ± 6.63	25.68 ± 6.48	.89

Compared to MA women with adequate GWG, MA women with EGWG had higher pre-pregnancy BMI ($p<.01$), more hypertension ($p<.01$), were more acculturated ($p<.01$), and were more often born in the US ($p<.01$). Alternately, MA women with adequate GWG ate more servings of grains ($p<.05$), had more snacks per day ($p<.05$), and had partners with less education ($p<.05$) than MA women with EGWG.
Implications: More than a third of MA women had excessive GWG and higher acculturation; pre-pregnancy BMI and blood pressure were related to EGWG. Alternately, higher numbers of grain servings and snacks daily were related to adequate GWG. These characteristics in MA women may serve to identify MA women who may be at risk for adequate and EGWG and may suggest areas for intervention development. Further study is warranted in MA women to design strategies that will promote adequate GWG and reduce the risk of lifelong obesity and the associated chronic illnesses.

METHODOLOGICAL APPROACHES

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NURSING STUDENT SATISFACTION SCALE: EXPLORATORY AND CONFIRMATORY FACTOR ANALYSES

Hsiu-Chin Chen

INFLUENCE OF TREATMENT PREFERENCES ON OUTCOMES

Souraya Sidani, Dana Epstein, Patricia Moritz

ENHANCING TREATMENT FIDELITY IN AN RCT WITH FAMILIES

Karen G. Schepp, Heeyoung Lee

USING CBPR METHODS TO CONDUCT A RANDOMIZED CONTROLLED TRIAL OF EL JOVEN NOBLE

Janna Lesser, Patricia J. Kelly, Manuel Angel Oscos-Sanchez

NURSING STUDENT SATISFACTION SCALE: EXPLORATORY AND CONFIRMATORY FACTOR ANALYSES

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Purpose: To provide an instrument with rigorous psychometrics for measuring nursing student satisfaction with nursing programs.
Background: The widespread demands from healthcare institutions and consumers for greater accountability in nursing education have obtained unprecedented attention. As a result of growing accountability pressures in nursing education, a systematic and comprehensive program evaluation has been viewed as a strategy to improve quality outcomes of teaching and learning in nursing. Accountability indicators, such as overall student satisfaction, have provided critical information regarding the attractiveness of the college to students. Thus, there is a need for using a reliable and valid instrument to comprehensively explore areas students are mostly satisfied with the nursing program. Yet, little evidence has been provided to demonstrate consistent evaluation of reliability and validity of an instrument for measuring nursing student satisfaction with the nursing program used under a model or a theory. In terms of literature reviews, the model of Curriculum, Faculty, Social interaction, and Environment (CFSE) was developed as a basis for measuring student satisfaction in this study.
Methods: This longitudinal survey study was conducted using a self-administered questionnaire. The entire study procedures consisted of stage I: the development of the Nursing Student Satisfaction Scale (NSSS) using (1) literature reviews for developing question items; (2) Q methodology for selecting items; (3) a focused nursing faculty review group; and (4) content validation; stage II: a 3-year longitudinal pilot test using a convenient sample of 303 senior nursing students for examining psychometric properties of the NSSS including internal consistency of reliability, item analysis, and exploratory factor analysis; and stage III: a year nationwide survey for developing construct validity using exploratory and confirmatory factor analyses. In this stage, stratified random sampling was utilized and 31 states in the US offering 56 ASN/ADN programs participated and completed this study. In total, 2,020 senior nursing students participated and the response rate was 76%. The 31-item NSSS consists of four subscales based on the CFSE model, including an item that asks about the overall student satisfaction. The NSSS uses a 6-point Likert scale scored from 1 (not satisfied at all) to 6 (very satisfied).
Results: For internal consistency reliability, the results were consistently acceptable throughout the pilot study and the nationwide survey, in which the alphas of the total scale and each subscale ranged from .87 to .94. The principal axis factor analysis (PAF) with oblimin rotation was used for exploratory factor analysis using 823 senior nursing students. Three factors were extracted and explained 56.7% of the total variance. All of the 30 items demonstrated moderate to strong loadings (>.40). A structural equation modeling (SEM) analysis (AMOS, MLE) using the original NSSS solution indicated that all items loaded significantly on their specified subscales based on an orthogonal solution. The model fit was obtained based on the data of 1,152 senior nursing students (CMIN/*df*=3.74, GFI=.93, NFI=.95, CFI=.97, RMSEA=.049, CI=.046-.052).
Implication: The NSSS demonstrated sound psychometric properties, and provides a model-based approach to the measurement of nursing student satisfaction with the nursing program.

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INFLUENCE OF TREATMENT PREFERENCES ON OUTCOMES

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Background: Preferences for treatment represent participants' choices of treatment, derived from their understanding of the treatment options and perception of treatment acceptability. Treatment preferences are implicated as potential threats to internal validity in intervention research. Participants assigned to non-preferred treatment experience disappointment and are less motivated to adhere to treatment, leading to poor outcome achievement. Participants assigned to treatment of choice are satisfied with and adhere to treatment, resulting in the expected improvement in outcomes. This study examined the influence of preferences on the sleep outcomes of behavioral interventions for managing insomnia.

Aims: The specific aims of this methodological study was to compare the sleep outcomes for participants who received minimal intervention (sleep education and hygiene) or experimental intervention (cognitive-behavioral therapy) on the basis of chance or preference.

Methods: The data were obtained from two sites that participated in a larger methodological study. The two sites had participants with comparable baseline characteristics and implemented the same interventions, but differed in the method of assigning participants to treatment. Participants (n=242) were middle-aged, non-married white women, with moderate level of insomnia severity. Minimal intervention consisted of sleep education and hygiene (SEH) given in a form of booklet. Experimental intervention involved stimulus control instructions and sleep restriction therapy, given in group format in 6 sessions. The method of assignment to treatment was random in site 1 and based on participants' preferences in site 2. Sleep outcomes were assessed with daily sleep diary (sleep onset latency – SOL; wake after sleep onset – WASO; sleep efficiency – SE) and the Insomnia Severity Index, at pre-test and post-test. Analysis of covariance, controlling for pre-test scores was used to examine differences in post-test outcomes between method of assignment (random vs preference) and type of treatment (minimal vs experimental).

Results: Significant method of assignment x type of treatment interaction effect was found for sleep efficiency ($F(1,230)=7.1$, $p<.01$). Significant method of assignment main effect was observed for WASO ($F(1,230)=5.3$, $p<.05$) and significant type of intervention main effects were noted for all outcomes. The results indicate that overall, participants who received the experimental intervention showed greater improvement in the sleep outcomes, and participants who were allocated to the intervention of their preference had lower WASO and higher SE than those randomized to treatment.

Implications: The findings provide evidence of the influence of treatment preferences on outcomes and have implications for the design of intervention studies. Treatment preferences have to be accounted for to enhance the validity and clinical relevance of intervention research results.

ENHANCING TREATMENT FIDELITY IN AN RCT WITH FAMILIES

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Purpose: The purpose of this paper is to present an RCT that involved families and to describe how treatment fidelity was monitored, maintained, and enhanced. Treatment fidelity refers to the strategies used to enhance reliability and validity of behavioral interventions. Maintaining treatment fidelity is a challenge in any behavioral intervention but it is especially challenging when there are multiple families involved, all of whom have an adolescent with a major mental illness and multiple family members with varying ages, experiences, roles, and educational levels. The complexity increases with cultural variations among and within the families as well. The RCT that will be addressed in this presentation was a psychoeducational program for families with an adolescent with schizophrenia. The aims of the study were to improve the family's level of functioning as well as the functioning of the adolescent.

Rationale: As more families become the primary caregivers for their chronically ill family member, we need to know how best to help families care for their family member and support each other in the process. Caregiver burden and the consequences are well known and yet few family studies exist that study the family as a unit of analysis. The theoretical basis for the family component of this family study was Bowen's Family Systems Theory, which maintains that illness in one member affects the whole family. Treatment fidelity is especially important to monitor because of the complexity of families and the potential for confounding variables that can interfere with the treatment.

Methods: The sample for this study was 40 families with an adolescent, aged 15-19, with a severe mental illness. The family members included the adolescent, siblings, parents, and any other family members the family defined as having an important role in caring for the adolescent. This trial consisted of two arms to which families were randomly assigned, the treatment group that received the psychoeducation program and the control group that received treatment as usual, which was basically medication management from their primary mental health provider in a monthly 15 minute appointment. The intervention consisted of 12 2-hour sessions over the course of 14 months with content on symptom management and stress reduction skills. The strategies included pre-testing and simplifying the intervention, detailed manual with checklists, materials prepared for each age group, videotaping and audio-taping all sessions, debriefing sessions, evaluations, monitoring participants' ability to process content.

Results: Treatment fidelity was monitored after each session. Estimates were computed through evaluations and interrater agreement resulting in approximately 90% agreement overall.

Implications: Nurses are often hesitant to involve families in their research. RCTs involving multiple family members are challenging but can be done with structure, careful planning, and evaluation. Close monitoring of each session provides the opportunity to identify when the intervention is getting off track and needs to be brought back on track. Examples of threats to treatment fidelity and strategies to estimate treatment fidelity will be presented from this RCT.

USING CBPR METHODS TO CONDUCT A RANDOMIZED CONTROLLED TRIAL OF EL JOVEN NOBLE

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Background: Community-based participatory research (CBPR) emerged as an approach to address health disparities associated with social, political, and economic issues such as poverty, inadequate housing, racism, and lack of access to health resources. CBPR unites academic researchers and communities in the common goal of addressing community-identified health needs through a process of sharing power, establishing trust, fostering co-learning, enhancing strengths and ultimately building community capacity.

Interpersonal violence disproportionately affects youth living in Latino communities throughout the United States**.** Using methods of CBPR, residents of a Latino community in South Texas partnered with academic researchers to develop and conduct community-wide surveys on violence attitudes and behaviors and a series of community-wide violence awareness events. In addition, they selected a violence prevention program based on Latino cultural values (*El Joven Noble*) to implement among and evaluate elementary school children.

Theoretical Framework: In this study, *El Joven Noble* was conceptualized as a Gendered Social Bond Theory-driven intervention that prevents violence by facilitating the development of a strong social bond to a gender-equitable and non-violent cultural identity. It replaces violence provoking norms and attitudes with a set of beliefs that support harmony, balance, and responsibility in all relationships.

Methods: *Design*: A prospective randomized control design examined the effects of participation in *El Joven Noble* on violence-related attitudes among elementary school students at fourteen elementary schools. Randomization occurred at the school level. Students (n=180) from the seven intervention schools participated in *El Joven Noble* in year one and students (n=132) from the seven delayed entry control group schools received the intervention in year two. The ten session *El Joven Noble* curriculum was implemented weekly during an existing district wide after-school program. *Data Collection:* Attitudes about Gangs (α=.87), Non-Violence Self-Efficacy (α=.70) and Beliefs in *El Joven Noble* concepts (α=.65) were measured at pre- and post-intervention and at three-month follow-up. *Data Analyses*: Separate hierarchical random effect models for each primary outcome were fitted to identify the impact of the intervention on a subsample of at- risk youth. At-risk status was determined by measures of violence-related attitudes and behaviors reported at baseline. Time, at-risk youth indicator, intervention by time and the three way interaction term of time, at-risk youth, and intervention were included as fixed effects, and both individual-specific and school-specific variables as random effects.

Findings: The at-risk youth in the intervention group had significantly more positive changes in attitudes regarding violence self-efficacy at post-intervention (estimate=.69, $p<.05$) and 3-month follow-up (estimate=.58, $p<.05$) and significantly more positive changes in beliefs about *El Joven Noble* concepts (estimate=.18, $p<.05$) at post-intervention than did the at-risk control group youth.

Conclusions: CBPR provides a methodology to engage communities in the design, implementation, and evaluation of their own prevention programs. It is well suited for the inclusion of community values, cultural heritage, and historical perspective into both the research process and product. This collaborative partnership was able to successfully combine CBPR methods with a rigorous study design while providing sustained benefit to community partners.

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NURSE, PATIENT AND COMMUNITY SAFETY

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ENHANCING TRANSLATION OF AN EVIDENCE-BASED INTERVENTION INTO PUBLIC HEALTH PRACTICE

Ruth A. O'Brien, Zhaoxing Pan, Lucy Repaci

PHN KNOWLEDGE OF WATER QUALITY & SAFETY

Cherie Rector, Kathleen Gilchrist

THE INFLUENCE OF HOSPITAL SYSTEMS LOAD ON PATIENT SAFETY

Mary Blegen, Alberta T. Pedroja, Bruce Spurlock, Rebecca Abravanel

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LESSONS FOR NURSING FROM THE AHRQ PATIENT SAFETY INDICATOR VALIDATION PILOT PROJECT

Patricia Zrelak, Garth Utter, Ruth Baron, Banafsheh Sadeghi, Daniel J. Tancredi, Jeff Geppert, Patrick Romano

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SNEEZING ON A JET PLANE: AIR TRAVEL DURING A SWINE FLU EPIDEMIC

Jacquelyn W. Blaz

OH, THEIR ACHING BACKS! OCCUPATIONAL INJURIES IN NURSING ASSISTANTS

Jacalyn P. Dougherty, Patricia Graham

ENHANCING TRANSLATION OF AN EVIDENCE-BASED INTERVENTION INTO PUBLIC HEALTH PRACTICE

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Purpose: This study examined the question: Does the implementation of an augmented approach to education of home visitors and supervisors for delivery of the Nurse-Family Partnership program improve staff performance, fidelity to the program model, and family outcomes relative to child maltreatment and early behaviors associated with youth violence? **Background:** The literature on the dissemination of research interventions has noted that there often is widespread variability in implementation as programs are scaled up, with many prevention activities not being implemented with sufficient strength and fidelity to produce the intended outcomes. Data from six years of dissemination of the Nurse-Family Partnership (NFP), a research-based home visitation program for low-income, first-time parents, revealed that nurses in community settings consistently spent 10-15% less time per visit on the promotion of parenting than did nurses in the research trials. **Methods:** A cluster randomized design was used with nurse home visitors and supervisors assigned by site to receive either the NFP standard education (N=4 sites) or the NFP augmented education (N=4 sites), i.e., standard education plus additional content on child development and parenting and related structured consultations for supervisors. Three hypotheses were tested: (1) nurses receiving the augmented education with structured clinical consultation to supervisors, compared to nurses receiving the standard education, will demonstrate: (a) greater knowledge of maternal and child growth and development, and (b) greater attainment of performance criteria related to the promotion of competent parenting. (2) Nurses receiving the augmented education with structured clinical consultation to supervisors, compared to nurses receiving the standard education, will cover a greater proportion of parenting content and spend more time on the promotion of competent parenting with families. (3) Families visited by nurses receiving the augmented education with structured clinical consultation to supervisors, compared to nurses receiving the standard education, will have: (a) fewer referrals to Child Protective Services for child maltreatment, (b) fewer emergency room visits and hospitalizations for child injuries, (c) children who demonstrate higher expressive language skills at 21 months, and (d) children who demonstrate fewer behaviors associated with early emotional dysregulation. **Results:** Hypothesis 1 was partially supported with nurses receiving the augmented education demonstrating greater knowledge for helping parents manage irritable infants and toddler behaviors. Hypothesis 2 was not supported. Contrary to expectation (Hypothesis 3), nurses receiving the augmented education made more referrals to Child Protective Services, although the reasons for referral were for less overt concerns than child abuse. **Implications:** Nurses in the augmented education group reported strain in completing the additional educational modules due to workplace constraints, but felt the overall benefits outweighed the strain. Challenges encountered in the conduct of the study suggest the need to replicate the study with a larger sample of program sites.

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PHN KNOWLEDGE OF WATER QUALITY & SAFETY

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Background: In 2006, the Environmental Protection Agency reduced the Maximum Contaminant Level (MCL) for arsenic in drinking water from 50 to 10 mcg/L. Adverse health effects related to high arsenic levels in drinking water include higher incidences of type 2 diabetes, cardiovascular and peripheral vascular disease, hematologic and neurologic disorders, renal disease, various cancers (notably skin, lung, bladder), and fetal loss, as well as developmental anomalies and infant death. In 2008, 11 California public water systems were cited for not complying with new arsenic standards. Some of these wells are in Central San Joaquin Valley counties and a number of them have high levels of naturally occurring arsenic. This is an agricultural area producing fruit, vegetable, and nut crops, along with dairy products, and their concomitant byproducts (nitrates, pesticides, herbicides) that can contaminate groundwater. Public health nurses (PHNs) focus on prevention and health promotion. Yet, how much general knowledge do PHNs possess about common ground water contaminants and the serious health risks they pose, and how often do they share this information with their clients?

Purpose: The purpose of this study was to examine public health nurses' (PHNs') level of knowledge, attitudes and behaviors related to drinking water quality and adverse health effects of arsenic exposure.

Methods: PHNs in three CA counties (Kern, Tulare, Kings) were surveyed with a researcher-developed questionnaire regarding their knowledge of drinking water contaminants, adverse health effects that result from exposure, and signs and symptoms that may require additional investigation. Further, attitudes and behaviors related to assessment and education of clients regarding sources of drinking water and collaboration with other public health professionals to ensure safe drinking water were examined.

Procedures: After receiving approvals, PHNs were recruited either through staff meetings or email invitation. Consent forms, water questionnaires, and demographic questionnaires were distributed at meetings and data was also collected online (Survey Monkey®).

Results and Conclusions: A total of 60 subjects completed the surveys, 4 males and 56 females. Over 61% had a BSN, 85% had a CA PHN certificate, and the number of years as a PHN ranged from 1.5 to 51. Fifty-five percent had some kind of education on environmental health issues. Only 35% felt there was a problem with their county's drinking water. Over 70% recognized cancers, neurological and renal disorders as health effects resulting from exposure to arsenic in drinking water, but less than 50% recognized type 2 diabetes, hematologic disorders, cardiovascular and peripheral vascular disease. While 62.5% thought it was important to assess and educate their clients about drinking water safety, 56.7% had never consulted with environmental health personnel on this topic.

Nursing Implications: Most PHNs were unaware of the problems with their county's drinking water and did not recognize all of the adverse health effects of arsenic, despite having high levels in their counties. A majority had some knowledge of effects of agricultural contaminants, but about half had no knowledge about nitrates. This information needs to be included in nursing education programs in order to provide better outcomes for the public.

THE INFLUENCE OF HOSPITAL SYSTEMS LOAD ON PATIENT SAFETY

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Purpose: The purpose of this study was to determine whether there is a relationship between Hospital Systems Load and patient safety.
Background: Hospital Systems Load was defined as the stress put on hospital systems as a function of the care needs of the patients in the hospital and as high demand for care and was expected to be associated with higher numbers of errors and patient harm.
Methods: Data were obtained for each day of one year from two hospitals. These data included multiple potential system load indicators and de-identified incident reports. Each incident was weighted according to the level of patient harm before summing for a daily harm score and adjusting for number of patients at risk for incidents.

The investigators, consulting with administrative and clinical leaders from each hospital, identified potential indicators for Hospital System Load. Hospital IT personnel then provided the investigators with the data for each of the indicators for each day of a full year. These data were then factor analyzed to find groupings of indicators. One or two indicators were selected from each factor; each day of the year was categorized in quartiles for each indicator. Finally, a load score (count of system load indicators in the fourth/highest quartile) was assigned; e.g. 6 of 10 indicators in the highest quartile (Q4). Examples of system load indicators included midnight census, transfers in and out of units, surgical volumes, ED patients and diversions, OR minutes, overflow units volume, and PRN meds given.
Results: Both hospitals had lower systems load and lower patient harm on weekends/holidays compared to weekdays. Four sub-analyses calculated the correlation between Hospital System Load and Patient Harm: hospital A weekdays, weekend/holidays, hospital b weekdays, weekend/holidays. All four correlations were larger than 0.60 and statistically significant. In each analysis, as Hospital System Load increased, patient harm also increased.
Implications: Our data clearly demonstrated that it is safer in the hospital when the Hospital Systems Load is lighter. This offers wide implications for improvements in patient safety. If increases in Load are likely to add to the risk of patient harm, hospitals have only to determine at what levels they are at risk and implement a system intervention to protect patients from harm due to preventable adverse events. The results of this study also suggest that, contrary to popular opinion, patients in the hospital on weekends and holidays may be safer than on weekdays.

Funding: Project funded by the Betty Irene Moore Nursing Initiative of the Gordon and Betty Moore Foundation.

LESSONS FOR NURSING FROM THE AHRQ PATIENT SAFETY INDICATOR VALIDATION PILOT PROJECT

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Purpose: A descriptive analysis of potential nursing-associated opportunities identified by the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicator (PSI) Validation Pilot Project.
Rationale/Conceptual Basis/Background: The PSIs were developed in 2003 by the University of California-Stanford Evidence-based Practice Center, under contract to ARHQ. The PSIs are a set of tools intended to help identify potentially preventable adverse events that occur during hospitalization. These indicators are based on International Classification of Disease, 9th Revision, Clinical Modification (ICD-9-CM) diagnoses and procedures, using readily available and inexpensive administrative discharge data.
Methods: Retrospective cross-sectional study of hospitalization records flagged as having a PSI event under study. Chart review tools were developed for each PSI that targeted the ascertainment of the flagged event, associated risk factors, evaluation, treatment, and related outcomes. Voluntary/uncompensated sample of US hospitals was identified through the AHRQ Quality Indicator (QI) technical support listserve. A modified version of the AHRQ PSI windows software was used to extract a probability sample of records that met PSI criteria to generate desired sample size locally (30) and nationally (240 per indicator). For the first five indicators, data collected included 2nd quarter 2006 through 1st quarter 2007. The second set of indicators includes data from 2008*. Abstractors were trained via web-based teleconferences. Positive predictive values were calculated and adjusted for hospital clustering effect along with descriptive analysis of opportunities for quality improvement including those thought associated with nursing care.
Results: Select findings per PSI with potential impacts for nursing care are as follows: (1) Selected Infections Due to Medical Care (Central Line Associated Bloodstream Infection): Lack of documentation of catheter type (12%), insertion/removal dates, symptomology (no documented cases of chills), infectious source, culture results and preventive interventions; and site selection: non-tunneled sites included femoral (11%), subclavian (25%), internal jugular (34%), and PICC (30%). (2) Postoperative Sepsis: Non-specific documentation regarding recognition, source, and interventions. (3) Postoperative DVT and/or PE: Missing and/or delayed prophylaxis including ambulation; False positive upper extremity DVTs were associated with PICCs. (4) Iatrogenic Pneumothorax: Majority due to central catheters placed without radiologic adjuncts. (5) Postoperative Respiratory Failure*: A leading cause was unspecified, aspiration and ventilator associated pneumonia. Poor documentation of early ambulation and weaning protocol use. (6) Postoperative Physiological and Metabolic Derangement*: Subcutaneous insulin/pump use in immediate post-op period in type I diabetics. Nephrotoxic medication use in patients with chronic kidney disease (100%). Poor documentation of ionic contrast type/amount. Primary cause of postoperative renal failure was a decrease in effective/relative blood volume. Results for the more medically oriented indicators (Foreign Body Left-in During Procedure*, Postoperative Hemorrhage and Hematoma*, Accidental Puncture and Laceration, and Postoperative Wound dehiscence*) appear less specific to nursing care beyond risk identification and surveillance.
Implications: Several PSIs may be influenced by nursing associated care and may provide an additional source of inexpensive and readily available information on the quality of nursing care. However, additional research is needed. [*Under study].

SNEEZING ON A JET PLANE: AIR TRAVEL DURING A SWINE FLU EPIDEMIC

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Purpose: Much has been written about the economic and political impacts of air travel during flu epidemics. Little can be found, however, about the experience of air travelers during a flu epidemic when drastic measures are in effect. This pilot study attempts to address this absence in the literature.

Background: A phenomenological approach was selected for this study in order to describe the experience of traveling by airplane between the United States of America to another country during the recent H1N1 flu epidemic. Interviewing travelers and asking them to retell their experiences would be the standard way to gain a phenomenological description of their experience. However, because time and monetary resources were limited in this pilot study, weblog, or "blog," posts were analyzed instead of in person interviews. The personal telling of experiences, and the public nature of blogs, makes them a good substitute for personal interviews in a phenomenological study.

Methods: The terms searched were "air travel," "blog," and "H1N1 OR Swine flu." The first ten hits were examined for inclusion in the study. To be included in the study, the post had to be a blog post written about a personal experience traveling by airplane between the United States and another country. The travel experience had to have taken place after the knowledge of the H1N1 flu outbreak in Mexico was public (approximately April 15th, 2009). Blog posts discussing travel in a general manner that did not describe a personal experience were not included in the analysis. Of the ten initial hits found using the Google search engine, two posts were determined to fit the inclusion criteria. Each of these two blog posts was qualitatively coded and analyzed for themes.

Results: Two themes arose from the analysis of the blog posts. The first was labeled "Americans as Self and Other." This theme was characterized by statements highlighting how travelers from America experienced different precautions than travelers from other countries. This experience seemed to move the traveler from a centered position to a position of outsider, or "other." The second theme was labeled "Capture and Isolation." This theme was characterized by statements of fear surrounding capture, being isolated, and potential contamination. Words such as "alien," "pariah," and "leper" were used to describe individuals suspected of carrying the H1N1 flu virus.

Implications: This pilot study demonstrates the feelings of alienation and isolation experienced by American travelers during the onset of a new influenza epidemic. This study illuminates a manifestation of cultural stigmatization associated with an emergent disease that is rarely experienced by Americans. Examining the experiences of American travelers stigmatized by their association with the H1N1 virus can provide a rare glimpse into the experience of "other" through the eyes of individuals who have experiences only as "center" or "self." By understanding these experiences, nurses can increase their cultural competency in practice.

OH, THEIR ACHING BACKS! OCCUPATIONAL INJURIES IN NURSING ASSISTANTS

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Purpose/Aims: This descriptive study explored the incidence of self-reported, work-related back injury in a randomly selected sample of certified nurse aides (CNAs) participating in a postal survey. Names and addresses were obtained from a State Board registry of Certified Nursing Assistants in a western state in the US.

Background: A number of studies have been conducted to identify the prevalence of back injury in nurses who are recognized world-wide as being among the highest of any professional health care group in their rates of manual handling injuries (Garrett, Singiser, & Banks, 1992; Trinkoff, Brady, & Nielsen, 2003). However, little research focuses on injuries sustained by nurse aides in spite of the fact that this group is at greater risk for back injuries than nurses (Hoff & Slatin, 2006; Li, Wolf, & Evenoff, 2004). This finding is likely related to the fact that nurse aides, on average, perform twice the amount of lifting, bending, and rotation in delivering patient care services than do nurses (Videman, Nurminen, Tola, Kuorinka, Vanharanta, & Troup, 1984). The increasing numbers of overweight and obese patients are likely to compound this problem.

Owen (2000) noted that 12% of nurses reported back pain as a factor that influenced their intent to leave nursing, but no such estimates were found in the literature about similar experiences in nurse aides. It is likely that the number of aides who leave their careers due to back injury is even higher due to the increased manual labor work load encountered. And, since CNAs often have little actual or perceived power within the health care system, they might well expect that refusing to perform services that place them at risk for injury, such as lifting heavy patients, might put their jobs in jeopardy.

Methods: Using systematic random sampling, the names of 200 individuals were selected from the State Board of Nursing's public CNA list and mailed a survey packet written at an 11th grade reading level. Thirty-five individuals completed the 19-item survey concerning whether or not they had incurred injuries while working as CNAs.

Results: Of the 200 surveys mailed, 35 (17.5%) were returned. Almost 46% (n=16) of the 35 respondents reported having hurt themselves while lifting, moving, or helping a patient, with 40% (n=14) of these individuals specifically reporting having suffered back injuries. Eleven of the 14 respondents (11%) who reported having ever injured their backs reported working in nursing homes at the time the injury occurred. Further, a not insignificant number of respondents identified less than ideal working relationships between CNAs and nurses—17% reported they felt "looked down on" by the nurses or had poor relationships with the RNs with whom they worked.

Conclusions: The high proportion of CNAs reporting a work-related injury occurring while lifting or moving a patient is cause for alarm and demonstrates a need for further research on rates of injury in this population. Findings suggest the particular dangers of moving and lifting patients while working in nursing home environments.

NURSE RETENTION

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SUCCESSFUL STRATEGIES TO IMPROVE RN RETENTION AND PATIENT OUTCOMES

Barbara Molina Kooker, Cynthia Kamikawa

WORK SITUATIONS AND HOSPITAL NURSE INTENTION TO REMAIN EMPLOYED

Ann E. Tourangeau, Mae Squires, Greta Cummings, Lisa Cranley

EBP ORGANIZATIONAL CULTURE, EBP IMPLEMENTATION, AND INTENT TO LEAVE IN NURSES AND HEALTH PROFESSIONALS

Bernadette Mazurek Melnyk, Ellen Fineout-Overholt, Martha Giggleman

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THE EFFECT OF HOSPITAL UNIONS ON NURSE WAGES

Joanne Spetz, Michael Ash, Jean Ann Seago

SUCCESSFUL STRATEGIES TO IMPROVE RN RETENTION AND PATIENT OUTCOMES

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Purpose/Aims: The purpose of this presentation is to describe a major retention initiative implemented at a large medical center in Honolulu, Hawai'i, in response to the nursing workforce shortage in the state. The main objectives of the project were to improve RN retention and vacancy rates and to improve four patient outcomes: patient satisfaction; RN satisfaction – autonomy; RN satisfaction – decision making; and nosocomial decubitus ulcers.

Rationale/Background: After tracking the workforce situation for several years, nursing leadership at the medical center critically analyzed their RN retention data. The retention rate among new nurses in their first year of employment was only 55.97%. To achieve the standards of excellence reflective of Magnet status, nursing leadership selected four patient outcomes to improve. Since baseline data were available for all patient and nurse outcome measures, the success of strategies to improve these outcomes could be measured and tracked over time.

Brief Description of the Undertaking including Approach/Methods/Processes: A five-year, federally funded training program was initiated to improve RN retention and patient outcomes. Nurses new to the organization were selected for fellowships and were supported via additional training and newly developed clinical coaches beyond the basic orientation period. Leadership skills of current and emerging nurse managers were expanded to strengthen their role in management of unit goals and retention of new nurses. Four in-patient nursing units became Magnet pilot units to demonstrate progress towards achievement of Magnet standards of excellence as evidenced by improvement of patient outcomes. Strategies to facilitate this development included two-way staff and manager exchanges with Johns Hopkins Medical Center and targeted performance improvement projects.

Outcomes Achieved/Documented: From 2005–2009, first year RN retention improved from 55.97% to 68.82%; RN vacancy rate decreased from 11.26 to 2.19; patient satisfaction increased from 84.6 to 87.8; RN satisfaction-autonomy improved from 44 to 48; RN satisfaction-decision making went from 41 to 45; and nosocomial decubitus ulcer rate decreased from 15.3 to 10.0 in the intensive care units.

Conclusions: Dedicated resources and targeted activities can make a difference in outcomes for both patients and nurses. Keys to successful implementation in the clinical setting included engaging staff at all levels; having high performance expectations coupled with high support; providing data to unit level managers and staff to measure improvements emphasizing renewed accountability; and maintaining the focus on excellence in patient care. Future analysis of project evaluations will yield recommendations for additional program and outcome improvements.

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WORK SITUATIONS AND HOSPITAL NURSE INTENTION TO REMAIN EMPLOYED

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Purposes: The purposes of this paper are to describe rates and differences in rates across generations of hospital about their intentions to remain employed, identification of work situations that entice them to remain employed, and those work situations that encourage them to leave employment.
Background: Despite current economic conditions, the global shortage of nurses persists. Promoting retention of current (and future) nurses is one important goal to minimize this shortage. It is reasonable to expect that nurses at different life stages (generational affiliation) have different rates of intention to remain employed and would identify different work situations that encourage them to remain in or leave employment.
Methods: Based on previous focus group findings, 4,000 Canadian nurses responded to survey items asking them to rate their intentions to remain employed in both their current jobs and their current hospitals for four specific periods of time (one, two, five years; until retirement) and to identify work situations that encourage them to remain in (11 items) or leave employment (17 items). Descriptive statistics, analysis of variance, and chi square tests of difference were implemented as appropriate to report responses by generational affiliation and to test for differences in responses by generation.
Results: Overall, the longer the period of time into the future, the less likely did all nurse generations intend to remain employed. There were significant differences ($p<.001$) in all eight intent to remain items across the three generations of nurses. The youngest generation consistently reported being less likely to remain employed than the other two generations. The three work situations that most strongly encouraged nurses to remain employed were reasonable workloads, manageable nurse-patient ratios, and supportive and empathetic managers. The three work situations that most strongly encouraged nurses to consider leaving employment were inadequate staffing, unmanageable workloads, and exhaustion. The strength of most factors influencing intention to remain in or leave employment varied significantly across generations.
Implications: Nurse intention to remain employed varies by generational affiliation. Furthermore, the strength of most work situations that encourage nurses to remain in or leave employment varies significantly by generational affiliation. These findings provide strong evidence of the need to tailor retention promotion incentives for each generation of nurses. Findings also provide knowledge about which incentives to remain employed are strongest and most relevant for each generation of nurses working in hospitals.

This study was funded by the Canadian Institutes of Health Research (# MOP-81240).

EBP ORGANIZATIONAL CULTURE, EBP IMPLEMENTATION, AND INTENT TO LEAVE IN NURSES AND HEALTH PROFESSIONALS

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Purpose: The purpose of this study was to determine the relationships among evidence-based practice (EBP) organizational culture, EBP beliefs, EBP implementation and intent to leave in nurses and health professionals in a 359-bed community hospital in Northern California.

Background: Although the Institute of Medicine has set the goal that 90 percent of clinical decisions will be evidence-based by 2020, it is estimated that only approximately 10 to 15 percent of nurses and other healthcare providers consistently deliver evidence-based care. Research has identified multiple barriers to EBP; however, studies have not investigated the relationships among EBP organizational culture, EBP beliefs and implementation, and intent to leave in practicing nurses and health professionals. The ARCC (Advancing Research and Clinical practice through close Collaboration) Model provided the conceptual framework for this study.

Methods: A descriptive correlational study was conducted with 58 nurses and healthcare providers. Participants completed the *EBP Beliefs Scale*, the *EBP Implementation Scale*, the *Organizational Culture and Readiness for System-Wide Implementation of Evidence-based Practice (OCRSIEP) Scale*, and an adapted version of the *Intent to Leave Scale.*

Results: Approximately 40 percent of the participants had a bachelor's degree and 7 percent reported a master's degree as their highest level of education. Thirty-eight percent of the participants were staff nurses and 22 percent were charge nurses. Non-nurses comprised 17 percent of the sample. Organizational culture and readiness for EBP was positively related to clinicians' EBP beliefs and implementation of EBP. Stronger beliefs by clinicians about EBP were related to higher EBP implementation and less intent to leave the organization.

Implications: The extent to which clinicians implement EBP is related to their beliefs about the value of EBP and their ability to implement it. Organizations must cultivate cultures that support EBP in order to strengthen clinicians' beliefs and implementation of evidence-based care. Cultures that support EBP hold promise for retaining staff and reducing turnover rates.

THE EFFECT OF HOSPITAL UNIONS ON NURSE WAGES

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Purposes/Aims: This paper examines the impact of unionization on nurse wages in hospitals.
Background: Of 2.4 million registered nurses employed in the United States in 2006, unions represented about 21%. Membership in nursing unions in the United States has grown 18% in less than three years and more than 80& since 1983. In the 1970s and 1980s, a number of studies found that hospital unions increased the wages and fringe benefits of workers represented by the unions, and there was a corresponding increase in total hospital costs.
Methods: We use a unique dataset from California, which merges data collected from all hospitals in the state about their unions with Annual Hospital Disclosure Reports data from the California Office of Statewide Health Planning and Development. We estimate multivariate regression equations to learn whether unions have a statistically significant effect on hospital wages. Explanatory variables include patient acuity, service mix, profit status, system affiliation, HMO penetration, market concentration measured with a Herfindahl index, and other market conditions. We allow for both direct and indirect effects (i.e., union threat effects) of unions by considering whether nearby hospitals are unionized.
Results: Unionized hospitals pay higher wages, and that some union threat effect exists. Unions also appear to counteract the effect of system affiliation of hospitals. Hospitals in multihospital systems tend to have lower wages than non-system hospitals, at least in the 1990s, and unions mitigate this effect.
Conclusions: Unions have important impacts on wages. As hospital unions become more influential in hospital operations and in national policymaking, it is important that we understand how they are likely to affect the landscape of healthcare in the nation.

Funding: Agency for Healthcare Research and Quality

NURSES DEALING WITH CRISES AND PRACTICE PREPAREDNESS

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USE OF NURSE PRACTITIONERS TO IMPROVE ACCESS TO EMERGENCY CARE

Patricia D. Abbott, Brenda K. Zierler, Karen G. Schepp, Debbie Ward

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NURSES' SPIRITUAL CARE PRACTICES: ASSESSMENT, TYPE, FREQUENCY, AND CORRELATES

Iris Mamier

DO THEY REALLY CARE? HOW TRAUMA PATIENTS PERCEIVE NURSES' CARING BEHAVIORS

Alison Merrill, Janice S. Hayes, Lory Clukey, Denise Curtis

NURSE RESIDENTS' FIRST HAND ACCOUNTS ON TRANSITION TO PRACTICE

Cynthia Clark

USE OF NURSE PRACTITIONERS TO IMPROVE ACCESS TO EMERGENCY CARE

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Background: Emergency departments (EDs) have evolved into the "safety net" for the healthcare system in the United States. With increasing numbers of patients presenting to fewer and overcrowded EDs, the safety of this net is at risk unless changes are made. Despite over 35 years of working in EDs there is a paucity of data on how to effectively utilize NPs in this setting. Use of NPs in EDs may be a cost-effective approach to increase access to care and ease overcrowding which is known to compromise the safety of care in EDs.
Purpose: The purpose of this descriptive research was to ascertain existing staffing patterns and utilization of NPs and physician assistants (PAs) in ED practice in Washington (WA) and Oregon (OR). With further clarity of how NPs/PAs were currently utilized, future models of care could be developed to inform practice and drive policy to ensure consistent, effective, and safe utilization of these providers.
Methods: The descriptive study utilized a web-based survey developed by the researcher to meet aims of research. The 37 item survey asked questions on operational and organizational characteristics and ED manager's understanding of NP/PA roles. Surveys were sent to managers in all EDs in WA and OR (n=158) in March 2009. Data analyses to obtain descriptive and chi-square statistics were completed using SPSS version 17.0. The study was approved by the institutional internal review board.
Results: Ninety-three hospitals (59 WA/ 34 OR) responded to the survey, a 59% response rate. 58% of the respondents used NPs and or PAs. Larger, urban hospitals who reported overcrowding employed these providers more often than smaller, rural hospitals in both States. Chi-square statistics showed a significant interaction between size ($p<.05$), location ($p<.05$) and the use of NP/PAs. Nurse practitioners/PAs were used in a variety of staffing models: 59% in ED seeing non-emergent patients only, 50% in ED seeing both emergent and non-emergent patients and 46% in a designated non-emergent area. 17% of mangers employing and supervising NPs & PAs were unclear on the differences between the roles. 89% of managers indicated that the use of these providers improved timeliness of ED care by decreasing wait times and lengths of stay in the ED. 48% of the mangers that employed NPs/PAs indicated a willingness to be further interviewed.
Implications: The findings of this study provided data on how this workforce delivered care in ED systems. These data will help ED managers understand the dynamics of the NP/PA roles to ensure that billing, supervision and management of these providers is optimal. The findings of this research will inform current practice and may help to drive policy at the micro and macro levels for the optimal staffing model in EDs. Future studies to evaluate models of care that include NPs/PAs to improve access to acute and urgent care, patient safety, and clinical outcomes while decreasing overcrowding need to be completed.

NURSES' SPIRITUAL CARE PRACTICES: ASSESSMENT, TYPE, FREQUENCY, AND CORRELATES

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Purposes/Aims: The purpose of this study was to explore the type, frequency, and correlates of nurses' spiritual care practices in a faith-based, tertiary care health system.
Rationale/Background: Although research has established a pervasive positive attitude of nurses towards patient spirituality, there is scant evidence that attention to the spiritual domain, in fact, is a priority in acute nursing care. In the absence of psychometrically-sound assessment instruments to measure nurses' spiritual care practices, researchers have relied on nurses' attitudes and perceptions as a proxy measure for their spiritual care practice and have studied various specialty environments, such as oncology, hospice, and parish nursing. Few studies allow for comparisons across different nursing specialties. Nurses' spirituality and religiousness have been associated with a more positive attitude towards spiritual care; however, it has not been established what nurse-specific and organizational factors are associated with nurses' actual spiritual care practices.
Methods: In a descriptive, correlational study, a convenience sample of 554 (24%) of the Registered Nurses employed at a western United States health system participated in an online survey. Nurses' spiritual care practices were assessed using the 17-item Nurses' Spiritual Care Practice Questionnaire (NSCQ). Factorial validity and reliability of the NSCQ were established. After descriptive analyses, bivariate and multivariate statistical analyses were conducted to determine the factors that were associated with the frequency of providing spiritual care.
Results: Spiritual care practices most frequently endorsed were "remaining with a patient after completing a task to show caring," "assessing patients' spiritual beliefs pertaining to health," "listening to patients' stories of illness," and "listening to patients' spiritual concerns." Although nurses' mean spiritual care practice scores were relatively low, item endorsement showed variability. Bivariate analyses revealed associations between nurses' spirituality, religiousness, and work environment and the dependent variable, nurses' spiritual care practices. Working day shift, past education in spiritual care, and nurses' comfort level with spiritual care also were significant. No demographic variables were significant. Predictors in the final multivariate model (in order of strength) were: nurses' perception that spiritual issues at the work place came up frequently, nurses being more spiritual, nurses not working in pediatric care, and nurses having received education about spiritual care in the past.
Implications: Although the findings of this study may be most representative of nurses practicing in a faith-based, tertiary care environment, they also may be informative about spiritual care behaviors of nurses who self-report as both spiritual and religious. It is noteworthy that listening and assessing items were among the most frequently endorsed spiritual care practices of nurses also scoring high on the spiritual and religious measures. The fact that nurses who previously received education about spiritual care scored higher on the NSCQ encourages efforts to train nurses in spiritual care. Last, the study introduces a new, reliable assessment instrument for nurses spiritual care practices that may be useful for adult acute and mental healthcare.

DO THEY REALLY CARE? HOW TRAUMA PATIENTS PERCEIVE NURSES' CARING BEHAVIORS

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Purpose/Aims: To assess how critically injured trauma patients perceive caring behaviors in their nurses.

Background: Nightingale wrote that caring is the foundation of nursing practice. Boykin and Schoenhoffer (1993) developed the theory of Nursing as Caring, in which caring is seen as a dynamic process that exists within shared experiences between the nurse and the patient.

The 2008 Essentials of Baccalaureate Education from the American Association of Colleges of Nursing states that nurses practice from a "holistic, caring framework." There is very little research, though, on how caring is perceived by patients, especially those in critical care areas of the healthcare arena. Research conducted on caring with injured patients has included patients who have fairly minor injuries. Less research has examined how the most critically injured patients perceive caring behaviors in their nurses. Hayes and Tyler-Ball (2007) researched 70 trauma patients to determine their perceptions of nurse caring behaviors using the Caring Behaviors Inventory (CBI), a 42-item questionnaire with a 6-point Likert rating for each item. While they were able to identify which caring behaviors were ranked most highly, and which left some room for improvement, they did not find any differences based on the gender or ethnicity of the patients. The current study utilized the CBI with critically injured trauma patients in a different region of the country.

Methods: One hundred and five moderately to severely injured adult trauma patients agreed to participate in the study. In a one-to-one interview format a researcher read 42 items describing nursing behaviors from the Caring Behaviors Inventory to the patient and asked the patient to indicate his/her response on a six point scale from "never" to "always."

Results: Patients rated the caring behaviors of the nurses very highly (M=5.45, range of averages 4.52-5.75). The lowest rated items were touching the patient to communicate caring and being hopeful for the patient. The highest rated items were meeting the patient's stated and unstated needs, being confident with the patient, and giving the patient's treatments and medications on time. Factor analysis demonstrated that one factor explained 51.85% of the total variance. The instrument had internal consistency with a Cronbach's alpha of .974. There were significant differences ($p \leq .05$) based on gender with men placing a higher value on attentively listening to the patient and putting the patient first. Six items were rated significantly higher in Latino patients but there were only 4 Latinos in the study. However, this finding is in accord with the data found in a companion family study and bears a closer investigation with a larger Latino sample size in the future.

Implications: Moderately to severely injured patients perceive nurses as caring with differences noted based on gender and ethnicity. The modified Caring Behaviors Inventory is quick to use and is reliable and valid.

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NURSE RESIDENTS' FIRST HAND ACCOUNTS ON TRANSITION TO PRACTICE

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Purposes/Aims: First year turn-over rates for new nurses in clinical practice are alarming. Studies reveal turn-over rates ranging from 35-61%. New nurses experience stress related to the high levels of patient acuity and the increasing complexity of the health care environment. These factors have a direct influence on clinical competence and patient safety. Other studies found that new nurses who were assigned clinical preceptors demonstrated higher levels of clinical competency, experienced lower levels of stress, made fewer practice errors, and were less likely to leave their nursing position. The purpose of this study was to elicit Nurse Residents' perceptions of their "lived experience" in the first year of their residency in a Magnet hospital in the northwest. The study also assessed Residents' level of satisfaction with their nursing practice.

Rationale/Background/Conceptual Framework: Graduates from nursing programs present myriad challenges to their hiring institutions. Many new nurses do not meet basic clinical competencies, lack critical judgment skills, and many are ill-prepared to meet the emotional demands of their first year in nursing practice. Starting a new job, working long hours and multiple shifts, as well as caring for severely ill patients can result in high levels of emotional stress, physiological distress, and high turn-over rates. Nurse Residency Programs may significantly ease the transition of new graduates into the practice setting. This study utilizes Benner's conceptual framework as the new graduate nurse enters the Residency Program as an advance beginner and perceives clinical situations differently than nurses in more advanced roles.

Methods: After receiving Human Subjects approval, and obtaining verbal consent, 37 of 83 (44.6%) Nurse Residents participated in nine separate focus groups and responded to 10 open-ended questions using Krueger's Systematic Process. The Residents' verbal comments were transcribed verbatim into spreadsheets. The researcher read and re-read the transcripts to be fully immersed in the data. Significant statements were formulated into themes until saturation of the data was reached. The themes were further reduced and organized into a final summary statement. Eighteen of 37 (48.6%) Residents reviewed the final summary to provide trustworthiness and confirmability of the findings through "member checking."

Results: Overall, Residents were satisfied with their employment and all would recommend this institution to other nurses. The Residents reported being stressed by a number of factors including missing something important that could result in patient harm or death, feeling that their nursing education did not adequately prepared them for practice, and being paired with inadequate preceptors. Residents also identified a lack of communication, inadequate staffing patterns, redundant paperwork, and organizational issues as areas for improvement. Residents identified belonging to a friendly and helpful team, making a positive difference in patients' lives, and gaining confidence and experience in their new role as enjoyable aspects of their employment.

Implications: Understanding the "lived experience" of Nurse Residents in their transition from education to practice using Benner's framework is useful in developing and implementing orientation and transition programs for new graduates. Doing so will improve patient outcomes and positively impact nurse recruitment and retention efforts.

This study was funded in part by St. Luke's Regional Medical Center, Boise, Idaho.

PHYSIOLOGIC MEASURES

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POST-HEMORRHAGIC PRE-RESUSCITATION CONDITIONING USING DIAZOXIDE INCREASES HSP25 AND HSP70 IN THE CEREBRAL CORTEX AND HIPPOCAMPUS

Michael W. Bentley, Joseph T. McCabe

BONE MINERAL DENSITY INFLUENCE ON HEALTH BEHAVIOR IN MALE ATHLETES

Leah FitzGerald, Zhongqi Weng

THE EFFECT OF A SELF-MANAGEMENT PROGRAM ON CORTISOL LEVELS IN IRRITABLE BOWEL SYNDROME

Wimon Deechakawan, Margaret M. Heitkemper, Monica E. Jarrett, Kevin C. Cain

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GENE EXPRESSION DIFFERENCES IN AGING MOUSE MUSCLE TREATED WITH AZT

Joachim G. Voss, Cassandra Steiner, Lawrence Adams, Jonathan Wanagat, David J. Marcinek, Peter S. Rabinovitch

POST-HEMORRHAGIC PRE-RESUSCITATION CONDITIONING USING DIAZOXIDE INCREASES HSP25 AND HSP70 IN THE CEREBRAL CORTEX AND HIPPOCAMPUS

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The purpose of this investigation was to determine the capacity of diazoxide, a mitochondrial potassium ATP sensitive channel opener, as part of a post-injury resuscitation protocol to elicit the cerebral expression of cytoprotective proteins, HSP25 and HSP70 in laboratory rats that had sustained hemorrhagic shock. Hemorrhagic shock resulting from injury is the most common cause of traumatic death in both civilian and military settings. In addition, the majority of victims have a coinciding head injury. Resuscitative measures that are useful subsequent to hemorrhagic injury are few. As a result, our team investigated the hypothesis that diazoxide (DZ), a mitochondrial KATP channel opener, could be used during resuscitation to induce a postconditioning effect in a laboratory animal model of hemorrhagic shock with concomitant cerebral ischemic injury. Male Sprague-Dawley rats underwent a 40% hemorrhage and resuscitation one hour later. Diazoxide was administered at one of three time points: 20 minutes before the onset of resuscitation, at the time that resuscitation began, or 20 minutes after the initiation of resuscitation. Western blotting and immunohistochemistry techniques were used to assess the ability of DZ to elevate the expression of the cytoprotective heat shock proteins (HSP) HSP25 and HSP70 within the cerebral cortex and hippocampus following hemorrhagic injury. When DZ was administered intravenously 20 minutes prior to resuscitative efforts following hemorrhagic shock, HSP25 and HSP70 exhibited marked upregulation. These results suggest that following a traumatic hemorrhagic injury, neuroprotection may be conferred when giving a mitochondrial potassium ATP sensitive channel opener prior to the onset of fluid resuscitation efforts.

This grant was support by Triservice Nursing Research Program Grant HU0001-08-1-TS05.

BONE MINERAL DENSITY INFLUENCE ON HEALTH BEHAVIOR IN MALE ATHLETES

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Purposes/Aims: The aim of this study was to determine the role of bone mineral density (BMD) in influencing health related behaviors of serious leisure male athletes at risk for osteoporosis.

Background: Osteoporosis is a disease of the skeletal system in which BMD is reduced and bone microarchitecture is deteriorated, leading to decreased bone density and strength, increasing the risk for fracture. Although exercise is generally accepted as having favorable physical and psychological benefits, including promoting bone health and often recommended for both prevention and treatment of low BMD, in some settings, exercise has been negatively associated with BMD values. For example, several studies have demonstrated that non-weigh bearing exercise (i.e. cycling) is negatively associated with BMD values. Serious leisure cyclists are fitness seeking enthusiasts who ride competitively 8 or more hours a week. Limited data exists on BMD and fracture risk in these athletes, and even less data are available on whether BMD results affect serious leisure male athletes' health related behavior and attitude toward bone health.

Methods: Subjects included 63 healthy male athletes (47 cyclists/16 triathletes) ages18-60 years. Baseline assessments data included measurements of BMD by dual energy x-ray absorptiomtry (DEXA). Questionnaire assessment was made of exercise behavior, caffeine intake, SES, alcohol, education, and marital status. BMD results were reviewed and participants received written materials on osteoporosis, calcium, and Vitamin D. Approximately one year following initial DEXA testing, participants were asked to complete an online survey questionnaire to assess any bone health related behavior changes.

Results: 41 of the 63 subjects (65%) responded to the online survey and among them 27 (43%) were classified as having normal bone density, 15 (24%) were classified as osteopenic according to the WHO BMD classification. We found that serious leisure male athletes with low BMD had significantly higher family income ($p=0.05$) and consumed greater amounts of caffeine ($p<0.05$) compared to the athletes with normal BMD. No difference between age, ethnicity, education, marital status, and alcohol intake was found between the two groups. Online survey results showed that athletes with low BMD were more likely to initiate or increase calcium supplementation ($p<0.01$), incorporate weight bearing exercises ($p=0.04$), and increase the frequency and intensity ($p=0.05$) of weight bearing exercise compared to men with normal BMD.

Implications: In summary, after learning of their bone density results, serious leisure male athletes with low BMD are more likely to initiate significant health related behavioral changes, however, they are neither more likely to make significant lifestyle changes nor alter the intensity of non-weight bearing exercise. Our form of patient education lead to a significant increase in calcium supplements usage and a trend in increased intensity of weight bearing activity, which over time, may be effective in increasing BMD in these athletes. There needs to be a greater awareness on the clinician and it is necessary to assess risk in this population. There is a need for research to examine bone loss in the sub-culture of the "serious leisure" cyclists beyond an over simplistic "one size fits all" interpretation.

THE EFFECT OF A SELF-MANAGEMENT PROGRAM ON CORTISOL LEVELS IN IRRITABLE BOWEL SYNDROME

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Purpose: To examine the effect of a comprehensive self management (CSM) program on urinary cortisol levels in men and women with irritable bowel syndrome (IBS) at the 6-month follow-up assessment compared to baseline.

Background: Stress may exacerbate IBS symptoms. Patients with IBS report not only chronic gastrointestinal (GI) symptoms but also psychological distress. One possible link between stress and IBS symptoms is the dysregulation of the hypothalamic-pituitary-adrenal axis and subsequent secretion of cortisol. The CSM program significantly decreases GI symptoms and improves quality of life. An intervention study has reported a reduction trend of urinary cortisol levels in women with IBS after treatment. Non-IBS controls report less intense stress and lower levels of daily stress than women with IBS.

Methods: This secondary analysis used data collected in a randomized controlled trial of 188 women and 33 men with IBS who met Rome II criteria and were 18-70 years of age. The participants that met the eligibility criteria were randomized to either the CSM program in-person or predominantly by telephone or usual care (UC). The first morning urine cortisol data was collected once a week for four weeks during the baseline assessment and during the six month follow-up assessment. Urinary cortisol concentration was divided by urinary creatinine concentration in order to control for urine concentration.

Results: Based on an ANCOVA controlling for baseline, there was no evidence of a significant treatment effect on urinary cortisol. Based on the baseline samples, there was a significant association of cortisol levels with age (p=0.01); however, the relationship became non-significant when creatinine and gender were included in the model. There was no significant difference in cortisol levels between women and men at baseline and the 6- month follow up. Creatinine levels at baseline and the 6-month follow up data collection point showed a strong association with age and gender: higher levels for men than women (p<.001) at baseline and lower creatinine levels found in older ages (p<.001).

Conclusion: Despite marked improvements in psychological distress and GI symptoms, the CSM program showed no effect on cortisol levels in men and women with IBS. Additional work exploring the relationship between the exacerbation of GI symptoms and psychological distress and stress-related hormones, e.g. cortisol and catecholamine levels, is underway. First void urine cortisol levels may not capture changes in stress activation and additional measures, e.g. salivary cortisol, 24hr urine cortisol, should be explored.

This study was funded by National Institute of Nursing Research funded grant NR004142.

GENE EXPRESSION DIFFERENCES IN AGING MOUSE MUSCLE TREATED WITH AZT

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Purpose: The purpose of this project was to determine the effects of azidothymidine (AZT) on gene expression of mitochondrially relevant genes in skeletal muscle of aging mice. A secondary aim was to develop a sensitive and reproducible protocol for reverse transcription polymerase chain reaction (RT-PCR).
Background: Antiretroviral therapy (ART) significantly increased life expectancy in HIV disease. By 2020, 50% of HIV patients will be over 50 years of age. The interactions between ARTs and aging are poorly understood. The nucleoside reverse transcriptase inhibitor (NRTI) AZT is considered a backbone of ART. Unfortunately, the clinical usefulness of AZT is limited by its toxicity, notably being associated with dysfunction of mitochondria from inhibition of DNA replication. Mitochondria supply ATP for sustained muscle activity, impairment of mitochondrial ATP production results in reduced muscle function. Similar pathology has been observed in aged muscle.
Methods: Young (7 month) and old (27 month) wild type mice, were administered either 240 mg AZT/kg/day treatment in drinking water or water alone. Mice were sacrificed after 5 weeks and RNA was obtained from quadriceps skeletal muscle. Reverse transcription was compared between the Promega and ABI Reverse Transcription kits. RT- PCR was performed in triplicate and data was analyzed using the DeltaDelta cT method. Results were normalized to two housekeeping genes (18S rRNA and GAPDH). Genes investigated included: thymidine kinase 2 (TK2), DIABLO, cytochrome c oxidase subunit 2 (COX2), core protein II subunit of the mitochondrial cytochrome bc1 complex **(**UQCRC2), succinate dehydrogenase complex, subunit B (SDHB), and translocase of inner mitochondrial membrane 17 homolog B (Timm17b). These genes were selected based on published data.
Results: After optimization of the protocol with a 1 hour RT amplification time and 18S as normalizing gene, RT-PCR data was established for 22 mice. Experiments were repeated twice under the same conditions to determine reproducibility of the protocol. Between the 2 studies, the expression levels of 4 of the 5 genes were consistent (TK2, TIMM17B, SDHB and DIABLO). TK2 gene expression between young and old control animals was the same, while old animals treated with AZT showed a 50% increase in expression compared to young mice. SDHB expression was 40% lower in old vs. young controls. AZT further suppressed SDHB expression by another 30% in old AZT-treated compared to old control mice. DIABLO was 40% higher in old vs. young controls. When treated with AZT, DIABLO expression was 100% higher in younger animals compared to old mice. The results from the TIMM17B gene expression indicate only a small decline in old animals with AZT compared to old controls; while no difference was observed in the young treated and control mice.
Implications: We confirmed previous results that mitochondrially relevant genes change with AZT administration. We demonstrated that age and AZT treatment have a significant impact on gene expression such as in TK2. Further studies will show whether the observed gene expression findings translate into protein changes and what the implications of these gene changes are for treatment and monitoring of older adults living with HIV.

POTPOURRI: CARDIOTHORACIC STUDIES

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COMPARISON OF CHEST PHYSIOTHERAPY METHODS ON PREFERENCE POST-LUNG TRANSPLANT

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QUALITY OF RECOVERY IN OLDER ADULTS FOLLOWING CARDIAC SURGERY

Katherine M. Aldrich, Nancy Stotts, Virginia Carrieri-Kohlman, Mark Rollins

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THERAPEUTIC HYPOTHERMIA IN A CARDIOVASCULAR SPECIALTY HOSPITAL

Lauren Woffinden, Patty Wilson, Jody Bock, Candy Cross

PATIENTS´ EXPERIENCE OF PHYSICAL LIMITATION – A PHENOMEGRAPHIC ANALYSIS

Jan Mårtensson, Bengt Fridlund, Emma Pihl

ROLE OF LEBANESE FAMILY CAREGIVERS IN ENHANCING CARDIAC PATIENTS' SELF-CARE PRACTICES

Nuhad Yazbik Dumit

COMPARISON OF CHEST PHYSIOTHERAPY METHODS ON PREFERENCE POST-LUNG TRANSPLANT

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Purpose: The purpose of this feasibility pilot study is to evaluate the effect of chest physiotherapy (CPT) and high frequency chest wall oscillation (HFCWO) on patient preference among post-lung transplant (LT) patients.

Background: Chest physiotherapy and HCFWO are routinely used in LT recipients to facilitate the removal of secretions containing destructive by-products of inflammation and entrapped pathogens. Conventional CPT techniques are most commonly performed by nurses, and are practitioner-dependent in terms of the frequency, duration, and effectiveness. Contemporary HFCWO may increase rates of lung recovery as well as or better than CPT, with fewer contraindications and disadvantages. To date, there are no studies that investigate which therapy is more comfortable and preferred by post-LT patients. This is an important clinical question. Patients who have less pain will mobilize secretions more frequently, require fewer medications, and are apt to heal and recover faster.

Methods: In a 2-group experimental study conducted on post-operative day 3, 37 post-LT patients (21 single [SLT], 16 bilateral [BLT], 70 % male, mean age 57 years) were assigned randomly to either CPT first (10 AM & 2 PM) followed by HFCWO (6 PM & 10 PM; n=18) or vice versa (n=19). At the end of the treatment (Tx) sequence, a 4-item patient survey assessed Tx preference and effectiveness. Data were analyzed with Chi-Square, t-tests and repeated measures analysis of variance. Open-ended survey responses were analyzed for meaning and overall themes.

Results: Among BLT, patients favored HFCWO over CPT (75% vs. 25%); while SLTs tended to favor CPT over HFCWO (55% vs. 40%; p=0.073). Most patients reported HFCWO as less painful than CPT (50% vs. 38%); 12% reported the Tx methods as equivalent. Across time points, there was a 3-way interaction between the preferred Tx being less painful by survey, Tx method, and VNPS score (F=3.55, p=0.02). Less painful ratings were consistent with VNPS scores during the preferred Tx method. SLT and BLT patients reported preferences towards HFCWO as an effective Tx due to improved airway clearance, longer length of Tx, and comfort. Those who preferred CPT cited the effectiveness of the Tx as more directed and less technical.

Implications: Findings clearly suggest BLT patients prefer HFCWO over CPT. Overall, HFCWO was perceived as less painful than CPT. HFCWO may provide targeted clinical benefit in the BLT population. Further investigation is warranted in a multicenter, comparative study to elucidate Tx preferences post-LT.

Supported by grants from the American Association of Critical-Care Nurses, American Nurses Foundation, and Sigma Theta Tau International.

QUALITY OF RECOVERY IN OLDER ADULTS FOLLOWING CARDIAC SURGERY

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Purpose: Little is known about quality of recovery (QoR) in older adults during the first 30 days after cardiac surgery. Older adults are less likely to regain prior functional status by hospital discharge and temporary postoperative functional loss may become permanent, adversely affecting QoR. A descriptive repeated measures design was used to: examine relationships between pain, wound healing, surgical risk, functional status, mood, quality of life (QoL) and QoR at discharge and 30 days; estimate effects of change over time in functional status, mood and QoL on the change in QoR from discharge to 30 days; and describe factors hindering or promoting recovery and the amount of recovery achieved by older adults 30 days after cardiac surgery.
Methods: Functional status, (ability to perform basic/intermediate activities of daily living [BADL, IADL]), mood, and QoL were assessed preoperatively, at discharge, and at 30 days using the Functional Status Questionnaire, Profile of Mood States Short Form and the Quality of Life Index. Wound healing and pain were assessed for the first five postoperative days and at 30 days using ASEPSIS and an 11–point NRS. QoR was measured with the QoR-40 at discharge and 30 days. Promoters, inhibitors, and percentage of achieved recovery were assessed at 30 days.
Results: Subjects (n=62) were $\geq$ 65 years with a mean age of 75.9 ($\pm$7.0) and mostly male (74.2%). Half had OPCAB surgery. Mean surgical risk was 5.6% ($\pm$9.8). QoR at discharge and 30 days was positively correlated with preoperative BADL and IADL (rho=.35, .37; .46, .27). QoR at 30 days was positively correlated with preoperative mood and QoL (rho=-.43, .53). Negative binomial regression models predicted a 19-point increase in QoR over time as ability to perform IADLs improved. At 30 days, family support was the greatest promoter of recovery and mobility limits the greatest barrier to recovery, while 84% of participants felt at least 50% recovered.
Conclusions: Preoperative function, progressive improvement after surgery, and family support significantly enhances 30-day QoR in older cardiac surgery patients. Limited mobility is a barrier to recovery. Optimizing functional ability and mobility in the first postoperative month may lead to improved QoR in older cardiac surgery patients.

THERAPEUTIC HYPOTHERMIA IN A CARDIOVASCULAR SPECIALTY HOSPITAL

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Purpose: Banner Heart Hospital is a 111-bed cardiovascular specialty hospital providing medical, interventional, and surgical services to the surrounding community. To better meet the needs of the patients we serve, Banner Heart Hospital began the journey to develop a comprehensive therapeutic hypothermia process, in partnership with local emergency medical services and the emergency department.

Background: Sudden cardiac arrest (CA) outside the hospital is the leading cause of unexpected death in North America, with survival rates estimated to be as low as 6.4%. For those few people that do survive, the anoxic brain injury and subsequent cellular death causes varying degrees of neurological dysfunction and brain damage. In one study, it was noted that only 2% of the surviving patients will be discharged with minor to no neurological deficits following sudden CA. After the publication of two randomized controlled trials (RCTs) in 2002, the International Liaison Committee on Resuscitation (ILCOR) adopted guidelines for therapeutic hypothermia after an out-of-hospital cardiac arrest. Recommendations from the American Heart Association (AHA) soon followed and are found in their Emergency Cardiac Care guidelines. Therapeutic hypothermia has been described as resuscitative measure that when adopted, leads to greater survival rates for this patient population.

Process: Banner Heart Hospital convened at team to begin the work of implementing a therapeutic hypothermia service on the campus. The multidisciplinary team developed a process and protocol for pre-hospital, emergency, and CVICU care of eligible patients following CA. Clinical staff were supported with education and the availability of facility expert resources.

Outcomes: From November 2008 – June 2009, 10 patients were eligible according to protocol and received the therapy. The patients were scored using the Cerebral Performance Category (CBC) scale. Patients discharged with a score of CPC 1 are considered to have "good cerebral performance: conscious, alert, able to work, might have mild neurological or psychological deficit." The data demonstrates that 50% of the patients treated with therapeutic hypothermia received a CPC 1 score. The outcomes will be fully described in the presentation or poster.

Conclusions: Implementation of therapeutic hypothermia was successful and has added value to the services we provide to the community. In October 2008, Banner Heart Hospital was named a Cardiac Arrest Center by the Arizona Department of Health Services and Bureau of Emergency Medical Services. We continue to participate in data collection to demonstrate patient outcomes associated with therapeutic hypothermia.

PATIENTS´ EXPERIENCE OF PHYSICAL LIMITATION – A PHENOMEGRAPHIC ANALYSIS

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Background: Impairment in physical functioning has shown to be the most striking finding in the sample of older adults suffering from heart failure. Daily activity is an important clinical outcome in chronic diseases, especially for older frail patients in whom prolongation of life may not always be the primary aim of therapy. One goal of healthcare must be to maximize function in daily life within the specific limits imposed by the disease. It is of great importance to find what parts of the physical limitation in daily life the patient find most troublesome in order to be able to support the patients to take responsibility in the self care area.
Aim: To describe how patients suffering from heart failure conceive their physical limitations in daily life activities.
Method: A qualitative and explorative design with a phenomenographic approach was chosen for the study in order to explore the qualitative variations in the participants' conceptions of limitation in the physical function in daily life. The informants were 15 old patients, collected from a heart failure clinic in a county hospital in south west of Sweden.
Results: The participants perceived a variety of aspects regarding physical limitation in daily life activities. The referential aspects were *to find practical solutions in daily life, to have a realistic belief in the future, to distrust your own ability and to lose your social role in the society.*
Conclusion: Mistrust in own physical capacity along with experienced limitations in daily life stopped the patients from further tries to changed activities whilst trying to do physical activities they used to and the discovery of kept functions filled the patients with satisfaction. Life sometimes had to be changed and other ways of doing daily life activities had to be invented to do important things in life and continue to do the things they used to do. Patients had an incentive to maintain functions and activities to keep up the good quality in daily life and even strengthen the capacity in daily life. Nurses have an important role in providing advices regarding physical activity to maintain physical capacity and competency in the principles of efficient physical training would ensure clarity when advising patients suffering from heart failure.

ROLE OF LEBANESE FAMILY CAREGIVERS IN ENHANCING CARDIAC PATIENTS' SELF-CARE PRACTICES

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In Lebanon cardiovascular diseases are the leading causes of mortality and morbidity. Assisting people to live with cardiac illness is a problem needing attention. Living with cardiac illness may have different meanings by different cultures; some may consider practicing self-care independently a part of living with the illness and others may have different views. Western literature indicated that self-care is an independent individual role however, when patients are no longer able to care for themselves informal caregivers such as family members mainly females take on the responsibility of caregiving. The family is perceived as the cornerstone of the society whereby relationship ties play significant role in taking part of health care for any family member who is ill. Cardiac caregivers' role relates to providing assistance to patients who have been hospitalized due to cardiovascular disease in terms of administering medications, accompanying patient to clinic, and preparing prescribed meals. It is common knowledge that in Lebanon family-caregivers assume the role of not only care-giving but also make decisions on behalf of the patient; however, no study has been done to empirically document this impression.

The purpose of this study was to explore perceptions of cardiac self-care among Lebanese family caregivers of cardiac patients. The specific aims were: to describe the cultural context of cardiac caregiving in Lebanon and to explore roles of family caregivers in enhancing self-care practices in cardiac patients.

Using a qualitative descriptive design informed by ethnography, semi-structured interviews were conducted with a purposive sample of 13 family caregivers of Lebanese cardiac patients recruited from a referral medical center in Lebanon. Data analysis identified one overarching and three themes describing the role of cardiac caregivers in enhancing self-care practices in cardiac patients within the Lebanese cultural context.

The overarching cultural theme was: Lebanese family caregivers of cardiac patients were unfamiliar with the term, concept, and meaning of Self-Care. Obligation and responsibility towards their patients (Theme I) was seen through the moral and emotional duty to take care of the family member even if he/she can take care of her/himself in addition to the shift of responsibility from the patient to the family caregiver. Interdependent care (Theme II) between the cardiac patient and the rest of the family members emerged as a significant cultural role. Family members play varied and multiple supportive roles in cardiac caregiving (Theme III) such as the emotional role (staying beside the person/companionship, favoring the other over self), the informational role, and the instrumental role.

Participants' stories demonstrated culturally significant findings leading to implications for nursing practice with Lebanese cardiac patients and families and pointed to future research with this population. One of the first investigations to explore cardiac caregiving to enhance cardiac self-care in Lebanon, the significance of this study was to clarify the concept of self-care as managing illness with the support of family, implying a need to provide culturally sensitive patient/family education and nursing interventions.

PROFESSIONAL NURSING PRACTICE ISSUES

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NURSE MANAGER COGNITIVE DECISION-MAKING

Maria R. Shirey

RECOGNITION OF MORAL DISTRESS AMONG A CONVENIENCE SAMPLE OF IDAHO NURSES

Shoni Davis, Vivian Schrader

SHEDDING LIGHT ON NURSE-TO-NURSE CONFLICT

Cheryl Bowles, Lori Candela

FAILURE TO RESCUE AND LINKS TO NURSE TO NURSE COMMUNICATION

Jane M. Carrington

NURSING SURVEILLENCE: AN OBSERVATIONAL STUDY

Jacqueline Jones

STRESS, HARDINESS AND LEADERSHIP STYLE: FACTORS THAT FOSTER NURSE MANAGER SURVIVAL

Sarah E. Nash, Jaynelle F. Stichler

NURSE MANAGER COGNITIVE DECISION-MAKING

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Purpose: The purpose of this study was to provide a qualitative description of nurse manager cognitive decision-making using a stress, coping, and complexity lens.
Background: Patient safety research has established a link between healthcare work environment complexity and the cognitive work of staff nurses. Although nurse managers play a pivotal role creating the work environment for staff nurses and for patient care quality and safety, research to date has not explored nurse manager cognitive decision-making.
Methods: This qualitative descriptive study used a sample of 21 nurse managers from three acute care hospitals to answer the research question: What decision-making processes do nurse managers utilize to address stressful situations in their nurse manager role? Face-to-face interviews incorporating components of the Critical Decision Method were used to generate a cognitive task analysis that illuminated expert-novice practice differences. Content analysis identified one major theme and two sub-themes amenable to intervention.
Results: This study produced a cognitive model that guides nurse manager decision-making related to stressful situations. Experience in the role, organizational context, and situation factors influenced nurse manager cognitive decision-making.
Conclusion: Findings from this study suggest two major conclusions and implications. First, chronic exposure to stress and work complexity has potential long-term health effects that may negatively affect nurse manager decision-making and patient care quality and safety. Empowering organizational cultures and supportive work environments are crucial to facilitate nurse manager peak performance and maintain nurse manager health. Second, cognitive decision-making differences based on nurse manager experience present coaching, mentoring, and succession planning implications. Because expert nurse managers possess a wealth of knowledge that must be captured, organizations even in times of economic constraints must support novice nurse manager mentorship programs. These mentorship programs are often an afterthought, however, they serve a crucial function that facilitates knowledge transfer, expedites role proficiency, and enhances nurse manager decision-making quality.

RECOGNITION OF MORAL DISTRESS AMONG A CONVENIENCE SAMPLE OF IDAHO NURSES

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Purposes/Aims: The purpose of this study was to explore how a convenience sample of Idaho nurses (RNs and LPNs) perceives issues associated with moral distress. Also of interest was whether the nursing code of ethics is perceived as a useful tool in addressing morally distressing situations among the sample.

Rationale/Conceptual Basis/Background: In today's work force, nurses face moral distress in maintaining their personal morals and conscience while at the same time carrying out their duty to the patient. Moral distress, defined for this study as knowing the right thing to do but being unable to perform the morally correct action because of institutional constraints, can lead to decreased coping and self esteem in nurses and ultimately to an inability to give good patient care. Furthermore, moral distress can lead to burnout among nurses and impact attrition.

Methods: The researchers developed a survey to explore recognition of moral distress and types of situations that result in moral conflict among a convenience sample of 1,500 RNs and 848 LPNs Idaho nurses. A partnership between the BSU Nursing Department and the Idaho State Board of Nursing (ISBON) allowed the researchers to access the nurse license renewal process to collect survey data. Descriptive statistics were used to identify moral distress, types of morally distressing situations, and whether the code of ethics is perceived to be useful in guiding nursing practice and correlational statistics were used to explore associations between moral distress and demographic variables among the sample.

Results: While only 15% of the sample identified having experienced moral distress in relation to their nursing practice nearly 33% of the sample perceived moral distress as a cause of burn-out among their co-workers. Sixty-five percent of the sample did not believe that they should be required to provide patient care that is against their religious or moral values except in life-threatening emergencies even though the majority identified the nursing code of ethics as a useful tool to guide nursing practice. Although nearly half of Idaho nurses work in rural settings, they did not perceive moral distress significantly different from nurses who work in urban settings.

Implications: Scant literature exists that inform educators and healthcare leaders in Idaho about issues related to moral distress among Idaho nurses and its potential impact on patient care and nursing attrition. This is an important topic concerning the Idaho nursing work-force since nearly half of Idaho nurses work in rural settings where they are often isolated and required to make independent decisions about healthcare delivery. While experiencing similar stressors as nurses who work in urban settings, rural nurses tend to experience a higher frequency and degree of intensity of stress, thus making them more prone to moral distress. Further research is needed to explore how issues of moral distress impact nurses in various settings and clinical situations.

Funding for this study was supported by an internal faculty grant from the BSU Dept. of Nursing. The study received approval from the BSU Institutional Review Board and the Idaho State Board of Nursing.

SHEDDING LIGHT ON NURSE-TO-NURSE CONFLICT

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Purpose: To better understand the frequency, types, severity, and effects of nurse-to-nurse conflict.

Background: The literature describes nurse abuse from patients, family members, physicians and frequently from other nurses. Abuse is usually verbal or nonverbal. The work environments where abuse occurs are known to contribute to worker stress, turnover and the overall nursing shortage. This ultimately affects patient care. Today, national healthcare organizations acknowledge the need for development of a 'culture of safety' concerning conflict in the work environment. Still, little attention has been focused on understanding nurse-to-nurse conflict.

Methods: The Verbal Abuse Scale (VAS), developed by Manderino and Banton, was modified to reflect verbal abuse of nurses by other nurses. The VAS is a Likert-type scale with 65 seven-point items consisting of eight subscales. Although the title of the VAS indicates measurement of verbal abuse, it also measures nonverbal abuse in addition to responses to the abusive experiences. Following IRB approval, a random sample of 2500 Nevada Nurses were mailed invitations to participate in the electronic survey. In addition, flyers were distributed to RN's at 5 large hospitals in northern and southern Nevada.

Results: 254 predominantly female (89%) Nevada RN's who were 40-59 (52%) and 20-39 (40%) years old completed the online survey. Most nurses had less than 5 years (32%) or over 20 years (33%) of practice experience in the hospital setting (67%). Staff nurses were the main source of verbal abuse (63%) with charge nurses (20%) and nurse supervisors (17%) also identified. Nurses identified predominant factors contributing to verbal abuse as high stress situations (70%) inadequate staffing (57%) administrative time and productivity pressures (52%) competence of the nurse (45). Verbal abuse was personally experienced by approximately 200 of these nurses several times a year (65%), more than monthly (20%) and once a week or more (13%). The most frequent types of verbal abuse reported include, abusive anger, judging-criticizing, accusing-blaming, blocking-diverting, abuse as jokes, discounting, trivializing, ignoring, and condescending with abusive anger, judging-criticizing, ignoring, and condescending as the most stressful to experience. Thirty-five or 14% indicated they had left a nursing position because of verbal abuse from other nurses. Statements by nurses who experienced abusive situations include: "Nurses that are verbally abusive, not helpful and nurturing, are poison." "It is a sorry state of affairs when an employee has no recourse but to resign a position she liked."

Implications: Results suggest that interpersonal conflict among nurses is occurring; affecting nurses and the care they provide. The literature indicates that patient safety is directly linked to staff conflicts and this unhealthy environment is likely a contributor to difficulties for health care facilities in recruiting and retaining staff nurses. Interventions such as interpersonal conflict educational programs must be designed and implemented for practicing nurses as well as developing and including this content in basic nursing education curricula. Limitations include the small sample size plus complexity and length of the VAS.

FAILURE TO RESCUE AND LINKS TO NURSE TO NURSE COMMUNICATION

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Purpose: The purpose of this research was to explore nurses' perceptions of the strengths and limitations of the electronic health record (EHR) to effectively communicate patient status associated with a clinical event. A clinical event was defined as an unexpected event experienced by a patient on medical, surgical, or telemetry nursing units that did not require a patient transfer.

Background: The link between nurse to nurse communication and failure to rescue or patient death associated with hospital complications, is not well understood.[1] Failure to rescue has been associated with organizational and unit level systems issues. However, few have studied nurse to nurse communication as an antecedent to failure to rescue. Nurse to nurse communication was defined for this study as nursing documentation using the EHR. Few studies have explored the effectiveness of the EHR as a communication system. These studies were limited in that nurses did not focus their perceptions on a specific event and nurses were not conceptualized by their role in the communication process (documenting and receiving nurses, for example).

Conceptual Framework: Tenets of Information Theory guided this research: sender, device, receiver, redundancy, and noise. Redundancy or repetition of the message increases information while noise is a disruption of the message, decreasing information. For this study, the sender was the documenting nurses, the device was the EHR, and the receiving nurses received the message. The perceived strengths and limitations of the EHR were characteristics of redundancy and noise, respectively.

Methods: Twenty documenting and 17 receiving nurses (N=37) were interviewed. Twenty-one clinical events were captured. Semi-structured interviews were used to elicit the nurses' perceptions. Trustworthiness was achieved through panel agreement of the coding scheme, an extensive audit trail, and documentation of decisions made during the study. Qualitative content analysis was used to identify the emergent thematic units.

Results: Five categories emerged: usability, legibility, communication, collaboration, and workaround. Documenting and receiving nurses differed in their perceptions of the effectiveness of the EHR as a communication system. Documenting nurses perceived structured documentation (communication) as a strength of the EHR and lack of retrievability and barriers (usability) as limitations. Receiving nurses perceived retrievability and easy to use (usability) as strengths and lack of structured documentation (communication) and save without signature (workaround) as limitations of the EHR. Both documenting and receiving nurses perceived the documentation as lacking relevance (communication).

Implications: These results suggest that the EHR both supports and constrains nurse to nurse communication of patient status associated with a clinical event. Those elements of the EHR that interfere with nurse to nurse communication need to be further explored to better understand nurse to nurse communication and failure to rescue.

1. Silber, JH., Williams, SV., Krakauer, H., & Schwartz, JS. (1992). Hospital and patient characteristics associated with death after surgery: a study of adverse occurrence and failure to rescue. *Medical Care, 30(7): 615-629.*

NURSING SURVEILLENCE: AN OBSERVATIONAL STUDY

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Specific Aims: The overall aim of this presentation is to explore nursing surveillance through the findings of an observational study of nursing activity conducted in the major Tertiary level cardiothoracic referral hospital for Queensland, the largest such unit in Australia.

Rationale: Nursing surveillance is a comparatively new term within acute care to describe the processes of ongoing observation and data collection including vigilant watching for physiological or behavioral changes during interactions with patients or whilst at a distance. It has cumulative, temporal and contextual aspects and is a collective effort of interventions delivered by multiple nurses over time, as well as interventions by individual nurses.

Methods: The aim of this study was to describe the activities undertaken by regulated and unregulated nursing staff across 3 wards (medical, surgical and sub acute) in a 550 bed public hospital. The data set consists of 32,609 episodes of 10 minute observation collected using work sampling technique. The focus of these analyses is two weeks of randomized empirical data collected over a nine week period using a structured observation tool. The data collection instrument previously used in other Australian studies and adapted from the US, identified 25 activities grouped into four categories, direct patient care, indirect care, unit related activities and personal activities.

Results: All nurses employed on each ward gave consent and were observed in this study (n=92). Age (mean 42, SD 10.2) and gender (male = 8.2%) of nurses within the sample were comparable to State demographics. Total nursing experience ranged from less than 1 year, a new graduate, to 45 years. Experience on the ward under study ranged from less than one year to 15 years. The table below illustrates an example of the direct care activities documented.

Implications: What nurses are doing and what they say they are doing can be a telling gap to explore in bringing nurses in closer proximity to patients for safety, to prevent failure to rescue and to build effective nursing surveillance system. The results of this study support that nursing numbers, nurse-patient ratios, qualifications and experience do not alone capture the nuances of the ‘way in which nurses work’; what nurses are doing ‘at the bedside or beyond’; the way in which they perform ‘surveillance’ as individuals, as a workgroup and as a unit to facilitate safe patient outcomes. In addition, it is clear that further research is needed to identify what ‘effective’ surveillance is.

STRESS, HARDINESS AND LEADERSHIP STYLE: FACTORS THAT FOSTER NURSE MANAGER SURVIVAL

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Introduction and Background: Conditions of stress are inherent to the clinical work environment. Nurse manager stress can result in negative behaviors, such as decreased sensitivity to others, and decreased supportive behaviors. The personality variable, hardiness, is one factor that helps to moderate stress. Hardiness is characterized by adaptability and the capability to set and appreciate high standards that also serve to enhance the ability to succeed as a leader. Nurse managers provide the link between upper management and the frontline staff. Effective leadership is essential to any organization. Transformational leaders are those that are charismatic, encouraging, communicative and mentoring. The skilled leader is able to maintain a positive outlook in times of stress and model these desired behaviors for staff. It was anticipated that stress would effect hardiness and leadership style.

Purpose: The purpose of this study was to investigate the relationships among nurse manager stress, hardiness and leadership style..

Significance to Nursing: Results of this study will provide information for future studies as well as an opportunity to establish leadership education programs that could be developed to address nurse manager stress.

Conceptual Framework This study is based on the occupational stress model, hardiness theory and contemporary leadership theory. A conceptual model combines these 3 theories to investigate the relationships among the variables of interest: stress, hardiness and leadership style.

Methods: The study used a cross-sectional correlational design. A convenience non-probability sample was used from a population of all nurse managers from five hospitals in a healthcare system in the southwestern region of the United States. IRB approvals were obtained from SDSU, the healthcare system and each study site. The variables of interest, stress, hardiness and leadership style were conceptually defined through a review of literature and operationalized using measures with known psychometric properties.

Results: The findings indicated that Stress (perceptions of stress scale) was correlated with the total hardiness scale (r=-.499, p< .01); hardiness was correlated with the total leadership practices scale (r=.379, p<.01), but leadership practices were not significantly correlated with stress When controlling for demographic variables that were correlated with leadership practices (perceived stress and hardiness did not significantly effect Leadership practices (LPI) total scale Perceived stress and the total hardiness scale were significantly and negatively correlated (r=-.499, p<.01) Hardiness (total scale) was significantly correlated with the LPI scale total (r=.379, p<.01). Pearson product moment correlations revealed no significant correlations between perceived stress and the total LPI scale nor any of its subscales. Multiple regression analyses were done to determine the strength of leadership practices' (LPI total scale and then all of the subscales) effect on perceived stress as the dependent variable. None of these regressions were significant; therefore, perceived stress did not effect leadership style.

RESEARCH IN PHYSICAL ACTIVITY

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DIFFERENCES IN GENDER PERCEPTIONS TO PARTICIPATING IN SCHOOL PE ACTIVITIES

Diane L. Thomason

PHYSICAL ACTIVITY PATTERNS IN ADOLESCENTS WITH DIABETES

Melissa Spezia Faulkner, Sara Fleet Michaliszyn, Daniel Lopez, Joseph T. Hepworth

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PERCEIVED BARRIERS & SOCIAL SUPPORT FOR PHYSICAL ACTIVITY AMONG THAI WORKING WOMEN

Yupawan Thongtanunam, Catherine Salveson

SLEEP, OBESITY, PHYSICAL ACTIVITY, AND INSULIN RESISTANCE IN ADOLESCENTS

Andrea M. Landis, Eleanor F. Bond

DIFFERENCES IN GENDER PERCEPTIONS TO PARTICIPATING IN SCHOOL PE ACTIVITIES

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Purpose/Aims: The purpose of this study was to determine and describe perceptual differences between male and female high school students' attitudes about factors that influence their school physical education (PE) participation. The six domains measured were: Self-Efficacy, PE Enjoyment, Personal Factors, Behavioral Control, Barriers, and Social Norms.
Background: Physical activity plays a critical role in the health and development of children and youth and schools have traditionally provided American youth with physical activity opportunities. Recent studies have reported a decline in adolescent school PE activities. One explanation for the decreasing levels of physical activity during adolescence is the number of perceived deterrents that make it difficult to participate in PE activities. However, the factors deterring PE participation are likely to be somewhat different for males and females.
Methods: Results of *t* tests from the Physical Education Activities Scale (PEAS), a 41 item scale using the Ecological framework, was used to describe perceived differences between the genders in a sample of high school adolescents (N=439) from two urban high schools in each of the six domains.
Results: There were significant differences in gender perceptions of what influenced PE activity participation overall ($p<.001$) and in each of the six domains ($p<.05$). Females perceived fewer overall positive environmental influences in school related to PE participation (M=7.89) than males (M=8.56). In the six domains, females perceived deterrents to PE participation included perceptions of less skill and competency to perform activities (Self-efficacy); PE as not being fun, but boring (Personal Enjoyment); not being offered activities they liked, not being able to use new equipment (Behavioral Control); not being able to choose the activity (Personal Factor); being embarrassed with their bodies, not liking the teacher choosing the activities (Barrier); as well as parents and peers negative attitudes towards PE (Social Norms).
Implications: The results suggest that strategies to address specific intrapersonal, interpersonal, and social-environmental deterrents to PE activity participation should be considered in PE activity programs for adolescent girls.

PHYSICAL ACTIVITY PATTERNS IN ADOLESCENTS WITH DIABETES

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Purposes/Aims: This study sought to discern monthly patterns of the intensity levels and durations of physical activity among adolescents with either type 1 diabetes mellitus (T1DM) or type 2 diabetes mellitus (T2DM) who were enrolled in a 16-week personalized exercise program. A secondary aim was to analyze physical activity patterns based upon gender or type of diabetes.

Background: According to the American Diabetes Association, the prevalence of diabetes increased 13.5% from 2005-2007 in the US. Approximately 1 out of 500 children and adolescents are diagnosed with diabetes. Physical activity is a hallmark of diabetes management and may help to diminish or prevent the development of secondary complications caused by diabetes. Limited research is available on physical activity interventions and adherence to activity with youth who have diabetes. Given the evidence that lifestyle behaviors track to adulthood, strategies to promote and sustain an active lifestyle early is paramount for youth living with diabetes. The personalized exercise program in this study was guided by social cognitive theory.

Methods: Participants were included if they were not actively exercising. Adolescents completed individual fitness testing and were instructed to wear an Actigraph™ GT1M accelerometer during waking hours throughout the 16-week intervention. We present time spent at different levels of intensity as the average in minutes/day for each month. Using metabolic equivalents (METs) as the measure of energy expenditure, we report the time that participants spent in moderate (≥3.0 to <6.0 METS) or moderate-to-vigorous (≥3.0 METS) physical activity (MVPA). Repeated measures analysis of variance using SPSS version 16.0 was used to determine monthly time differences and patterns in moderate activity or MVPA for the total sample, time by gender interactions and patterns, and time by diagnosis interactions and patterns.

Results: The sample consisted of 17 adolescents (10 males; 7 females); mean age, 14.1 ± 1.4 yrs. There were 13 with T1DM and 4 with T2DM whose duration of diabetes was 5.6 ± 3.4 vs. 1.1 ± 0.5 years, BMI was 22.8 ± 4.7 vs. 34.7 ± 9.1, and baseline A1c was 9.2 ± 1.7% vs. 7.4 ± 0.7%, respectively. There were no significant monthly differences in moderate activity or MVPA for the total sample or by gender. The total sample achieved an average of 41.6 ± 18.5 minutes/day of MVPA across all 4 months of the intervention. The difference in the mean MVPA minutes per day between adolescents with T2DM (M=53) and T1DM (M=39) suggested a trend [F (1,15)=2.59, p=.13]. Although there was no significant difference in baseline to post-test measures of A1c, there was a significant negative correlation between the average percent of MVPA and A1c change (r=-.54, P=.03).

Implications: Adolescents with diabetes who were previously inactive consistently achieved ≈ 42 minutes per day of MVPA throughout the intervention. There were no between-gender differences in physical activity intensity. However, adolescents with T2DM vs. T1DM exhibited longer durations of MVPA. Adolescents with greater amounts of MVPA had the largest decline in A1c levels, thus improved glucose control. Engaging adolescents with diabetes in regular MVPA can lower glucose levels.

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PERCEIVED BARRIERS & SOCIAL SUPPORT FOR PHYSICAL ACTIVITY AMONG THAI WORKING WOMEN

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Purpose: The purpose of this study was to: (1) describe physical activity (PA) among Thai working women and selected psycho-social factors including perceived benefits of PA, perceived barriers to PA, perceived social support for PA, and perceived self-efficacy to overcome those barriers; and (2) explore the relationship of their PA and these psycho-social factors.

Background: Cardiovascular disease (CVD) has become the leading causes of mortality and morbidity among middle-aged women in Thailand. A preponderance of evidence supports that physical inactivity is a major risk factor. Despite support for the benefits of PA in prevention of CVD, it is increasingly clear that some middle-aged women in urban areas still report low participation in regular exercise or moderate PA. Pender's Health Promotion Model (1996) offered a guide for exploration of the complex bio-psycho-social process that motivates an individual to engage in behaviors directed toward the enhancement of their health. Among Thai women, exercise participation was found to be significantly associated with perceptions of benefits of, barriers to, self-efficacy, and social support for exercise. However, there is no evidence of the relationship among all of these factors and overall PA.

Methods: The sample consisted of 45 office-based-working-women who participated in a Study of Using Motivational Interviewing for Promoting Physical Activity among Middle-aged Working Women in Thailand. Descriptive statistic were used to describe their total time for PA, energy expenditure for PA, perceived benefits and barriers, self-efficacy, and social support for PA. The Pearson Correlations was used to analyze the relationship between these psycho-social factors and PA outcomes.

Results: The mean age of the sample was 44 (range=40-53). Most women reported having low PA at work, of which 53% reported sitting/standing with some walking and 47% reported mainly sitting with slight arm movement. Based on their BMI, 27.4% of them were overweight and obese (19.6% and 7.8%). The average total minutes for PA per week was 422.39 minutes (SD=320.66) and the average total energy expenditure from PA per week were 1,514.80 calories (SD=1,236.84). The average of energy expenditure for their moderate PA per week was 1,079.53 calories (SD=990.30) and 122.03 calories from vigorous PA (SD=272.54). Walking represented one third of the energy expenditures per week for moderate PA in these women (M=313.23, SD=483.27). For psycho-social factors, women reported high level of perceived benefit (M=3.23, SD=.35) and low level of perceived barriers (M=1.94, SD=.44); while reporting medium perceptions of social support (M=2.17, SD=.69) and self-efficacy (M=2.34, SD=.57). Additionally, the total minutes for walking were negatively significantly associated with the perceived barriers to being physically active (r=-.42, p-value=.005); whereas the total minutes for overall PA were statistically significantly associated with their perceived social support (r=.36, p-value=.016). Neither perceived benefit nor self-efficacy associated significantly with PA among these women.

Implication: Providing a health promotion program that aims to decrease women's perceptions of barriers to being physically active and includes social support from family and friends may encourage middle-aged Thai working women to increase their physical activity to prevent cardiovascular disease.

SLEEP, OBESITY, PHYSICAL ACTIVITY, AND INSULIN RESISTANCE IN ADOLESCENTS

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Background/Purpose: Diabetes mellitus (type 2) and its intermediate metabolic traits, such as insulin resistance, are increasingly prevalent among adolescents, likely due at least in part to increasing body weight among teens. Body mass index (BMI) is directly correlated with caloric intake and inversely correlated with physical activity and total sleep time (TST). It is not clear whether TST is associated with caloric intake, physical activity, or metabolic traits such as insulin resistance. The purpose of this study is to explore the associations between TST and insulin resistance, physical activity, and BMI in adolescents of varying BMI.

Methods: Subjects, aged 12 to 18 years, were recruited from the community. Subjects completed questionnaires regarding demographic characteristics, pubertal status (self-rated), and the Physical Activity Questionnaire for Adolescents. Weight and height were measured and fasting (>8 hours) blood was assayed for serum insulin and glucose. Insulin resistance (homeostasis model assessment of insulin resistance; HOMA-IR) was calculated as fasting serum insulin (μU/ml) × fasting serum glucose (mg/dL)/405. Subjects wore a wrist actigraph for 8 consecutive nights to measure TST. Descriptive and parametric procedures were used for data analyses ($\alpha = .05$).

Results: The sample (n=30) included 56.7% (17) females, 76.7% (23) White adolescents. The mean age was 15.7 $\pm$ 2.0 years. Mean BMI was 24.4 $\pm$ 5.4 kg/m^2 (range 15.0 – 37.7 kg/m^2), with 40% being obese or overweight. Mean fasting serum glucose and insulin levels were (94.4 $\pm$ 6.4 mg/dL and 8.5 $\pm$ 5.0 μU/mL), respectively. All fasting glucose levels were in the nondiabetic range. Mean HOMA-IR was 1.96 $\pm$ 1.1. Mean nocturnal TST was 420 $\pm$ 32 minutes (7.0 $\pm$ 0.5 hours) per night, less than the 8.5 – 9.25 hours recommended for this age group. Controlling for age, gender, and puberty, insulin resistance was significantly associated with higher BMI ($r=.72$, $p<.001$) and decreased physical activity ($r=-.41$, $p=.03$). TST was not associated with BMI, insulin resistance, or physical activity.

Implications: Collectively, the sample was sleep deprived. Physical activity was inversely associated with insulin resistance, independent of potential confounders. Although TST was not linked with variables targeted in this study, it could happen that future longitudinal studies measuring caloric intake and refining measures of physical activity, such as using an accelerometer in a larger sample, are needed to better understand how sleep may affect markers for metabolic risk, diet, and physical activity that potentially lead to obesity in adolescents.

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SYMPTOM CLUSTERS

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LIVED EXPERIENCES OF NURSE CARING BEHAVIORS AND ATTITUDES BY WOMEN WITH CHRONIC ILLNESS

Pam Embler

SYMPTOM CLUSTERS DURING THE LATE MENOPAUSAL TRANSITION STAGE: A LATENT CLASS ANALYSIS

Lori Cray, Nancy F. Woods, Ellen Mitchell

COMPARING THE SYMPTOM CLUSTERS OF TWO CHRONIC DISEASES USING SEM

Karen H. Sousa, Ehri Ryu

CORRELATES OF INSOMNIA IN WOMEN AFTER COMPLETION OF PRIMARY BREAST CANCER TREATMENT

Ellyn E. Matthews

LIVED EXPERIENCES OF NURSE CARING BEHAVIORS AND ATTITUDES BY WOMEN WITH CHRONIC ILLNESS

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How do women with chronic illness perceive being cared about or cared for by nurses? Caring is multifaceted, warranting investigation to gain an understanding of its complexities. The purpose of this study was to investigate women with chronic illnesses' experiences with nurses that shape their perceptions of nurse caring behaviors and attitudes. This was a descriptive phenomenological study rooted in the philosophical tenets of Merleau-Ponty and interpreted by Giorgi's procedural steps. Interviews were analyzed for patterns of similar descriptions. Participants were five women ages eighteen and older who have a history of chronic illness and were recruited from the Alaska Heart Institute, Alaska. The results indicated that what is believed by the nurse to be an expression of caring is not always what is received by the client as caring. Five shared patterned descriptions were: (1) experiences from past caring interactions carry over to future caring interactions; (2) caring is reflective of the nurse's ability to protect human dignity and safeguard humanity; (3) the formulation of trust is dependent upon caring interactions; (4) collaborative care among the client, the family member, and the nurse is dependent upon caring interactions; and (5) caring interactions are reflective of the nurses commitment to professionalism and career satisfaction. The implication to nursing practice is that the client population is transforming from one of acute illness and acute care to chronic illness and long-term care in the outpatient setting. The nurse-client paradigm must change to meet the needs of this different client. Understanding the clients' perceptions of feeling cared about or cared for by nurses is pivotal as reactionary to the change in client demographics; this change must be approached proactively if nurses are to meet clients where they exist on the illness continuum.

SYMPTOM CLUSTERS DURING THE LATE MENOPAUSAL TRANSITION STAGE: A LATENT CLASS ANALYSIS

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Purpose: To identify subgroups of women in late menopausal transition (MT) stage who experienced the same cluster of symptoms and to identify indicators that predicted membership in these distinct subgroups.

Background: The number of women reaching menopause grows exponentially each year. An expected 40 million women will reach menopause in the next decade. Approximately 65% - 75% of these women will experience bothersome vasomotor symptoms (VMS), an estimated 85% will report one or more symptoms such as hot flashes, mood disturbances, or sleep disruption. To date menopausal symptom management research has focused on single symptoms. However, a majority of women report multiple symptoms varying in severity from mild to severe. Understanding the interrelationships among symptoms is an important first step to improve symptom management. To do this we need to not only focus our attention on the clustering of symptoms but on how women with the same symptom profiles cluster together.

Methods: The sample consisted of a subset of Seattle Midlife Women's Health Study participants who were in late MT stage and provided self-report data on symptoms experienced between 1990 and 2005. Latent class analysis (LCA) was used to identify subgroups of women who experienced similar clusters of the following 5 symptoms: problem concentrating, hot flashes, joint ache, mood changes, and awakening at night. LCA with multivariate logistic regression was used to indentify covariates that predicted membership in each subgroup.

Results: Four subgroups of women were identified: (1) low severity for all symptoms except for joint ache which was moderate (65%); (2) high severity for all symptoms except for hot flashes which was moderate (13%); (3) high severity for hot flashes, joint ache, and awakening at night; low severity for mood changes and problem concentrating (12%); (4) high severity for problem concentrating, joint ache; moderate severity for hot flashes and awakening at night; low severity for mood changes (10%). A clear delineation between subgroups based on individual characteristics was not fully elucidated.

Implications: Shifting the focus from single symptoms to symptom clusters will facilitate the identification of the unique symptom experience for individual women.

COMPARING THE SYMPTOM CLUSTERS OF TWO CHRONIC DISEASES USING SEM

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Purpose: The purpose of this presentation is to compare symptom clusters in persons living with Rheumatoid Arthritis and HIV.

Background: Rheumatoid Arthritis (RA) and HIV are chronic illnesses with constellations of symptoms, the management of which is important for quality of life. An important barrier to symptom management is the lack of research describing symptom clusters. The evaluation of symptom clusters has been described as a means to in-depth understanding of the relationships between and among symptoms. Structural Equation Modeling (SEM) is a statistical methodology that takes a confirmatory approach to multivariate analysis. It is a comprehensive process for testing hypotheses about relationships among measured and latent variables. The Sign and Symptom Checklist for Persons with HIV Disease (SSC-HIV), developed by Holzemer and colleagues, provides an operational definition for the measurement model representing symptom clusters for persons living with HIV. However, there is no analogous measurement model for individuals living with RA. In this study, a tentative structure was developed and tested.

Participants: The sample for patients living with RA is 901 women from the Arthritis, Rheumatism, and Aging Information Databank. These individuals have a diagnosis of RA and their average age is 61.57 (SD=12.26) years. The sample for the HIV patients came from the AIDS Time-Oriented Health Outcome Study Databank. Their average age is 39.35 (SD=8.13) years.

Methods: Review of the literature did not identify a hypothesized structure to represent symptom status that would be applicable for individuals living with RA. Consequently, we developed a structure that was subsequently cross-validated in a second sample. The first step of this strategy was to randomly divide the data into two samples of approximately equal size. The process involved exploratory and confirmatory factor analysis. SEM was also used to test a hypothesized relationship among symptom clusters based on the SSC-HIV, which suggested a second-order factor structure. Analysis was conducted using MPLUS and the estimator used was the weighted least square parameter (WLSM). This estimator uses a diagonal weight matrix with robust standard errors and a mean-adjusted chi-square test statistic. It is appropriate for categorical data on symptoms which were measured as present or not present. Several goodness of fit indices were used for assessing the model fit.

Results: This analysis confirmed a two-factor solution for individuals living with RA (RMSEA=.049, SRMR=.093, CFI=.95) and a second-order factor solution with six first-order factors for individuals living with HIV (RMSEA=.036, SRMR=.061, CFI=.99).

Implications: Symptom management involves (a) identifying and recognizing symptoms, (b) appropriately interpreting the symptoms, (c) monitoring and evaluating the symptoms, (d) selecting strategies that relieve the symptoms to enhance the patient's functioning and well-being, and (e) evaluating the effectiveness of these strategies. Symptom management is an important outcome for nursing practice and integral to evaluating the efficacy of nursing interventions. The use of valid conceptual models provides a context to guide the development of appropriate strategies for care. Implications and strategies related to the two different symptom constellations will be discussed.

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CORRELATES OF INSOMNIA IN WOMEN AFTER COMPLETION OF PRIMARY BREAST CANCER TREATMENT

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Rationale/Background: Chronic insomnia is a highly prevalent and distressing symptom, particularly in breast cancer patients.
Purpose/Aims: This presentation is reporting preliminary baseline data from a study testing behavioral therapies for insomnia in women after primary treatment for breast cancer. The main goal of this presentation is to address the factors associated with clinical insomnia in a sample of breast cancer survivors.
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 US Cancer Centers and community support groups. Sleep parameters, mood, and cognitive functioning, among other characteristics were assessed prior to behavioral insomnia therapy. Participants completed self-report instruments with established reliability in cancer populations including the Insomnia Severity Index (ISI), 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 (e.g., difficulty falling asleep, staying asleep) 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 HADS is a 14-item, 0-4 Likert scale. Anxiety and depression are measured by summing the scores in each 7-item subscale. The total HADS score is the sum of all 14 items (0-21 range). 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 such as making decisions and keeping a train of thought.
Results/Implications: Women ranged in age from 35-65 (M=52.7 years, SD=6.4). The overall average score of the ISI was 16.9 (SD=3.9), which implies that these women had clinical insomnia of moderate severity. Specifically, women reported on the ISI that difficulty staying asleep was their primary problem (M=2.6, SD=.98). Women also reported sleep problems interfered with daily functioning (M=2.57, SD=1.0) and high dissatisfaction with their current sleep pattern (M=3.34, SD=.54). Several factors correlated with insomnia as measured by the total ISI scores such individual items relate to cognitive functioning on the AFI and anxiety and depression on the HADS. For example, women with higher levels of insomnia had difficulty keeping their minds on what others are saying ($r=.48$, $p<.01$) and remembering to do all the things they started out to do ($r=.48$, $p<.01$). Items such as “Worry thoughts going through my mind” on the HADS were strongly correlated with insomnia severity ($r=.55$, $p<.01$). In conclusion, insomnia has a significant impact on the daily lives of women with breast cancer and it is particularly difficult for women to maintain sleep. Additional findings and implications will be discussed in greater detail during the presentation.

USE OF SIMULATION IN NURSING EDUCATION

Moderator:
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IMPACT OF HUMAN PATIENT SIMULATION ON NURSING CLINICAL KNOWLEDGE: STUDY RESULTS

Mary Ann Shinnick, Mary Woo

DEBRIEFING: THE MOST IMPORTANT COMPONENT IN SIMULATION?

Mary Ann Shinnick, Mary Woo

IV INSERTION SIMULATION TECHNOLOGY STUDY

Anita C. Reinhardt, Iris Mullins, Connie De Blieck, Pamela Schultz

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NEGOTIATING THE ROLE OF THE PROFESSIONAL NURSE: THE PEDAGOGY OF SIMULATION

Joni Walton, Elizabeth Chute

COMPARISON OF DEBRIEFING METHODS FOLLOWING SIMULATION: PILOT INSTRUMENT DEVELOPMENT

Shelly Reed, Claire Andrew, Patricia Ravert, Christine Hudak

IMPACT OF HUMAN PATIENT SIMULATION ON NURSING CLINICAL KNOWLEDGE: STUDY RESULTS

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Aim: The specific aim of this study was to determine if Human Patient Simulation (HPS) improved clinical knowledge in heart failure in undergraduate nursing students.
Rationale/Conceptual Basis: Heart Failure (HF) is the most common hospital discharge diagnosis in the US in patients aged 65 and older. In addition, there are over six million people with HF and more than 550,000 more are newly diagnosed each year (Schocken, et al., 2008). It is important that nursing students learn to manage HF patients in the clinical setting. The theoretical framework used was the one developed by the NLN, "Nursing Education Simulation Framework," which is based on the theoretical and empirical literature in the area of simulation in both the nursing and medical literature. It was developed and tested through the NLN/Laerdal Simulation Study (Jeffries, 2005).
Methods: Following IRB approval at each institution, 162 students (age 25.7 $\pm$ 6.6; gender=85.5% female) from 3 nursing schools were studied in groups of 5 at the same point in their curriculum using a HF simulation (Laerdal, New York). Tests included a HF knowledge pre-test and post-test after specific stages of the HF simulation (given after the hands on [Post-test 1] and another after debriefing [Post-test 2]). Groups were randomized to Experimental (received simulation after the pre-test) and Control (did not receive simulation until after the first post-test). The knowledge tests consisted of questions regarding care of an acute heart failure patient.
Results: Using paired t-tests, no significant differences in knowledge scores between groups were seen at baseline (pre-test) or at the time of the first post test ($p=.06$). However, there were significant differences both after the simulation (post-test) and again after the debriefing (post-test 2) for the experimental group ($p<0.001$).
Implications: This study has shown simulation, in combination with debriefing, to be a useful learning method for the care of the heart failure patient in pre-licensure nursing students. Implications for this study include providing information on HPS efficacy to educators in both school and acute care settings, which can impact the use and implementation of this very expensive and resource-intensive training technology.

DEBRIEFING: THE MOST IMPORTANT COMPONENT IN SIMULATION?

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Purpose: Simulation is a time and cost intensive teaching modality that consists of both hands on experience and a debriefing session. But the impact of these simulation components is uncertain.

Aim: Using a one-group, repeated measures design, the aim of this study was to examine the impact of simulation components (hand on alone and hands on plus debriefing) on heart failure (HF) knowledge.

Conceptual Basis: The theoretical framework used was the one developed by the NLN, "Nursing Education Simulation Framework" which is based on the theoretical and empirical literature in the area of simulation in both the nursing and medical literature. It was developed and tested through the NLN/Laerdal Simulation Study (Jeffries, 2005).

Methods: Following IRB approval at each institution, 162 students (age 25.7 $\pm$ 6.6; gender = 85.5% female) from 4 nursing schools were studied in groups of 5 at the same point in their curriculum using a HF simulation (Laerdal, New York) and HF knowledge pre-test and parallel post-tests after specific stages of the HF simulation (given after the hands on [Post-test 1] and another after debriefing [Post-test 2]). Statistical analyses included ANOVA with post hoc T-tests.

Results: Significant differences ($p<0.001$) were found between the Pre-test and Post-test 1; Pre-test and Post-test 2; and Post-test 1 and Post Test 2 scores (chart). Of particular interest was that HF knowledge scores decreased after the hands on component of the simulation, whereas they dramatically improved after debriefing.

Implications: As most of the gains in HF knowledge were *after* the debriefing, this data identifies debriefing as the most vital component of the simulation experience. Thus, the debriefing experience should be emphasized in a standardized simulation learning experience. Further investigation is needed to determine the necessity for faculty to run the hands on portion of the simulation itself and to evaluate the impact of debriefing/intensive teaching without the hands on simulation component.

IV INSERTION SIMULATION TECHNOLOGY STUDY

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Purposes/Aims: The purpose of this study is to determine if computer based high-fidelity technology enables a student to access veins more efficaciously in the clinical setting than the current use of latex arm simulation technology.

Rationale/Conceptual Basis/Background: Nursing programs are all experiencing the challenge of finding suitable sites for their students' clinical experiences. Simulation experiences have emerged as a way to assist and augment clinical experiences. Of the skills taught in nursing school, the insertion of an IV catheter is one of the most challenging. While patients are concerned with pain, students generally worry about success in accessing a vein. The confidence required for successful skill performance has significant impact on a student's perception of clinical success. Current simulation uses latex mannequin arms with obvious veins. These arms are thick 'skinned' and do not adequately reflect a true patient experience. Newer simulation technology offers another option. With use of a computer based monitor and a 'blind' sensitive skin area, the student can experience a realistic insertion practice. Preliminary reports from the manufacturer tout the effectiveness of this tool and portend the eventual success of students that have used the teaching aid.

Methods: An experimental design using 94 students in a BSN nursing program was performed. Students voluntarily consented to participate and signed the consent form. Students were randomly assigned to either the experimental or control group. All completed a demographic questionnaire. One instructor gave identical lectures and demonstrations on IV insertion technique. The control group used the latex arm only for demonstration and practice and the experimental group used both the Laredal computer based IV insertion equipment and the latex arm for demonstration and practice. A skills check-off list designed for this study (a=0.9) was used to assess key behaviors required for IV insertion using a rubric. After completing the training, demonstration, and practice, the students completed a survey to assess their level of confidence (a=0.9) in IV catheter insertion skill. During their clinical experience, the students who attempted to insert an IV catheter under the supervision of their clinical instructor self-reported to the researcher their success on their first and/or second attempt.

Results: The sample was 84% female, with mean age 27. Neither the skills assessment scores nor the confidence level scores varied significantly (p=0.8 on both measures). Interestingly, there was no correlation between the skills score and the confidence level score (r=0.165). Using univariant analyses, the skill score was not different by the simulation method used (p=0.7). Similarly, no difference was seen for confidence score and simulation method. Lastly, there was no correlation between high-fidelity simulation success percentage rate and skill score or confidence score. IV insertion success in clinical sites is (will be submitted by 12-15-09).

Implications: While high-fidelity simulation has assisted in many areas of student practice and education, it does not appear to assist students significantly in the skill of IV insertion either in skill ability or confidence.

NEGOTIATING THE ROLE OF THE PROFESSIONAL NURSE: THE PEDAGOGY OF SIMULATION

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Rationale: Simulation is the mainstay of laboratory education in health sciences, yet there is a void of pedagogy—the art and science of teaching. Nursing faculty do not have adequate evidence based resources related to how students learn through simulation.
Aims: The research questions that were addressed were as follows: (a) how do students learn using simulation, (b) what is the process of learning with simulations from the students' perspective, (c) what faculty teaching styles promote learning, and (d) how can faculty support students during simulation?
Method: Grounded theory methodology was used to explore how senior baccalaureate nursing students learn using simulation. Sixteen nursing students who completed two semesters of simulation courses volunteered for in-depth audio taped interviews. Interviews were transcribed and analyzed using classic grounded theory analysis by Glaser and Strauss. Results were validated by a focus group of senior students. The focus group identified supportive faculty traits or characteristics.
Results: Negotiating the Role of the Professional Nurse was the core category, which included the following phases: (I) Feeling like an Imposter, (II) Trial and Error, (III) Taking it Seriously, (IV) Transference of Skills and Knowledge, and (V) Professionalization. Deescalating Anxiety and Faculty Facilitating Learning were supporting categories of this study. Our study found that student nurses enter their educational process feeling disorganized, uncomfortable, and anxious. Simulation caused further anxiety and students were uncomfortable playing the role of the nurse. Early in the socialization process, students would fake the role of the nurse and decrease tension by joking around during simulation. Repetition and rehearsing the role of the nurse helped students gain confidence. Faculty who demonstrate patience and mastery, encouraged repetition, allowed mistakes, practiced with students, and provided positive feedback facilitated the process of negotiation the role of the professional nurse.
Implications: A conceptual model of this socialization process was developed and described in detail with supportive quotes. These findings provide a mid-range theory for the pedagogy of simulation and will help faculty gain insight and understanding of how students learn using simulation.

COMPARISON OF DEBRIEFING METHODS FOLLOWING SIMULATION: PILOT INSTRUMENT DEVELOPMENT

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Purpose: The purpose of this comparative descriptive study was to compare student experience and the importance of the student's place on those experiences with three debriefing methods.
Background: Simulation use is increasing in nursing education and debriefing after a simulation is considered to be an important part of the total simulation learning process. Few research reports have been found concerning debriefing following simulation in nursing education settings and no research could be found comparing debriefing techniques. In addition, no research can be found as to which debriefing experiences are important to nursing students.
Method: As no instruments specific to the debriefing experience were available, the Debriefing Experience Scale was developed using the "Classic Test Theory" (Burns & Grove, 2005). The 39-item scale was divided into subscales, with items rated in both of the areas "experience" and "importance" to students. Simulation groups were randomized into one of three types of debriefing sessions: discussion, journaling, and blogging. After debriefing was completed, 100 students completed the Debriefing Experience Scale. Reliability statistics (Chronbach's alpha) were compiled on the scale. The differences between the three debriefing methods were determined by ANOVA and followed by a Scheffe post hoc test.
Results: Student participants thought that oral discussion debriefing contributed more to their learning than either journaling or blogging, and it was viewed more favorably in most other areas of the student experience. Reliability analysis was performed on the Debriefing Experience Scale on the Experience items and Importance items separately. Chronbach's alpha was higher than .71 on six out of seven subscales in of the Experience items and higher than .74 on five out of seven subscales of the Importance items.
Implications: With simulation use increasing in nursing education, understanding the student debriefing experience is essential to promoting learning. The findings contribute initial information concerning debriefing methods used following simulation used in a nursing education setting. Continued refinement of the Debriefing Experience Scale is necessary and with additional psychometric analysis may prove to be a reliable instrument to investigate debriefing methods and provide additional information regarding the student debriefing experience.

Burns, N., & Grove, S. K. (2005). *The Practice of Nursing Research* (5th Ed). Philadelphia: Elsevier.

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UTILIZING TECHNOLOGY

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WEB-BASED VENOUS THROMBOEMBOLISM PREVENTION EDUCATION

Jung-Ah Lee, Brenda K. Zierler, Seth Wolpin

DEMONSTRATION OF INTERACTIVE WIKI WEBSITE FOR CLINICAL NURSING STUDENT DOCUMENTATION

Lynne C. Andrus

DOES THE IMPLEMENTATION OF HOSPITAL IT SYSTEMS REQUIRE MORE NURSE STAFFING?

Joanne Spetz, James. F. Burgess, Jr., Ciaran Phibbs

NURSES' ACCEPTANCE OF HANDHELD COMPUTERS

Yen-Chiao Angel Lu, Chiu-Shuan Lee

WEB-BASED VENOUS THROMBOEMBOLISM PREVENTION EDUCATION

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Background: Venous thromboembolism (VTE) is one of the most common preventable clinical disorders among hospitalized patients in the US. Evidence supporting the use of prophylaxis to prevent VTE has been available for years, yet VTE remains a problem in hospitalized patients. Care for VTE requires coordination across multiple providers and settings.
Purpose: The purpose of this study was to evaluate the effect of a web-based educational program on VTE prevention at an academic medical center and to explore different approaches to delivering education in an online format.
Methods: This was a randomized trial comparing two different educational approaches including passive-didactic slides (PD) vs. interactive case studies (IC) to determine the most effective way to teach and assess healthcare provider knowledge on VTE prevention. Following IRB approval, participants who consented were asked to complete a pre-test and then were shown passive, didactic slides with information on VTE prevention. The participants who were randomly assigned to the IC group were also asked to complete 4 series of real-life cases. The IC group received immediate feedback when an answer was chosen. All participants were then administered a post test. In order to achieve a 'certificate of completion', all participants had to score 80% or above. Options were available to repeat the post-test and also allowing participants to return to the educational materials.
Results: A total of 89 providers in the hospital consented to participate in the research aspect of this training module. Sixty-eight (76%) participants completed the pre test and post test. Among those, 35 were randomly assigned into the PD group and 33 were in the IC group. No demographic differences were found between the two groups. There was marginal knowledge improvement in the PD group (the pre-test mean score=80.0±13.3, the post-test mean score=85.4±12.2, p-value=0.068), but little improvement in the IC group (the pre-test=78.2±11.0, the post-test=79.39±15.0, p-value=0.58). There was no significant difference in post-test mean scores in the two groups (p-value=0.07). The educational effect including both methods was marginal (the pre-test=79.1±12.2, the post-test=82.5 ±13.9, p-value=0.07). Free text, qualitative comments were also solicited within the application, responses included 'Did not take the time to look over guidelines,' 'Summarize key points from the PDFs on the presentation slides,' and 'Good format and links are helpful.'
Conclusions/Implications: The web-based VTE prevention training modules were marginally effective in improving VTE prevention knowledge in providers. The effect of the passive-didactic training was better than that of the interactive case study training. These results may be due to participants feeling fatigued after completing 4 interactive cases in addition to the passive-didactic slides. Other factors may also have been at play including possible ceiling effects, contamination effects by having multiple browsers open. and historical effects given other concurrent educational efforts. The time spent for training and the motivation for learning should be considered in designing continuing educational modules.

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DEMONSTRATION OF INTERACTIVE WIKI WEBSITE FOR CLINICAL NURSING STUDENT DOCUMENTATION

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Purpose/Aims: The purpose of this presentation is to demonstrate the use of a wiki webspace to engage nursing students in an interactive learning community that facilitates understanding and evaluation of clinical nursing documentation and the nursing process.

Background: The demands and workload on both nursing students and their clinical instructors have often reduced undergraduate nursing education to a passive transfer of knowledge from the instructor to the student. Particularly troublesome is nursing documentation, a process that educators generally teach via lecture and example without opportunities for their students to engage with their colleagues or to reflect on their own work. Research across disciplines has consistently shown that knowledge and skills are best retained if students are engaged in interactive learning and teamwork.

A wiki, as a shared webspace in which a student community can collectively create and connect content and knowledge, provides an ideal medium for interactive teamwork and constructivist approaches to learning. The premise of constructivist learning theory is that contextual teaching and learning engage students in significant activities within rich learning environments that help them connect their academic learning to real-life situations and problems (West & West, 2009). In nursing, this approach is the essence of critical thinking and clinical judgment.

Brief Description of the Project: A wiki developed by the clinical instructor at www.wikiacc.org serves as the nursing students' secured clinical website for clinical assignments and as a webspace to collect and share helpful nursing resources. Within this interactive website, students actively participate in the integration and development of nursing knowledge by using the shared space to write, discuss, comment, edit, reflect, and evaluate their nursing documentation. Nursing students post their own and review their clinical team members' de-identified nursing assignments on the wiki website.

Achieved Outcomes: In the two completed semesters of wiki operation, twenty-five (25) first and second semester nursing students engaged within their wiki community to comprehend and evaluate their own and others' nursing documentation of the nursing process. Students have achieved higher quality work in fewer submissions and with higher voiced satisfaction. In addition, the students have learned to provide constructive feedback to their colleagues in an interactive learning community.

Conclusions: This pilot project demonstrates the use of a wiki to promote interactive learning and evaluation of students' own and others' clinical assignments. Next steps include development of a research study to further explore and validate these findings.

Reference:
West, J.A. & West, M.L. (2009). *Using Wikis for Online Collaboration.* San Francisco, CA: Jossey-Bass.

DOES THE IMPLEMENTATION OF HOSPITAL IT SYSTEMS REQUIRE MORE NURSE STAFFING?

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Purposes/Aims: This study examines the effects of two major IT systems on nursing hours in Department of Veterans Affairs (VA) hospitals.
Background: Health information systems are promoted as a key means to improve patient safety and the quality of care. These benefits may come at substantial cost, including labor costs associated with transitioning to the new system and its ongoing use.
Methods: Using VA Payroll data, we measured nurse staffing and the characteristics of nursing staff for 120 VA Medical Centers over 44 quarters. These data were merged with a unique dataset on the timing of IT implementation and with data on facility characteristics such as teaching status, patient volume, and acuity. Site visits were conducted at seven VA facilities to obtain qualitative data to augment the quantitative findings.
Results: RN hours dropped among VA hospitals from 1996 to 2002, rose slightly to 2004, and then dropped from 2004 to 2006. There was an increase in overtime from 1999 to 2000, when the IT systems were being implemented in most hospitals, and a continued gradual increase through 2003. Multivariate regression equations find that after controlling for hospital and staff characteristics, the electronic medical record system and bar-code medication administration in acute care units did not have any statistically significant association with changes in RN staffing. The implementation of bar coding in intensive care units was associated with an increase in RN hours per patient day, but not total RN hours or the share of overtime. Interviewees reported that they increased nurse staffing to ensure adequate patient care, even though they had not been allocated funds to do so. Some managers and nurses said they still think nurse staffing is inadequate given the demands on their time.
Conclusions: There was little change in nurse staffing as the result of IT implementation in the VA. Previous research of the VA systems found minimal improvements in some quality indicators such as those developed by AHRQ. This may be because the VA did not intentionally increase staffing during the implementation of IT systems.

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NURSES' ACCEPTANCE OF HANDHELD COMPUTERS

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Purpose: The primary aim of this study was to examine nurses' IT adoption behaviors by studying factors that affect nurses' PDA adoption in their practice.
Background: Mobile computing technology has potential benefits to assist nurses to access and manage clinical information. Many mobile computing devices are available to nurses; Personal Digital Assistants (PDAs or Handheld computers) in particular, may provide nurses with immediate access to nursing care reference material. We assessed nurses' attitudes toward PDA and how the attitudes affect their decisions to use or not to use PDAs in their practice.
Methods: A descriptive cross-sectional design that employed a web survey was used to answer the research questions. Three hundred and thirteen responses were received during the study period and two hundred and nineteen responses were retained for the analyses. The scales used in this study were adapted from studies conducted by Davis (1993) and others. Content validity and reliability of the scales were evaluated. A pilot study was conducted to identify any problems with the study instrument prior to the actual study.
Results: Among the participants, 36% of the participants were informatics nurses, 22% were staff nurses, and 17.7% were nurse practitioners. Most respondents used their PDA at home (93.4%) and in the office (71.4%). A medium significant positive relationship was noted between nurses/ attitudes toward PDA and their actual use of PDA (β=.30, $p<.001$). Therefore, nurses with more positive attitude toward PDA tend to have increased usage of PDA in their practice. In addition, the results of this study validate perceived organizational support, task characteristics, individual characteristics, technology characteristics and competing technology, perceived usefulness, perceived ease of use, and attitudes are all important factors to consider when studying nurses' acceptance of PDAs.
Implications: The use of PDAs to access critical medical information by nurses is rapidly increasing. Successful adoption of PDA has the potential to improve efficiency, effectiveness and quality of information management. By providing nurses with adequate training and education programs on PDA, there is a potential to enhance the productivity and efficiency of nurses. To better understand nurses' PDA adoption behavior, more research is recommended.

YOUTH, ADOLESCENTS AND HEALTH

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PEER, PARENTAL, AND MEDIA INFLUENCE ON ADOLESCENT BODY IMAGE

Shu-Ming Chan, Angela Chia-Chen Chen, Pay-Fan Lin

SEXUAL-RISK BEHAVIORS AMONG REGULAR AND ALTERNATIVE HIGH SCHOOL STUDENTS IN MINNESOTA

Karen E. Johnson, Barbara J. McMorris, Martha Y. Kubik

COPING WITH STRESS IN ADOLESCENTS WITH SCHIZOPHRENIA

Heeyoung Lee, Karen G. Schepp

FACTORS ASSOCIATED WITH HUMAN PAPILLOMAVIRUS IN COLLEGE-AGED WOMEN

Margit B. Gerardi, Diana Beckmann-Mendez

PUERTO RICAN HIV POSITIVE ADOLESCENTS STRIVING TO LIVE A NORMAL LIFE: A GROUNDED THEORY

Janet Rodriguez, Elaine G. Jones

ADAPTATION OF AN EFFICACIOUS PREVENTION PROGRAM FOR AT-RISK MIDDLE SCHOOL YOUTH

Debi Thomas-Jones, Carole Hooven, Elaine Adams Thompson

PEER, PARENTAL, AND MEDIA INFLUENCE ON ADOLESCENT BODY IMAGE

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Purpose: This study aimed at examining peer, parental, and media influence on body image among Taiwanese adolescents with different Body Mass Index (BMI) values.
Background: Constructing and developing body image is a critical task for adolescents. Positive body image can improve adolescents' self-concept and peer-relationship, while negative body image is found to be associated with eating disorders, malnutrition, or depression. It is critical to understand factors that influence adolescents' body image with different BMI values, so prevention interventions can be developed and tailored to meet their unique needs.
Methods: This cross-sectional study included a convenience sample of 403 adolescents (aged 18-21) from four colleges/universities in Taipei, Taiwan. Body image was measured using two subscales of the Chinese version "Multidimensional Body-Self Relations Questionnaire," including appearance evaluation and body areas satisfaction. Other measures included Exercise Behavior Questionnaire, Media Influence Scale, Parent Influence Scale, and Peer Influence Scale. Descriptive statistics and regression analysis were used to analyze data.
Results: Although a higher proportion of adolescent males were obese/overweight (10.16 %) than females (2.73%), males reported a higher score in appearance evaluation and body areas satisfaction than females. The regression analysis revealed that male or underweight/normal adolescents reported higher appearance evaluation. Adolescents also reported lower appearance evaluation if they were less likely to discuss weight-related topics with peers, perceived peer support for losing weight, and perceived negative peer attitudes towards their appearance or weight. Furthermore, adolescents who had parents encouraging a healthy diet and exercise for weight control showed higher appearance evaluation. Similar to appearance evaluation, adolescents reported better body areas satisfaction if they were boys, were underweight/normal, were more likely to discuss weight-related issues with peers, and perceived less negative attitudes towards their appearance/weight from peers. Regarding media influence, adolescents were less likely to be satisfied with their own bodies if they wish to have a body like models or movie stars.
Implications: The findings suggested strong peer influence on adolescents' evaluation of their appearance and satisfaction of their bodies. Parents had significant influence on adolescent appearance evaluation while media shaped adolescents' perception of their own bodies. Compared to adolescent males, females were less likely to have positive evaluation of their appearance or satisfied with their bodies, and consequently maybe at higher-risk of developing unhealthy dieting behaviors. Peer, parental, and media influence and gender differences should be taken into account when designing prevention interventions to promote adolescent health.

SEXUAL-RISK BEHAVIORS AMONG REGULAR AND ALTERNATIVE HIGH SCHOOL STUDENTS IN MINNESOTA

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Purpose/Aims: To compare the prevalence of sexual-risk behaviors among alternative high school (AHS) and regular high school (RHS) students in Minnesota.
Rationale/Conceptual Basis/Background: Nearly one million US students attend AHSs, which serve students at risk for academic failure. Previous findings from the 1997 and 1998 Youth Risk Behavior Survey indicated that AHS students had a higher prevalence of sexual-risk behaviors than RHS students. With a growing AHS population, it is important to understand their current sexual-risk behaviors in order to develop effective preventive programs and policies that target personal and social-ecological factors that place these youth at greater risk for unintended pregnancy and sexually transmitted infections.
Methods: The Minnesota Student Survey (MSS), a large statewide population-based survey conducted every three years, asks students in regular public schools (grades 6, 9, and 12) and alternative high schools about a range of health behaviors, including sexual health. Data from the 2007 MSS for students in 9^{th} and 12^{th} grade (n=87,468; mean age=15.93; 50.6% female; 22% racial/ethnic minority) and for students attending AHSs (n=2,847; mean age=16.96; 46.2% female; 44% racial/ethnic minority) were used for the current study. Prevalence estimates for selected sexual-risk behaviors were compared. Estimates were adjusted for age and race/ethnicity.
Results: AHS students were significantly more likely than RHS students to report a lifetime history of sexual intercourse (74.5% vs. 39.3%, $p<.0001$), four or more sexual partners during the past year (22.1% vs. 9.3%, $p<.0001$), current sexual activity (71.1% vs. 37.2%, $p<.0001$), and no condom use at last intercourse (51.2% vs. 36.7%, $p<.0001$).
Implications: Nurses should be aware of the higher prevalence of sexual-risk behaviors among AHS students. Further study is needed to better understand the correlates and predictors of sexual-risk behaviors among AHS students and to develop comprehensive, evidence-based sexuality education programs and policies that can promote safer sexual practices among this at-risk population.

Sources of Support: This research was supported by the Adolescent Health Protection Program grant number T01-DP000112 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.

COPING WITH STRESS IN ADOLESCENTS WITH SCHIZOPHRENIA

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Purpose: The purpose of this study is to identify the ways of coping with stress and to explore the change in coping behaviors of adolescents with schizophrenia.
Background: Stress has been found to be highly associated with relapse, worsened symptoms, or rehospitalization of patients with schizophrenia. Consequently, coping with stress would be a crucial personal resource to manage mental illness in individuals with schizophrenia. Coping has been considered to mediate or moderate the potentially negative effects of stress on symptoms, augmenting traditional treatment of schizophrenia and thus influencing the course and outcome of the illness. Despite the substantial body of research linking stress to the course of schizophrenia, most of the research on coping behavior in schizophrenia has focused on adults with schizophrenia rather than adolescents with schizophrenia.
Methods: A total of 40 parents of adolescents with schizophrenia were drawn from a study of self-management therapy for youth with schizophrenia. The original study was a randomized, two-group, experimental design with repeated measures. Participants evaluated coping measured by the Ways of Coping (WOC) scale at baseline, 6 weeks, 30 weeks, and 54 weeks. Descriptive statistics, cluster analysis, and Repeated Measures ANOVA were used to analyze the data.
Results: Of the 40 adolescent subjects, 32 were male, 8 were female. Their average age at baseline was 17.25 (SD=1.37) years; 22 (55%) were Caucasian and 18 (45%) were non-Caucasian. The mean length of illness was 43.47 (SD=43.21) months. Five coping domains were identified by cluster analysis: detachment coping ("go on as if nothing"), sleep coping ("sleep more than usual"), self-confrontive coping ("get angry at person causing problem"), active coping ("talk to someone about the problem"), and wishful thinking ("daydream or imagine a happier time"). Sleep was most frequently endorsed by all subjects. Although we did not find any significant effect of time for total WOC, there was a significant main effect of time for sleep coping ($F=2.71$, $p=0.053$), indicating both groups decreased the use of sleep over time. We did not find a significant group effect, indicating no tendency toward the WOC and its subscales in either group (e.g. treatment or control group).
Implications: Interestingly, sleep has been frequently used by adolescents with schizophrenia as a way of coping with stress. It is worthy to note that ways of coping in adolescence may become their ways of coping in their adulthood unless they learn new coping skills. Developing effective coping skills for adolescents with schizophrenia has important implications for practice as well as for future studies with this population.

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FACTORS ASSOCIATED WITH HUMAN PAPILLOMAVIRUS IN COLLEGE-AGED WOMEN

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Purpose: It is suspected that minority women who have taken the first HPV vaccine series may not complete the 3-series vaccination at the same rate as their non-Hispanic Caucasian counterparts.

Aims: Assess the prevalence of sexually transmitted diseases and sexual high-risk behaviors in young adult women seeking routine health care services in an outpatient setting. Describe the demographic characteristics and intention variables of patients who adhered and completed the HPV vaccination series.

Background: More than 40 strains of human papillomavirus (HPV) are transmitted directly from sexual activity. Fourteen are associated with over 99% of cervical cancers and high grade cervical precancerous lesions. The incidence of cervical cancer ranks among the top five types of cancers found in African American and Hispanic women in the United States. HPV related cervical cancer is a disease that disproportionately affects Hispanics as US rates are approximately 50% higher among Hispanic women than among non-Hispanic Caucasian women.

Methods: A survey with descriptive methods approach is being used to explore variables related to HPV vaccination in primary care settings in a large southwestern city in this pilot study (n=100). Open-ended questions (including critical incident) are included in the survey instrument to allow participants to describe experiences or behaviors that affected their decisions to share or garner information related to sexual experiences and HPV vaccination. The convenience sample is 100 young adult females who receive services in a primary care clinic and was selected based on documented ethnicity rates at the clinic site and power analyses conducted for difference tests ranging from a one-sample *t* test through a one way analysis of variance (ANOVA).

Results: Vaccination rates varied by religious self-affiliation. Rates of vaccination by religious identification were 20% for Protestant, 25.8% for Catholic, 27.3% for Other (Ex-Buddhist), and 100% for Jewish women (3, N=98, χ^2=11.42, $p\leq$.01). Rates of vaccination also varied by relationship status with married students reporting the lowest rates of vaccination (5.3%) versus those in committed but not married relationships (50%) (4, N=99, χ^2=13.22, $p\leq$.01). Oral contraceptive users were more likely to get vaccinated against HPV than users of other types of contraception (4, N=99, χ^2=4.874, $p\leq$.05). Lastly, a trend in data was seen as Caucasian non-Hispanic women were found to have decreased vaccination rates in comparison to other race/ethnicity classification examined in this pilot project.

Implications: With the advent of a vaccine series that has a significant impact on the reduction of HPV related cervical dysplasia and oncogenic sequela, great strides in decreasing cervical cancer can potentially arise in this next decade. Despite the potential positive health outcomes of the vaccine, there is a growing body of literature to support that those who are at increased risk for HPV infection are less likely to receive the vaccine. Continued research regarding vaccination could inform nurse practitioner interventions toward significant health promotion and disease prevention strategies especially in minority groups facing marked health disparities in this country.

PUERTO RICAN HIV POSITIVE ADOLESCENTS STRIVING TO LIVE A NORMAL LIFE: A GROUNDED THEORY

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Background: According to the Puerto Rico Health Department by September 2009, 261 cases of HIV, ages 13-19 were reported and 265 cases of AIDS, ages 13-19 (Puerto Rico Health Department, 2009).
Purpose: To describe the basic social processes of medication adherence in Puerto Rican youth who are HIV positive. Three research questions were proposed: (1) What are the basic social processes of medication adherence in Puerto Rican youth who are HIV positive?; (2) What factors influence medication adherence (or nonadherence) among HIV positive adolescents?; (3) What behaviors indicate that the HIV positive adolescents adhere or do not adhere to their prescribed medications?
Methods: Grounded theory was used to study 13 Puerto Rican HIV-positive adolescents. Data collection included semi-structured, in-depth interviews, field notes, participant observation, and a demographic questionnaire.
Results: A substantive theory *Striving to Live a Normal Life,* with the core category of *normal* emerged from data analysis. *Striving to Live a Normal Life* explains how these Puerto Rican HIV-positive adolescents try to integrated their HIV status and treatment with their lives. These adolescents had concentrated their lives on striving to live a normal life. The use of a variety of coping strategies has helped them visualize themselves as a normal adolescent with a normal life. Because they see themselves having a normal life; taking or not taking their medications for HIV is also seen as a normal part of their lives.
Implications: This study is the beginning of understanding the concept and process of normalization in this population. The findings support the findings in a study done with HIV–positive adolescents from France in which the concept of normality was related to their lives. This was the only study found concerning this topic and with this population.

ADAPTATION OF AN EFFICACIOUS PREVENTION PROGRAM FOR AT-RISK MIDDLE SCHOOL YOUTH

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Purpose: This study evaluates the feasibility (acceptability, practicability, developmental congruence) and effectiveness of adapting a multi-faceted prevention program (Coping And Support Training or CAST) for middle school youth, originally designed for high school youth. The central aim was to systematically evaluate modifications in the content and structure of this evidence-based prevention program for reducing health risk behaviors. In this research, at-risk youth are defined as teens at risk for school failure or school dropout, a risk status associated with negative adolescent mental health outcomes including depression, anger/aggressiveness, and suicidal behaviors.

Background: Successful translation of health prevention efforts will almost always require systematic adaptation of an established program for community use, which is the crux of this study. Children who struggle in school, have difficulties self-regulating and who lack educational supports show sustained mental health problems across time. Emerging evidence suggests that prevention of school failure is likely to be effective not only in reducing school failure, but also in decreasing adolescent involvement in health risk behaviors. To address the critical needs among middle school youth, developmental adaption of the CAST program was needed in order to launch this evidence-based intervention for middle school youth.

Methods: Research procedures received University IRB approval. Multiple methods were used to examine feasibility and effectiveness, including comparison of the implementation fidelity data with original program data, expert consultation, and analysis of process data completed by youth, group leaders, and external observer. *Sample***:** The sample includes over 200 at-risk youth who have participated in a school-based prevention program. Based on school record data and using a tested algorithm, youth were identified and invited to participate. Written parental consent and youth assent were gathered in advance. *Measures:* Process evaluation measures used to assess feasibility include program-specific indicators of Content Evaluation, Personal & Social Skills, & Group Support. Preliminary outcome effectiveness measures were based on standard measures of youth depression (adapted CES-D), anger/aggressiveness (drawn from national youth surveys), and perceived school climate. *Analysis:* Qualitative analyses and descriptive statistics, consonant with the adaptation process, are used to practicality, acceptability, and developmental congruence of the adaptation. Appropriate statistical tests are used for comparative analyses (e.g., ANOVA, regression, non-parametric tests).

Results: Comparative findings show similar implementation patterns across middle and high school populations, indicating consistency in content and structure of the adapted program. Also reflective of the adaptation are preliminary findings of intervention effectiveness; intervention vs. control group youth show decreasing trends in depression ($b=-.29$, $p<.06$), mixed outcomes for anger/aggression, and increasing personal control ($b=.31$, $p<.02$) and problem-solving coping ($b=.91$, $p<.001$), and improved school climate ($b=.24$, $p<.03$). Discussion will focus on findings, links between indicators and adaptation evaluation, and challenges inherent in adaptation.

Implications: The findings are directly relevant to the practice for a range of nurses including community health and school nurses, nurse practitioners, and more broadly for health educators seeking to select and adapt evidence-based programs for practice.

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ASPECTS OF MENTAL HEALTH

PSYCHOLOGICAL DISTRESS IN PARTNERS OF BREAST AND PROSTATE CANCER PATIENTS

Chris Segrin, Terry A. Badger

THE MEANING OF BEING IN ROMANTIC RELATIONSHIPS FOR AT-RISK YOUNG ADULT MALES

Jennifer L. Collins, Jane Dimmitt Champion

CORRELATION OF MOOD DISORDERS, PSYCHIATRIC MEDICATIONS, AND NURSE MIDWIFERY SERVICES

Karen Peifer, Erica Schwartz

A CONTEXTUALLY BASED THEORY OF CAREGIVER SUFFERING

Jane M. Georges

GOOD GRIEF! A CONCEPT ANALYSIS

Sandra L. Easton

THE UNHEARD CRY OF DEPRESSED MEN

Jeff Ramirez

REFINING THE RESEARCH QUESTION: ASSESSING THE NON-VOCAL WOUNDED WARRIOR

Patricia N. Bradshaw

PSYCHOLOGICAL DISTRESS IN PARTNERS OF BREAST AND PROSTATE CANCER PATIENTS

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Purpose/Aims: The purpose of this investigation was to compare psychological distress of partners of different relationships (e.g., intimate partner/spouse, family members, friends) with cancer survivors and to compare these levels of distress with population norms. A secondary objective of this investigation was to evaluate whether female partners of cancer survivors had a higher risk for psychological distress than male partners and why this might be the case.
Rationale/Conceptual Basis/Background: Partners of cancer patients are at risk for psychological distress, yet are rarely offered treatment for that distress.
Methods: Partners in this investigation included spouses/significant others, siblings, adult children, friends, parents, and cousins of cancer survivors. Participants were 201 partners of English-speaking women with breast cancer, Spanish-speaking women with breast cancer, or English-speaking men with prostate cancer. The partners reported on their symptoms of depression, positive and negative affect, anxiety, and relationship satisfaction.
Results: The results showed that most relational groups had levels of psychological distress that were indistinguishable from those of spouses/significant others. However, spouses, and to a lesser extent, adult children were the only partner groups whose levels of psychological distress were above published population norms. Relationship satisfaction was negatively associated with virtually all indicators of partners' psychological distress. Tests of gender differences revealed that female partners had higher levels of depression than male partners. The effect was deconstructed with a test of the indirect effect of gender on depression through perceived stress. Results confirmed that female partners had higher levels of depression due in part to their higher perceived stress.
Implications: These results show how psychological distress, when a loved one has cancer, is experienced by a variety of social network members at a similar level as experienced by spouses/significant others. Having a satisfying relationship with the cancer survivor is associated with lower levels of distress. It is also apparent that female partners are at elevated risk of depression, due to higher levels of stress that they experience, perhaps due to assuming a greater care giving burden for their friend or family member with cancer. These findings highlight the importance of making psychosocial interventions available to social network members of cancer survivors who may not necessarily be spouses or significant others, but are still important sources of support and care who are themselves susceptible to distress. This study's findings show that these other, often overlooked, partners of cancer survivors have psychological needs that are often on par with those of spouses/significant others of cancer survivors.

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THE MEANING OF BEING IN ROMANTIC RELATIONSHIPS FOR AT-RISK YOUNG ADULT MALES

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Purpose: This study explored the meaning of being in a romantic relationship for young adult males who are or have been in romantic relationships with African American and Mexican American female adolescents with a history of STI, unplanned pregnancy, or abuse.

Background: The study of sexual risk behavior and outcomes of risk behavior has led to better understanding of the complex interactions at work in the romantic relationships of at-risk youth. However, few studies have addressed how influence over the course of an at-risk youth's life history has impacted the meaning assigned to being in a romantic relationship. Addressing the meaning of romantic relationships for at-risk youth beyond the level of risk behavior is important due to other norms at work in the presence of risk behavior.

Methods: A qualitative, phenomenologic approach was used. Participants completed two semi-structured interviews each. Interviews were conducted with six Mexican American and two African American young adult males 19 to 26 years of age using a life history perspective.

Results: Participants observed and listened to others throughout their lives to construct the meaning of being in a romantic relationship. Watching and learning from others was a sensory, intellectual, and emotional experience. Some participants learned about relationship from the sensory experience of being physically abused, others learned in classroom environments about STI, still others learned from the ache in their hearts when they were neglected. At the extremes, participants valued their parents' loving relationships whereas others vowed not to repeat the violence or absence of parenting they witnessed in their lives.

Implications: At-risk young adult males' romantic relationships include a struggle to balance physiological and psychological needs alongside the fulfillment of peer, family and other cultural norms. Nurses must recognize the effect of the interaction of multiple systems on young men's behavior, beliefs, and reaction to outcomes. Listening empathetically to another as a basic nursing process allows the opportunity to personalize care plans for individuals and their families. Nursing education must focus on curriculum content that teaches nurses cultural proficiency and empathetic listening skills to situate unwanted outcomes of romantic relationships such as STI and unplanned pregnancy in a larger context over the life course. Future nursing research must include an analysis of additional conceptualizations of romantic relationships for at-risk adult men beyond sexual risk behavior and adverse outcomes of such behavior.

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CORRELATION OF MOOD DISORDERS, PSYCHIATRIC MEDICATIONS, AND NURSE MIDWIFERY SERVICES

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Purpose/Aims: One underlying assumption among certified nurse midwives (CNM) is that pregnancy is not a disease or a disorder and those women who do not have any medical risk factors often choose a perinatal experience with a CNM. However, the initial age of onset for many mental health disorders coincides with child bearing ages and how women interact with CNM during pregnancy.

Background/Rationale: Although CNM provide care to many women with low risk, normal pregnancies, they often provide care to women with high social and psychological risks. Reconciling the relationship between the need for psychiatric medications during pregnancy and care from CNM is the focus of this study.

Description of the Undertaking, including Approach/Methods/Processes: Chart abstraction was conducted by professional research assistance using hospital birth records from May 2005 until May 2009 yielding a sample of 11,740 births. Clinical location of prenatal services and type of provider including CNM was included. Information includes prenatal history, current pregnancy complications, labor and delivery outcomes, and information on the neonate. Abstraction also included information about the mother's history of a psychiatric illness, maternal use of medications during pregnancy that includes antidepressants, antipsychotics, anti-seizure and mood stabilizers, and the type of provider that delivered the baby. IRB approval was obtained for the abstraction of the initial data and for use of the data for secondary analysis.

Outcomes: There was no reported psychiatric history of the mother in 83.6% of the cases leaving about 18% with a history or current symptoms of a mental health disorder. However, approximately 40% of the records reviewed indicated the use of one of four types of psychiatric medications during the pre-conceptual period or during pregnancy. This correlation was significant and negatively associated. CNM began prenatal care in 41% of the cases. Routine screening for any mood disorder was not currently done in any of the prenatal clinics which indicates potential under identification and documentation of symptoms.

Conclusions: This study is the first in many addressing the issues faced by CNM in providing care to pregnant women with psychiatric symptoms and who are taking or should be taking psychiatric medications. Screening for symptoms of a mood disorders are consistent with clinical guidelines for perinatal care but consistent adherence to screening is unknown. The use of psychiatric medications during pregnancy is an important factor to consider in providing prenatal care however it may remain unknown until symptoms become severe enough to warrant intervention. Many women reduce or stop taking any medications during pregnancy to ensure a healthy baby including psychiatric medications. Evidence for taking antidepressants and antipsychotics during pregnancy remains controversial. What happens when a woman is having increasingly severe symptoms of a mood disorder and their care is being provided by CNM? Are the symptoms severe enough to consider the pregnancy a high risk pregnancy and the women is transferred to a specialized OB practice or can that care be provided by the nurse midwife with back up care by a psychiatrist or an advance practice psychiatric nurse practitioner?

A CONTEXTUALLY BASED THEORY OF CAREGIVER SUFFERING

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Purposes/Aims: The purpose of this theory development paper is to present a contextually based, mid-range theory of suffering in lay caregivers of family members/ significant others requiring palliative care. The specific aims of this paper are to: (1) describe previous foundational work on the construct of "suffering" that has emerged as an important focus in the support of palliative care patients and their caregivers; (2) posit and explore a multi-dimensional, contextually based theory of caregiver suffering as a basis for future nursing research; and (3) present specific implications and significance of a contextually based theory of caregiver suffering for the discipline of nursing, with particular emphasis on future instrument development.

Description of Theory: Building upon the foundational work of Cassell (1982), nurse scientists such as Ferrell (2008) have described and verified the centrality of suffering as a focus for the design and testing of nursing interventions for palliative care patients and their caregivers. "Suffering" is defined theoretically as a complex social and psychological entity that has its source in challenges that threaten the intactness of the person. This subscribed definition is informed by the seminal work of Cassell (1982), and emerges from nursing research into the multi-dimensional nature of suffering (Georges, 2004; Ferrell & Coyle, 2008). While one might posit intuitively that caregivers also suffer while witnessing/experiencing the suffering of a loved one, the multiple dimensions of suffering by caregivers have not been examined empirically. A contextually based approach situates this mid-range theory in a holistic paradigm, and can guide future study of suffering and its alleviation in palliative caregivers. Specifically, the contextual theory of caregiver suffering posits that *suffering in palliative caregivers is multi-dimensional, and consists of social, physical, psychological, and spiritual dimensions.*

Conclusions: A contextually based theory of suffering that is multi-dimensional in nature and takes into account the depth and breadth of human suffering experienced by caregivers who both witness and experience suffering could be a useful heuristic in guiding future nursing research. The development and testing of an instrument designed to measure the subscale dimensions of social, physical, psychological, and spiritual caregiver suffering has the potential to provide a basis for future research endeavors, specifically the development of effective, holistic nursing interventions to decrease suffering burden in palliative caregivers.

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GOOD GRIEF! A CONCEPT ANALYSIS

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Purpose/Aims: As the comic strip character Charlie Brown, exasperates, "Good grief," he expresses what each person feels sometime in their life. Grief is a universal human response experienced by all people, age groups, and cultures—differing in how it is expressed. Nurses need the best knowledge and tools to care for patients or their families who may be experiencing grief. The aim of this analysis is to: (1) define the concept of grief, (2) identify the current understanding of grief through a literature search, (3) study case examples, (4) apply knowledge of grief to nursing practice, and (5) identify possible future research regarding the concept of grief.

Definition/Description: For the purpose of this analysis, grief is defined as feeling extreme sadness after experiencing a loss. Bereavement, grief due to the loss of a person to death, is addressed in this analysis. Historically grief was considered a psychological abnormal human response; a person should work through grief to get on with one's life and find new life patterns and relationships to *replace* what had been lost. Grief was viewed as a linear pattern that all grieving people must similarly move through. Current evidence identifies grief as a normal human response, allowing for the *integration* of the deceased into their ongoing life, rather than *detachment* of the deceased from their life. New viewpoints show grief to be a powerful human experience that is dynamic and individualized in regards to human response. Pathological or complicated grief, the inability to overcome feelings of being overwhelmed or unable to function in their life or work, is addressed.

Analysis Process: Walker and Avant's concept analysis process was used to illuminate the understanding of grief. The positive and negative consequences as well as the attributes of grief are identified. Cases were utilized to concretely illustrate the concept of grief. Empirical referents and tools were identified in an attempt to measure the dynamic grief process.

Logic Linking Grief to Nursing Practice: The use of coping strategies enables nurses to recognize and assist patients and their families toward positive consequences of grief. Research generally supports that anticipatory grief preparation is helpful for families who are experiencing a dying family member. Nurses can use tools to identify bereaving individuals most at risk for experiencing complicated grief.

Conclusion: Returning to the comic strip Charlie Brown, a classic scene depicts him tossing his nickel into Lucy's can seeking her professional healthcare advice. Community members look to nurses for knowledge and compassionate care, including patients and families who are grieving. As nurses provide care to dying patients and their families, it is vitally important for nurses to possess the most current knowledge and care regarding the concept of grief. This concept analysis does not address cultural differences in the expression of grief. Research is needed to enhance the understanding of grief as experienced in different cultures.

THE UNHEARD CRY OF DEPRESSED MEN

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Purpose: The purpose of this study is to examine the purpose and meaning of life among men who have experienced and suffered from depressive symptoms.
Background: The National Institute of Mental Health reports that over 16 million people are affected by depression and over 6 million of those are men. Depression has one of the highest mortality and morbidity rates of all health conditions. Despite advances in research, the understanding of depression among men remains limited. Further study of male depression is necessary because, to date, there is a lack of understanding of how depression manifests among men and there is not a consistent clustering of male depressive symptoms that have been identified or conceptualized.
Theoretical Framework: Victor Frankl (1986) was an existential psychiatrist who contributed to the development of the existential thought related to a theory of depression. The underlying assumptions of existential theory believe that human beings are in a constant state of transition. Part of being human is the drive to discover and make sense of their existence and purpose in life. The existential theory assumes that meaning is critical to the existential conception of depression. Frankl believes that a sense of meaninglessness and emptiness leads to existential frustration that will lead to the existential vacuum phenomenon. Frankl's premise is when people lose meaning, various responses are expressed as depression, aggression, and addiction.
Methodology: The current study uses a descriptive design and qualitative methodology. The research will do a secondary analysis of nine transcripts that were obtained from men who have experienced depression. The researcher will use a content analytic approach to fit the relevant data to the conceptual model of Victor Frankl, Theory of Meaning and The Existential Vacuum. The researcher will develop codes reflecting Frankl's conceptual framework and look for the respondent's level of meaning in life.
Implications: The results of this study will provide further understanding of the phenomena among men suffering from depression. The knowledge gained from this study will contribute to the limited body of knowledge giving a voice to men. In addition, knowledge generated from this study will lead to better understanding, which will lead to new interventions and treatment strategies.

REFINING THE RESEARCH QUESTION: ASSESSING THE NON-VOCAL WOUNDED WARRIOR

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Purpose/Aim: Narrowing the scope of a research project is daunting. Identifying an area of interest will generate passion and energy to drive dissertation work, but beginning with too broad a topic can generate frustration. The purpose of this project was to illustrate the process, as guided by the literature, used to transform a broad research area of interest into a researchable question.

Rationale/Background: The initial area of research interest was nursing performance with critically injured patients in the deployed environment. A literature review highlighted that "performance" was too broad to be a viable nursing researchable topic without identifying a specific context. As recognition of pain in the non-verbal, critically injured patient in the deployed setting is sometimes difficult, this identified a more viable, focused context for study. Nurses' clinical experience and skill sets vary, which may impact consistency in identifying and managing pain in these wounded warriors. The cyclical en mass turnover of deployed healthcare teams also creates a repetitive learning curve which further impacts development of a clinical practice corporate memory in the deployed setting. Adding emphasis were anecdotal reports which also revealed variance in nursing pain assessment and management during deployment.

Methods: Five of the 12 dimensions to devise research questions described by Gillis and Jackson, were used to generate the focused area of interest. These dimensions were: improving clinical practice, exploring a pattern of incidents, understanding phenomena from the insider's perspective, exploring variations in a dependent variable and tackling current issues. A literature review was accomplished using Ovid and Medline databases. To be included in the first literature review, articles needed only to address performance of a skill, whether in nursing or not.

Outcomes: Preliminary searches yielded literature addressing areas to include chess, music and arboriculture. This information helped identify capability as a potential guiding framework. The framework clarified that without defining a specific portion of clinical performance in the deployed setting, potential research questions would be too broad for feasible study. The context of clinical performance was then refined to assessment of pain in the adult critically injured, American service member ("wounded warrior") in the deployed setting. A second literature review was then conducted on pain assessment and communication with non-vocal critically ill patients.

Conclusions: The context-specific literature review yielded a variety of behavioral and physiological markers of pain traditionally evaluated in non-verbal intensive care unit patients. Informal discussions with previously-deployed nurses identified a gap between known markers of pain and those markers actually used to assess pain. The disparity between the discovered literature that is rich in tools to assist with assessment of non verbal, severely ill patients and the sparse array of tools actually used clearly pointed to the research question: How do nurses assess pain in the non-verbal wounded warrior? Next steps will include summary and synthesis of literature findings pertinent to the uncovered gap.

ASPECTS OF WOMEN'S HEALTH

SELF-EFFICACY AND DISCLOSURE OF HIV POSITIVE SEROSTATUS TO SEX PARTNERS: A FEMALE STUDY

Kathleen Sullivan, Joachim G. Voss, Dongmei Li

USE OF INTUITIVE AND REASONED THOUGHT TO INFORM MAMMOGRAPHY-SCREENING DECISIONS

Mary Anne Purtzer

UNIQUE HEALTHCARE NEEDS OF WOMEN COMBAT VETERANS

Cynthia E. Fitzgerald

PREVALENCE OF INTIMATE PARTNER ABUSE AMONG AFRO CARIBBEAN AND AFRICAN AMERICAN WOMEN

Catherine R. Coverston, Jacquelyn Campbell, Jamila Stockman, Richelle Bolyard, Phyllis W. Sharps, M. Baty, M. Paterno, A. Johnson, Gloria Callwood, Doris W. Campbell, Laura Sutton, Kelly Wight, Trista Jones

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IS LANGUAGE PREFERENCE IN HISPANICS ASSOCIATED WITH PREGNANCY-RELATED WEIGHT CHANGE?

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SELF-COMPETENCE FOR CHILDBIRTH: A CONCEPT ANALYSIS

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EXPERIENCES AND CARE NEEDS OF NON-BIOLOGICAL LESBIAN MOTHERS WHOSE PARTNER MISCARRIED

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CHILDBIRTH EXPECTATIONS AND CHILDBIRTH EXPERIENCES AMONG THAI PREGNANT WOMEN
Kamonthip Tanglakmankhong, Nancy A. Perrin

PROPOSAL OF A CRITICAL QUALITATIVE ANALYSIS OF BREASTFEEDING IN MEXICAN PRIMPARAS
Bonita A. Shviraga

A GEOGRAPHIC COMPARISON OF BREASTFEEDING DURATION AND RESOURCES FOR LOW INCOME WOMEN
Amanda L. Watkins, Joan E. Dodgson

PERCEPTION OF ADVANCE CARE PLANNING FOR WOMEN WITH EARLY STAGE CANCER
Yuki Asakura

AFRICAN AMERICAN WOMEN'S KNOWLEDGE, ATTITUDES, AND BELIEFS ABOUT MENOPAUSE
Anne-Marie O'Brien

PRECARIOUS EMPLOYMENT AND WOMEN'S HEALTH WITHIN THE CONTEXT OF MICROENTERPRISE
Rebekah J. Salt

TRANSCENDING THE NOW: USING GROUNDED THEORY WITH AFRICAN AMERICAN WOMEN
Joda H. Weathersby

PERINATAL DEPRESSION, PARTNER VIOLENCE, AND SUBSTANCE ABUSE IN ARABIC REFUGEES
Kathryn McCarthy, Mary Jo Clark

SELF-EFFICACY AND DISCLOSURE OF HIV POSITIVE SEROSTATUS TO SEX PARTNERS: A FEMALE STUDY

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Purposes/Aims: The aims of the research included: (1) describe self-disclosure of HIV–positive serostatus to most recent sex partners among an ethnically diverse sample of women living in Seattle, Washington and Hawai'i; (2) explore relationships between demographic, HIV-illness, self-efficacy, substance use, and SP variables and self-disclosure; and (3) examine the relationship between disclosure and condom use with most recent sex partners.
Rationale/Conceptual Basis/Background: Bandura's Social Cognitive Theory guided this multi-site study with a specific focus on self-efficacy for HIV disclosure decision-making and for negotiating safe sex. Valid and reliable instruments were used to measure perceived efficacy in these context-specific domains. National data indicates that women living with HIV disease have difficulties disclosing their serostatus to sex partners and using condoms consistently. Little is known about disclosure practices or women from Hawai'i or Seattle.
Methods: A descriptive, cross-sectional design was used and data was collected using surveys for assessing up to three most recent sex partner experiences during the past year.
Results: Eighty-four (N=84) women reported a total of 129 most recent SPs, with an overall disclosure rate of 74% and condom use rate of 60%. Women with higher self-efficacy for knowing when it was safe to disclose were more likely to disclose to recent sex partners. Disclosure rate varied by relationship status and serostatus of SPs and disclosure was associated with condom use but in a negative direction. Women who disclosed were significantly less likely to use a condom with most recent sex partners and women from Washington were marginally more likely to use condoms than women from Hawai'i (p=.066). Condom use was significantly more likely in casual/anonymous relationships than with committed partners and among women with higher self-efficacy scores for discussing the need to practice safer sex. The lowest rate of condom use was among Hawai'ian/Part-Hawai'ian females.
Implications: Healthcare personnel should routinely discuss issues of disclosure to SPs with female seropositive clients and offer strategies that can enhance their behavioral intentions to use condoms. Culturally tailored interventions focused specifically on strengthening self-efficacy beliefs for disclosure and for safer sex decision-making are needed, especially in committed partner relationships.

USE OF INTUITIVE AND REASONED THOUGHT TO INFORM MAMMOGRAPHY-SCREENING DECISIONS

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Purpose: The purpose of this study is to discover the process by which intuitive-dominant women use reasoned thought to make a more fully-informed mammography-screening decision. This study continues the author's inquiry regarding the mammography-screening decision-making process of rarely or never-screened women. The aim is to build on the theoretical model developed by the author in a preceding study that discovered that intuitive-dominant thinking provided a decision-making default for mammography-screening for rarely or never-screened study participants. Research questions include: (a) What are catalysts that interrupt intuitive thinking and trigger use of reasoned thought? (b) What is the process of resolution when discordance occurs between intuitive and reasoned thought? (c) What is the process for integrating intuitive and reasoned thought for a more fully-informed decision?
Rationale/Background: Breast cancer is a significant cause of mortality and morbidity in the United States. It is known that (a) mammography is an effective breast cancer screening tool, (b) treatment is most effective with early stage disease, and (c) impoverished women may not access this life-saving screening. Accordingly, the problem is underutilization of mammography screening resulting in significant health disparities for medically-underserved women.
Method: Grounded theory is being utilized as it is consistent with the focus on process. Sampling consists of an estimated 20 participants who are low-income, uninsured, and rural residents. Participants include women who have never or have rarely screened as well as regular screeners and are recruited from clinics for indigent persons. In-depth interviews are being conducted with three to five recurring cycles of data collection and analysis per participant.
Results: This study is in-progress and will be completed prior to the 2010 WIN "*Nursing Science: Informing Practice and Driving Policy*" conference. The result of the study will be an explanatory theoretical model of intuitive and reasoned thought processes involved in mammography-screening decisions.
Significance of the Study and Nursing Implications: The proposed research holds scientific merit in terms of the potential impact of new knowledge on the understanding of the mind and associated health behavior as related to health disparities and cancer control. Foundational to the importance and potential scientific merit of this research is gaining new understandings of medically-underserved women that typically have little voice in the scientific world. Study findings may also contribute to rural nursing theory. Nursing implications offer nurses new assessment content areas and educational possibilities to facilitate a more fully-informed, mammography-screening decision.

Note. Funding for this study was provided by a University of Wyoming, College of Health Sciences' research grant.

UNIQUE HEALTHCARE NEEDS OF WOMEN COMBAT VETERANS

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Women comprise more than 14% of all active duty soldiers serving in the present wars in Iraq and Afghanistan (Hayes, 2009). For the first time in the history of the United States military, women are participating in combat operations. In addition, women are the fastest growing group of military veterans in the United States, now numbering approximately 18 million; this number is expected to nearly double within the next ten years (National Center for Veterans Analysis and Statistics, 2007; US Census Bureau, 2008). Women combat veterans have unique healthcare needs and may experience a variety of physical and mental health problems associated with or resulting from service in the military and/or in combat settings.

Although women have long served in the military, it is only in the current wars in Iraq and Afghanistan that women have served in direct combat roles. Thus, little is known about the healthcare needs of women returning from service in combat zones. In order to ensure the provision of high quality, effective healthcare services to women combat veterans, healthcare providers must possess understanding of and knowledge about the healthcare needs, preferences, and experiences of these individuals.

This descriptive qualitative used a multistage narrative analysis approach to analyze transcripts prepared from individual interviews with women combat veterans who have been separated from the military (i.e., who have completed their military service obligations and/or otherwise resigned from the military). The primary aim of this study has been to add to the growing but limited understanding about the healthcare needs and practices of women combat veterans. This study addressed these research questions:

1. What do women combat veterans perceive to be their unique healthcare needs?
2. How do women combat veterans characterize their healthcare experiences?
3. What do women combat veterans want and believe they need in the way of healthcare services?

The data collection phase of this study has been completed and analysis is underway. Preliminary findings indicate that the majority of participants could identify at least one instance of sexual harassment or assault, had concerns about their mental health status, had nightmares or intrusive daytime memories about combat-related events, experienced family separation negatively, and described at least some service-related physical concerns, especially musculoskeletal disorders such as knee and back pain.

As analysis is completed, discussion and conclusions will focus on the specific new understanding and knowledge to be gained from this study and on actions that can be taken by nurses working with women combat veterans in a variety of settings to help improve the physical and mental health status of these individuals.

PREVALENCE OF INTIMATE PARTNER ABUSE AMONG AFRO CARIBBEAN AND AFRICAN AMERICAN WOMEN

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Purpose: The objective of this study is to determine the prevalence of physical, emotional, and/or sexual intimate partner abuse (IPA) and physical and/or sexual intimate partner violence (IPV) among Afro Caribbean women living in the US Virgin Islands (USVI) and a comparable group of African American women in Baltimore, Maryland, USA. The research question is, "What is the prevalence of physical, emotional, and/or sexual IPA and physical and/or sexual IPV among Afro Caribbean women living in the USVI and a comparable group of African American women in Baltimore, Maryland?"
Background: Research thus far has demonstrated a high rate of IPV among African American women. In the USVI, there is anecdotal evidence of a high rate of IPV for Afro Caribbean women, but no systematic research has been done to document this phenomena.
Methods: The study design is a case-control comparing 150 abused and 150 non-abused women USVI and comparable groups from Baltimore, Maryland. Women 18-55 of African descent who have had an intimate partner within the prior two years and are seeking care in prenatal and primary care clinics are eligible for participation. Eligible cases are women with a history of IPA or IPV and eligible controls are women without a history of IPA or IPV.
Results: Of 431 women screened for participation, 353 (81.9%) were eligible. Of the 353, 45.0% reported lifetime history of IPA and 25.2% experienced IPV in the past two years. Of 245 women in the USVI and 108 in Baltimore, 48.2% and 37.9% reported IPA, respectively; 27.8% and 19.4% reported IPV, respectively. Among 206 women in the USVI and 86 women in Baltimore with a current partner, 39.5% vs. 47.1% experienced IPA and 19.8% vs. 25.2% experienced IPV. There were no significant differences between IPA and IPV prevalence and site. Lifetime IPA and recent IPV are prevalent among women of African descent in the USVI and Baltimore.
Implications: Knowledge about rates of IPA, IPV, and related variables can assist in planning healthcare policies and interventions to reduce health disparities and medical costs associated with IPA and IPV. The added privacy of using computers for data collection has resulted in a higher report of incidence of IPA and IPV than previously described. This method should be further analyzed to determine its effectiveness in encouraging individuals to reveal sensitive information they would be less likely to reveal in traditional interviews.

IS LANGUAGE PREFERENCE IN HISPANICS ASSOCIATED WITH PREGNANCY-RELATED WEIGHT CHANGE?

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Purposes/Aims: The purpose of this study was to describe the relationship between prenatal and postpartum weight patterns and acculturation among Hispanic women; Spanish preference indicating more identification with Hispanic culture and English preference indicating greater identification with White culture. The specific objectives were to determine whether (1) adherence rates to the Institute of Medicine prenatal weight gain recommendations or (2) weight loss by one year postpartum differed by language preference for self-identified Hispanic women. The long term goal is to identify pregnant women who may be at risk for long-term obesity.
Background: Excessive prenatal weight gain has been found to be a risk factor for long-term obesity in White women. Compared to Non-Hispanic White women, Hispanic women are more likely to be overweight and to gain excessively in pregnancy, increasing their risk of pregnancy complications and the development, or worsening, of obesity. Health behaviors such as dietary intake and smoking vary by level of acculturation. Indicators of acculturation include length of residence, generational status, and language preference. Only language preference is commonly entered in health records.
Methods: Data were abstracted from prenatal medical records of women seen in an urban community health center from 2000–2008. The sample included self-identified Hispanic women, English or Spanish-speaking, aged 16–40 years, with weight measured at ≤13 and at ≥37 weeks gestation. Exclusion criteria included diabetes, hypertension, other significant medical conditions or multiple gestations. Analysis was done using t-test, chi-square, and multivariate regression statistics.
Results: Fifty two (20.1%) were primarily Spanish-speakers and 207 were primarily English-speakers. Overall, 43.6% exceeded prenatal weight gain recommendations; 30.8% of Spanish-speakers vs. 46.9% of English-speakers (P=.07). At late postpartum, 22.9% returned to their baseline body mass index (BMI ±0.5 kg/m^2); Spanish-speakers retained 1.53 vs. 1.21 kg/m^2 among English-speakers. However, these patterns did not reach significance after adjusting for baseline BMI, age, and smoking.
Implications: Adherence to prenatal weight gain guidelines was poor. Few women returned to their baseline weight, regardless of language preference. While it did not reach significance, Hispanic Spanish-speakers tended to gain less weight in pregnancy and retain more weight postpartum. These results may be due to our relatively small sample size. Therefore, more studies of larger sample size are needed.

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SELF-COMPETENCE FOR CHILDBIRTH: A CONCEPT ANALYSIS

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Purposes/Aims: The purpose of this concept analysis is to identify a conceptual definition of Self-Competence for Childbirth (SCC) within the context of normal, physiologic birth. Defining attributes are identified as well as possible directions for future research.

Description/Definition of Concept: This analysis encompasses those characteristics of a woman that lead her to birth effectively, normally and in a self-empowering fashion without evidence of birth ineptitude or ineffectiveness. SCC is defined as: a woman's overall sense of herself as capable of birthing normally, of effective at doing what it takes to accomplish this goal, and of exhibiting control during the birth experience. SCC is characterized by a woman's valuative experience of herself as a causal agent in her birth experience and is exemplified by her embodiment of the belief that childbirth is something that she participates in actively rather than something that happens to her or something that she is unable to exercise control over through the intention and exercise of her will. Defining attributes include: Internal locus of control, Trust in the normalcy of birth, Active participation in childbirth care decisions, and Self-theories (high self-efficacy beliefs and growth mindset).

Concept Analysis Approach or Process Used: Walker and Avant's nine-step method of concept analysis was undertaken to complete this analysis. This method was chosen to enable an examination of the contemporary structure and function of the concept. This method was also selected for its ability to provide a precise technique yielding an operational definition and a basic understanding of the underlying attributes of the concept.

Logic Linking Concept to Practice/Research Problem: Childbirth is a concrete, situation-specific experience in a woman's life course that yields opportunities for personal growth and development. Becoming a mother through the process of childbirth is a developmental milestone in a woman's life with the potential to effect substantial life course developmental changes and unique opportunities for maturation and psychic reconstruction. With today's escalating cesarean section and elective induction of labor rates and their attendant negative health outcomes, it is essential to identify attributes of those women who continue to birth physiologically, normally and powerfully with great grace and skill. It is crucial that the childbearing community develop a better understanding of the factors that positively impact a woman's ability to birth physiologically. Ascertaining the influence of SCC on birth outcomes as well as identifying the mechanism by which this influence occurs is imperative.

Conclusions, Including Utility of Concept: This work represents an initial step of investigation in the development of a program of research aimed at achieving a better understanding of the process of achieving normal, physiologic birth as well as providing a deeper understanding of the concept SCC. Future research will be undertaken to further validate the defining attributes of the concept, as well as to develop an instrument to measure the concept which may be used to determine the influence of SCC on birth outcomes.

EXPERIENCES AND CARE NEEDS OF NON-BIOLOGICAL LESBIAN MOTHERS WHOSE PARTNER MISCARRIED

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Background: There is little published research about the emotional experiences of miscarriage among lesbian women. The majority of literature focuses on the experiences, physical and emotional impact of miscarriage, and caring interventions for heterosexual women and couples. Only one published investigation (Wojnar, 2007) highlighted the experiences of miscarriage from lesbian couples' perspectives. Findings identified unique experiences of this population in the aftermath of pregnancy loss. No published research focused specifically on the experiences and caring needs of lesbian partners after unexpected pregnancy loss.
Purpose: The purpose of this qualitative analysis was to identify the experiences and care needs of lesbian non-biological mothers in the aftermath of miscarriage.
Methods and Setting: Conventional content analysis method (Hsieh & Shannon, 2007) was used to explore miscarriage experiences of lesbian non-biological mothers. Directed content analysis method was utilized to identify their care needs. Recruitment methods included web, newspaper, and flyer advertising. Data was obtained from 10 participants during in-depth, in-person interviews at the location of their choice. Participants were in a committed couple relationship, partner miscarried within the past 2 years. They were recruited from Canada, Pacific Northwest, Southern, and Eastern United States.
Findings: The experience of miscarriage of lesbian non-biological mothers was complex and deeply emotional. The following themes emerged: *(1) feeling responsible about the partner and the unborn child's well being in early pregnancy, (2) feeling a range of emotions about pregnancy, (3) experiencing emotions of helplessness and lack of control during the miscarriage,* and *(4) enduring loneliness and social isolation after the loss.* The experience of miscarriage was subsequently analyzed for the caring needs of participants using Swanson's (1991) theory Caring Processes ("Knowing," "Being With," "Doing For," and "Enabling") as conceptual framework. Participants' care needs were captured by the following categories: *(1) yearning to be acknowledged and recognized as a parent (Knowing), (2) desire to be included in the partner's care and decisions post-miscarriage (Being with), (3) yearning for supportive emotional care and ongoing familial and social support (Doing for),* and *(4) feeling enabled to come out from the experience emotionally intact and face future with children (Enabling).*
Conclusions/Implications: Lesbian partners' emotions do not tend to be the focus of care and counseling during the miscarriage. Findings provide support for further research and inclusive and supportive care of lesbian partners. Findings may serve as an intervention framework for Advanced Practice Nurses and others caring for lesbian partners after miscarriage.
Limitations: Sample was of convenience and all participants were Caucasian and well educated.

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CHILDBIRTH EXPECTATIONS AND CHILDBIRTH EXPERIENCES AMONG THAI PREGNANT WOMEN

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Purposes: To explore if women's expectations of childbirth in Thailand are being met and to examine the relative importance of self-efficacy for childbirth, fear of childbirth, and the match between expectations and experiences in predicting satisfaction with the childbirth experience**.**

Background: Since the 1980s Thailand has made a major shift from home births to hospital births. While this change has been accompanied by a decrease in Thailand's maternal mortality ratio from 374.3 per 100,000 in 1962 to 9.8 in 2006 and its infant mortality ratio from 84.3 per 1,000 to 11.3, the childbirth experience has also been altered significantly. Satisfaction with labor and birth in Thai hospitals and its associated factors have not been fully explored. Prior studies have focused on positive/negative experiences; however, one important factor may be the match between what a woman expects and what actually happens during childbirth.

Methods: A longitudinal study of 195 pregnant women with a singleton fetus was conducted in Thailand. During their third trimester (32-40 weeks gestation) women were asked about their expectations for 36 possible events during labor and delivery, self-efficacy, and fear of childbirth. Two days after giving birth, women were asked about their experiences with the 36 events during childbirth and their satisfaction with the process. Women's expectations and actual experiences were compared to determine fulfilled expectations (percent of the items they expected that actually happened), unmet expectations (percent of the items they expected that did not happen), unexpected experiences (percent of the items they did not expect that actually happened), and null experiences (percent of the items they did not expect that did not happen).

Results: On average, 73% of the items women expected actually happened during childbirth (fulfilled expectations) while 27% of the items did not happen (unmet expectations). Thirty-eight percent of the items women did not expect actually happened during childbirth (unexpected experiences) and 62% of these items did not happen (null experiences). Nearly one-third of the women expected to but did not get medication to reduce pain (37.6%) or have a relative by their side during labor (30.8%). Regression analysis found that the match between expectations and experiences accounted for 17.2% of the variance in satisfaction with the childbirth. Fulfilled expectations ($B=.38$, $p<.001$) was the strongest predictor of satisfaction followed by self-efficacy ($B=.16$, $p=.013$). Fear of childbirth was related to satisfaction ($r=-.14$, $p<.05$) but not after controlling for the match between expectations and experiences and self-efficacy. Parity and mode of delivery were not related to satisfaction.

Implications: Results suggest that aligning women's expectations about childbirth with the actual labor and delivery experience could improve women's satisfaction with the childbirth process. For Thai women, there are areas such as receiving pain medication and having a relative present during labor and delivery where unmet expectations are more common. This research could inform the development of interventions that help women meet the challenges of childbirth with realistic expectations and help the health system identify areas where women's expectations are not being met.

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PROPOSAL OF A CRITICAL QUALITATIVE ANALYSIS OF BREASTFEEDING IN MEXICAN PRIMPARAS

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Purposes/Aims: (1) To describe the culture care values, beliefs, and practices of recently immigrated Hispanic women surrounding infant feeding and breastfeeding. (2) To investigate if (and how) culture, gender, and issues of power/marginalization affect recently immigrated Hispanic women's attitudes, beliefs, and practices regarding infant feeding and breastfeeding. (3) To understand how recently immigrated Mexican women respond to nurses' "authoritative" knowledge regarding breastfeeding, to determine how women "sort through" this information, and if and how they integrate this knowledge/information to create (produce) new unique understandings and approaches to breastfeeding.

Rationale/Conceptual Basis/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 Hispanic women in the United States and Colorado are below the goals of Healthy People 2010. It is assumed that Hispanic women in Colorado represent an underserved and marginalized group as evidenced by their culture's history in Colorado, their gender status within their culture, their immigration status, inability to speak English, and socioeconomic status. All these factors may affect breastfeeding duration. In order for nursing to increase and support breastfeeding in this population, it is important that we understand how these and any other factors may impact infant feeding and thus the likelihood and sustainability of breastfeeding.

Methods: The study will utilize Carspecken's method of Critical Qualitative Research (CQR)/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). It supports transformative as well as interpretive concerns (Simon & Dippo, 1986). Therefore, with this critical ethnographic study this researcher hopes to move beyond the description of breastfeeding and infant feeding to identify power relations and system influences on breastfeeding and to empower women during breastfeeding.

Results: Demographic and qualitative data will be analyzed. Focus group and interview data along with field notes and journaling will be entered into Atlas-Ti, a qualitative software program, for coding, text retrieval, data management, and content analysis soon after collection. Direct quotations of informants will be preserved. Analysis of data will be conducted through a critical qualitative iterative process as described by Carspecken.

Implications: This original study will provide new contextual knowledge regarding infant feeding with a focus on breastfeeding in recently immigrated Hispanic women. It will analyze their cultural values, beliefs, and practices along with our healthcare and political systems through a critical theory lens. With this understanding we can provide nursing care and institute system changes to most effectively increase breastfeeding in this population and ultimately improve the health of children in this population.

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A GEOGRAPHIC COMPARISON OF BREASTFEEDING DURATION AND RESOURCES FOR LOW INCOME WOMEN

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Purpose/Aims: The purpose of this project was to geographically describe breastfeeding duration in relationship to available hospital based and WIC lactation resources and breastfeeding rates. Aims are to (1) determine the available resources for low income breastfeeding families in Maricopa County, AZ; (2) map these resources by census tract; and (3) overlay breastfeeding rates found in each census tract.

Rationale/Background: Breastfeeding is a primary healthcare strategy, improving the health of mothers, infants, and children. In addition, breastfeeding has been shown effective in lowering the risk of several chronic diseases in adults. Despite the well documented benefits of breastfeeding, the United States has yet to meet the Healthy People 2010 goals (75% newborn initiation, 50% breastfeeding at six months, and 25% breastfeeding at 12 months of age). Although it has been reported that 88% of Arizonan women put their baby to breast at least one time in the hospital, continuation of breastfeeding dramatically drops during the first few weeks of breastfeeding. An often cited contributing factor to this sharp decline is the lack of lactation services available in the community; yet community level analysis of lactation services has not been conducted. Lactation services are essential for many women in overcoming challenges that may arise while breastfeeding. It is imperative from a public health perspective that the lactation services available in the community be identified; Maricopa is the most populous county in Arizona.

Description of the Undertaking including Approach/Methods/Processes: A multi-method design was used, which incorporated ethnographic and survey methods. Existing data on community-level breastfeeding rates and demographics are being collected. In addition, a telephone survey of all identified hospitals and WIC agencies providing care to breastfeeding postpartum women is in process.

Outcomes Achieved/Documented: Data will be synthesized and mapped using Geographical Information System software to produce a comprehensive visual analysis of services overlaid with breastfeeding rates within Maricopa County.

Conclusions: Will be presented.

PERCEPTION OF ADVANCE CARE PLANNING FOR WOMEN WITH EARLY STAGE CANCER

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Background: World Health Organization and other professional organizations recommend introducing advance care planning at the time of diagnosis. In reality, however, advance care planning is not addressed until the end of life. Although advance care planning requires longitudinal education, current practice for early stage cancer patients does not address advance care planning until the end of their life. Lack of knowledge was found in patient perspectives, especially for women with gynecological and breast cancer, regarding advance care planning despite recommendations available to healthcare providers.

Purpose and Method: The purpose of this study is to explore Japanese and American gynecological and breast cancer patients' perceptions about their future and advance care planning. The researcher utilizes ethnography as a research design. The specific aims are:

1) To describe the lived experience of Japanese and American women with early stage gynecological and breast cancer with respect to their perspectives about their future,
2) To explore these women's perspectives on advance care planning, and
3) To describe cultural influences on advance care planning in each country.

Eligibilities to participate in this study are: age between 20 and 60 years old, having a diagnosis of gynecological or breast cancer stage I or II, and English or Japanese speaking. The researcher will utilize ethnographic research methods of interview with open-ended questions, such as "Any thoughts you have had after diagnosis about your possible situations in the future?," photography, field notes and observation. Interviews will last 30 to 60 minutes: up to two interviews possible. All interviews will be audio-recorded with participant's permission. Participants will be recruited from the Denver metropolitan area, northeast rural Colorado, Tokyo & rural Kochi, Japan. Up to 10 participants will be recruited in each site; a total number of participants up to 40 women. This study is approved by Colorado Multi Institutional Review Board.

Data Analysis: All individual identifiable information in audio-recording will be changed to pseudonym at transcribing. Transcribed data are organized utilizing qualitative software Atlas ti ®. This study is analyzed by an analysis method developed by Leininger. The researcher will also look for patterns of thought and behavior by collecting pieces of information, comparing, contrasting, and sorting gross categories and minutiae until a discernible thought or behavior becomes identifiable. During the process, key events are also inquired as some images from key events are clear representations of social activity. Visual representations, such as maps, flowcharts, organizational charts, and/or matrices may be used as the researcher finds appropriate. The contents are examined carefully for the consistency of interpretations.

AFRICAN AMERICAN WOMEN'S KNOWLEDGE, ATTITUDES, AND BELIEFS ABOUT MENOPAUSE

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Background: Of critical importance to healthy outcomes in aging is addressing the physiologic changes that occur as a result of postmenopausal estrogen loss. African American women when compared to white women are at greater risk for developing obesity related diseases such as cardiovascular disease and diabetes, and for developing physical limitations as they age. These patterns may be in part the result of lifestyle behaviors that traditionally include diets high in fat and low rates of physical activity. Lifestyle behavior modification can reduce these disease risks and improve long term health outcomes. Nursing research on health transitions suggest that lifespan transitions such as menopause are opportunities for behavior change. Facilitators in the transition response include: preparation and knowledge, cultural beliefs, attitudes, and meanings. Therefore, in order to design nursing interventions that foster behavior change during this critical health transition, we must first study African American women's understanding of the health changes associated with the menopause transition and what it means to them.

Purpose: The purpose of this presentation is to provide results of a comprehensive review of the literature on African American women's attitudes, knowledge, and beliefs about menopause. Findings will inform future research on ways that the menopause transition could serve as an opportunity for the adoption of healthy lifestyle behaviors among African American women.

Methods: A comprehensive review of the literature was completed with these criteria:

Search engines: Cumulative Index for Allied Health and Nursing (CINAHL), PSYCInfo, and Medline. *Keyword searches:* African American, midlife, menopause, knowledge, attitudes, beliefs. *Inclusion Criteria:* Peer-reviewed journal articles published between 1995-2009 that elicited knowledge and attitudes of African American women about the menopause transition. *Exclusion Criteria:* Studies that did not elicit information on women's knowledge or attitude about menopause and/or included women from other ethnic backgrounds in the analysis.

Results: Conflicting or equivocal findings about women's knowledge, attitudes, and beliefs were found. Most of the studies in this review were quantitative and had used surveys to elicit information from their participants. Whereas the qualitative studies that were conducted only addressed knowledge and attitudes, but not specifically what the menopause transition means to African American women and their long term health.

Conclusions/Implications: This literature review provides an initial understanding of African American women's knowledge, attitudes, and beliefs about menopause. Additional research, however, is needed to understand how knowledge, attitudes, and beliefs about menopause are associated with health promoting as well as health-compromising behavior. Findings could then demonstrate how the menopause transition might serve as a teachable moment where providers facilitate a woman's awareness that she can participate in the management as well as promotion of her own health and well being.

PRECARIOUS EMPLOYMENT AND WOMEN'S HEALTH WITHIN THE CONTEXT OF MICROENTERPRISE

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Purpose/Aims: The purpose of this pilot study is to generate a baseline community assessment with low-income women who work in microenterprise in New Mexico. The specific aims of this study are to: (1) identify the health concerns of low-income women who utilize resources from Women's Economic Self-Sufficiency Team (WESST) in New Mexico to support microenterprise, and (2) develop a social ecological model that identifies the dimensions and pathways between microenterprise and health for low-income women in New Mexico.

Rationale/Background: In response to changes in labor markets around the world, more people are generating income in part-time, temporary, or self-employed work labeled by public health researchers as *precarious employment*. The term implies that the work has some level of insecurity related to income, benefits, or status of employment. 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 and freedom afforded by precarious work arrangements may also be beneficial to health. Microenterprise programs offer innovative lending opportunities for low-income populations, the majority of whom are women, to start or sustain small businesses. The Women's Self-Sufficiency Team in New Mexico offers microloans and financial literacy training to people to start small microenterprises and leverage toward self-sufficiency. The majority of participants are women, low-income, and ethnic minorities. Research has long established that women are one of the strongest links to the health and well being of the family, yet social expectations put them at risk for neglecting their own health. In 2006, the Centers for Disease Control (CDC) convened to discuss microenterprise as an intervention model for HIV/AIDS prevention. Consultants acknowledged that microenterprise has the potential to broadly affect health through the inclusion of health education or links to health care within program design. In addition, the group recommended public and private partnerships at multiple intervention levels to influence health outcomes. To date, there is no research that addresses precarious employment and health within the context of microenterprise.

Methods: Data collection will begin in November 2006. Six focus groups will be conducted with women who utilize financial and/or educational resources from WESST at six different around New Mexico. Data will be analyzed using content analysis.

Implications: These data and a social ecology model will be used to increase the understanding of precarious employment and women's health within the context of microenterprise and inform community-driven health intervention programs.

TRANSCENDING THE NOW: USING GROUNDED THEORY WITH AFRICAN AMERICAN WOMEN

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Purpose: The purpose of this study was to explain the social psychological and social structural processes of African American women with breast cancer who were experiencing depressive symptoms using grounded theory. An explanatory theory of depressive symptoms in African American women with breast cancer was developed.
Background: The psychological health and well being of women with breast cancer has not been well studied despite the fact that breast cancer is the most common cancer among women in the United States. A prevalence of depressive symptoms up to 33% has been recorded after a diagnosis of breast cancer. For minority women this may be even more of a problem. Few studies have focused on psychosocial issues and their relation to breast cancer in African American women. Therefore, current healthcare literature is lacking concise descriptions and explanatory theories on depressive symptoms in African American women with breast cancer. As a consequence, depressive symptoms in African American women with breast cancer continue to be misunderstood, undetected, and often untreated.
Method: A grounded theory approach was used. The sample included nine African American women with breast cancer who experienced depressive symptoms. Semi-structured interviews were conducted with each participant. Grounded theory is a methodology that is able to explain the phenomena from the perspective of the participants actually experiencing the problem. Thus it is a means of discovering the main concern of patients and how they manage those concerns.
Results: The African American women in this study offered contextual descriptions of how breast cancer and depressive symptoms impacted their lives. Data were analyzed using the constant comparison method. The data indicated that African American women used the basic social process of *Transcending the now* to manage the basic social problem of having breast cancer and experiencing depressive symptoms. The five phases of the basic social psychological (BSP) process *Transcending the Now* that emerged during data analysis were *Relying on Faith, Being Strong, Seeking Support, Dealing with Life Too,* and *Enduring Breast Cancer*. These phases reflect aspects of African American culture.
Implications: African American women continue to be understudied in most areas of breast cancer research, including psychological health. The findings of this study provide nurses with new knowledge regarding the experience of depressive symptoms in African American women with breast cancer and provide a theory of transcending that can be used in building a research-based practice. Additionally, the results of this study provide nurses with new knowledge regarding the experience of depressive symptoms in African American women with breast cancer that can be used to provide culturally competent care to this population. The findings provide a theory of transcending that can be used for designing future intervention studies to address symptom management of depressive symptoms in African American women with breast cancer. Last of all, this study contributes to the emerging knowledge about African American women's health.

PERINATAL DEPRESSION, PARTNER VIOLENCE, AND SUBSTANCE ABUSE IN ARABIC REFUGEES

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Background: In El Cajon, California, the population of refugee Arabic women from Iraq has increased rapidly over the last two years. These women do not receive adequate prenatal care, in that they are not being screened for maternal depression (MD), intimate partner violence (IPV), or substance abuse (SA). All three of these conditions have been shown to have strong negative effects on prenatal health.
Aims/Purpose of the Project: The goal of this project was to improve the quality of prenatal care for the Arabic segment of the population of a community clinic in El Cajon by (a) creating valid screening tools for MD, IPV, and SA in the Arabic language; (b) implementing a routine screening program for the Arabic-speaking pregnant women served by the clinic; and (c) creating a referral pathway for the evaluation and treatment of those clients with positive results.
Design and Methods: Three new practices put into place at the clinic were: (a) screening during each trimester of pregnancy and at the six-week postpartum visit, (b) making referrals for those with positive screens, and (c) tracking to verify successful attendance at referral appointments. Screening tools included (a) the Edinburgh Postnatal Depression Scale (EPDS), (b) the TWEAK (tolerance, worried, eye-opener, amnesia, cut-down) test for alcohol use, (c) the Drug Abuse Screening Test (DAST-10) for other substance abuse, and (d) the Abuse Assessment Screen (AAS) for IPV. The tools were translated from English to Arabic and then back-translated. There were also reviewed and revised by focus groups of pregnant Arabic patients receiving care at the clinic to promote understandability and cultural sensitivity. All patients testing positive for MD, IPV, or SA were referred to a mental health professional. Arabic speaking social workers and mental health therapists have been located to provide referral services. All those referred to a mental health professional were tracked to determine their compliance in going to the initial appointment. A summary form including screening results for each tool, dates of completion, referral information if appropriate, and referral follow-up information was placed in the patient's record. Data were retrieved from summary forms via record review.
Results and Outcomes: The screening program was implemented in October 2009 and will continue through January 2010. To date 25 women have been screened and 48% scored positive for depression. Only one woman has reported IPV, and no clients have tested positive for drug or alcohol abuse. Further preliminary results will be available by the time of the presentation.
Conclusions and Implications: Preliminary conclusions and implications will be available by the time of the conference; however a comment from the one woman who reported IPV indicated that abuse is a fact of life for these women. This suggests that the AAS may not be an effective screening tool for IPV in this population.

BUILDING AN EVIDENCE-BASED ACUTE CARE WORK ENVIRONMENT

OVERVIEW: BUILDING AN EVIDENCE-BASED ACUTE CARE WORK ENVIRONMENT

Teri Wicker, Lesly Kelly, Barbara L. Wilson, Dianna Garcia-Smith

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NURSING SURVEILLANCE IN THE ACUTE MED-SURG ENVIRONMENT: LATENT VARIABLE ANALYSIS

Lesly Kelly

SELF-REPORT OF NURSING LEADERSHIP PRACTICE AFTER COMPLETION OF TRAINING

Teri Wicker

BUILDING CLINICAL INFORMATION SYSTEMS DEPENDENCE IN THE NURSING WORK ENVIRONMENT

Dianna Garcia-Smith

USING HUMAN FACTORS ENGINEERING TO STUDY ACUTE CARE NURSE RESPONSE DURING MOCK CODE

Barbara L. Wilson

BUILDING AN EVIDENCE-BASED ACUTE CARE WORK ENVIRONMENT

Overview: Building an Evidence-Based Acute Care Work Environment

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Purpose: The purpose of this symposium is to introduce varying approaches to 'Building an evidence-based acute-care work environment' by:

a. Examining the influence of transformational leadership training on hospital-based frontline nurse leaders (Dr. Teri Wicker, PhD, RN).
b. Defining, analyzing, and measuring the concept of nursing surveillance in medical-surgical nurses (Dr. Lesly Kelly, PhD, RN).
c. Evaluating the role of information quality and social influence in the hospital-based nurse's dependency on clinical information systems (CIS) (Dr. Dianna Garcia-Smith, PhD, RN).
d. Identifying the effectiveness of mock code training using Human Factors Engineering with inpatient acute care nurses (Dr. Barbara L. Wilson, PhD, RNC).

Background: Once considered to be in the 'realm of the sacred,' healthcare has now moved into an age of accountability where hospitals and healthcare delivery systems must define and describe the structures and processes that influence nursing practices and patient care outcomes. An important antecedent to the development of safe and effective outcomes for patients (and the nurses that care for them) is attendance to the hospital culture, where various aspects of the organizational structure (including leadership, policies and processes, information technologies, and nursing interventions) contribute in subtle and not-so-subtle ways to the work environment.

This symposium seeks to examine four different aspects of the acute-care hospital environment using an evidence-based approach. This approach utilizes the best available evidence in each of the focus areas (nurse surveillance, nursing leadership, nurse training, and information systems) and seeks ways to describe, define, analyze, and (when appropriate) apply the evidence in clinical situations to optimize outcomes, specifically addressing: (a) the effectiveness of leadership training on influencing transformational leadership behaviors; (b) the concept of nursing surveillance and its role in patient outcomes; (c) the influence of information quality and social influence on nurse CIS dependency; and (d) the influence of mock code training using Human Factors Engineering. Research in each area will be examined from a broad systems perspective, where organizational complexities (such as environment and technology) will be addressed.

BUILDING AN EVIDENCE-BASED ACUTE CARE WORK ENVIRONMENT

Nursing Surveillance in the Acute Med-Surg Environment: Latent Variable Analysis

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Purpose/Aims: The purpose of this research is to define, analyze, and measure the concept of nursing surveillance in medical-surgical nurses in the acute care setting.
Background: Nursing care has previously been described with terms such as observing, monitoring, and critical thinking. In both the clinical and research environments, nursing surveillance is an emerging term being used to describe the evolving, complex, and autonomous care nurses provide today, yet little research has been done to examine the concept, how it is measured, and its role in outcomes.
Methods: This study used a descriptive design to survey nurse's perception on the dimensions of nursing surveillance. Literature review was used to identify the attributes of nursing surveillance, which includes: activities, expertise, early recognition skills, intuition, and decision making. The Nursing Surveillance Survey was created and consisted of four existing instruments measuring expertise, early recognition, intuition, and decision making, and one new instrument measuring activities associated with nursing surveillance. A content review panel was used to develop the new Nursing Surveillance Activities Scale. A sample of 158 medical-surgical nurses participated in completing the full Nursing Surveillance Survey.
Results: Factor analysis was used to analyze each of the five instrument's items and total representation of the surveillance concept. The instruments performed adequately in psychometric testing, and modifications were made so composite development could be achieved. The dimensions were factored as a composite variable and four of the five dimensions loaded onto a single factor, while the activities dimensions loaded separately. These results can be explained through a theoretical difference between the dimensions, or through limitations with the newly created Nursing Surveillance Activities Scale.
Implications: This study identified a relationship between the four cognitive dimensions of nursing surveillance and their representation of the variable. This early research into measuring the dimensions of nursing surveillance identifies that the complex, multidimensional nature of the concept. Future research in nursing surveillance should account for the multiple dimensions of this concept and focus on the combination of both the cognitive and behavioral processes involved in order to fully represent nursing surveillance.

BUILDING AN EVIDENCE-BASED ACUTE CARE WORK ENVIRONMENT

Self-Report of Nursing Leadership Practice after Completion of Training

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Purpose/Aim: The purpose of this research was to examine whether frontline hospital-based acute care nurse leaders who had attended a leadership training program perceived their style of leading as containing behaviors representative of a transformational leadership style. A secondary purpose was to determine the participant's opinions about the value of a leadership program for their practice.
Background: Numerous problems are associated with nursing frontline leadership roles including poor job descriptions, an increase in responsibility without an increase in authority, and, even more serious, a lack of education on how to lead others. Working as a nurse leader requires complex skills and competencies that could affect not only staff, but also patients. Without proper education, training, and mentoring, nurse leaders may struggle in their roles, which can contribute to decreased nurse satisfaction and poor patient outcomes. Education may be an important precursor to effective leadership and currently there remains limited evidence about the direct effect of leadership on patient outcomes, but there is growing evidence that leadership affects the work environment, which has the ability to affect outcomes.
Methods: This study used a course evaluation and the Leadership Practices Inventory (LPI) to collect data related to frontline nurse leader's behavior after completing a leadership training program. A course evaluation was designed and utilized to gather information about the participant's perception of their leadership competencies, and the LPI measured perceived behaviors after completion of the Arizona Healthcare Leadership Academy (AzHCLA). Utilizing Survey Monkey, participants self-reported their perception on how frequently they used specific leadership practices.
Results: A combination of a quantitative and qualitative approach was used to accurately collect and process the perceptions of frontline nurse leaders. Descriptive statistics were valuable in identifying mean score differences in how nurses perceived their individual competencies and behaviors. Participants also had the opportunity to describe any personal gains received by having completed leadership training.

The LPI and course evaluation surveys revealed study participants as perceiving positive outcomes related to gaining new skills after completing leadership training. Reported perceptions of competencies and behaviors indicated that educational programs can be beneficial to the improvement of leadership competencies. Qualitative data showed that course participants perceived having gained new leadership skills and behaviors related to leading others.
Implications: This research explores the connection between frontline leader's perception, competency, and practice of leading others. The data from this study has created a baseline of information regarding frontline nurse leader's perceptions of their competencies and behaviors related to their practice of leading others. Nursing administrators should use this information to better understand how frontline leaders perceive their roles and responsibilities. Educators should utilize the results of this study to assist with identifying possible course objectives for new leadership courses and programs.

BUILDING AN EVIDENCE-BASED ACUTE CARE WORK ENVIRONMENT

Building Clinical Information Systems Dependence in the Nursing Work Environment

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Research Purpose: The purpose of the study was to evaluate information quality and social influence on clinical information systems (CIS) dependency in the nurse work environment.
Conceptual Basis/Background: Even though most CIS today are technically sound, the number of successful applications is low. There is broad agreement that the major challenges to systems success often are more behavioral than technical. Theory driven information systems models and CIS studies exist, but no specific CIS evaluation framework has been proposed. In the mandatory work environment, assessing dependence on a CIS is more appropriate than the commonly used measure of frequency of use. CIS dependence has been defined as the extent to which the information system has integrated into each user's work routine. The Clinical Information System Success Model (CISSM) (developed byauthor) introduced this variable and supported information quality and social influence as predictors of clinician CIS dependence.
Methods: This study is a predictive correlational design with content analysis of qualitative data collected. The participants were recruited from 234 medical, surgical and telemetry unit registered nurses from 45 units in 4 hospitals who had used the Cerner PowerChart Admission Health Profile (AHP) longer than 3 months. The hospitals were all from the same corporate hospital system but at different levels of CIS implementation. Participants' submitted an online questionnaire on their hospital work unit computers.
Results: Construct validity and reliability of the 23-item online instrument were established. Multiple Regression analysis showed that Information Quality and Social Influence were direct determinants of CIS Use Dependency by the clinicians. However, analysis by levels of CIS integration revealed a significant difference in level of dependency by the clinicians. Qualitative content analysis of the "Your opinion is important! Please add any comments here" text responses revealed significantly more opinions and suggestions about the CIS information quality than the role of social influence. The two major themes identified were information quality and workflow issues. Workflow issues are part of the CISSM facilitating conditions that do not directly relate to CIS dependency processes. The results supported that with increased integration of the CIS, there is an increase in Clinical Use Dependency and that an important part of this integration is attention to information quality. Workflow issues as they relate to the CIS appear to diminish over time.
Implications: The research findings contribute to our understanding of the nurse clinician's perceptions of how the clinical work environment affects the clinical success of CIS. The CISSM provides a framework to evaluate the overall success of a CIS on a formative as well as summative basis. As a result, intervention strategies specific to information quality, social factors, or facilitating conditions can target issues more efficiently and effectively. Nursing informatics science will benefit by gaining additional information for improving ongoing evaluation of CIS clinical outcomes and as a result, help improve the quality of patient care.

BUILDING AN EVIDENCE-BASED ACUTE CARE WORK ENVIRONMENT

Using Human Factors Engineering to Study Acute Care Nurse Response During Mock Code

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Introduction: It is well known that effective nurse response in cardiac and respiratory codes are paramount to ensure patient safety and survival and psychomotor training is a crucial component in obtaining and maintaining skill proficiency. Simulation training is an effective method to develop and reinforce psychomotor skills, although little is known about the role that human factors engineering (HFE) plays in refining the interactions between nursing personnel and hospital processes.
Purpose: Study objectives were to: (a) evaluate current hospital-wide code carts and process for responding to respiratory or cardiac arrests, (b) design and implement mock code training in acute care units using HFE, (c) evaluate how mock code training using HFE influenced the performance of nursing personnel, and (d) determine the characteristics of the nursing personnel for which simulation training was most beneficial.
Rationale/Background: Several approaches have been used to evaluate staff response in cardiopulmonary and respiratory arrests, including 'traveling competencies' using cognitive, behavioral, and psychomotor skills; drills that focus on collaboration, teamwork, and communication; and the use of mannequins and simulations to create life-like environments, to name a few. Simulation training is gaining more prominence in healthcare (although long recognized and used in aviation), as it allows an interactive learning experience in a realistic training environment that poses no threat to patients.
A challenge for many hospitals is how best to incorporate the science of simulation training while taking into account the institutional processes that either prevent errors or contribute to the development of error. Human Factors Engineering (HFE), a relatively new area in healthcare research, refers to the roles that humans play in the development of error; specifically, the interaction between people and processes, devises, or technology.
Methods: Using a prospective correlational design, selected staff demographics, type of mock code training, and comfort level in performing various roles in a code response were assessed pre (n=129) and post (n=48) mock code training using HFE in a 182 bed southwest community hospital. Twenty mock codes were conducted and assessed over a four month period on the day (0700 – 1900) and night (1900 – 0700) shifts on all inpatient units (excluding pediatrics), perioperative areas, and procedural units. Standard regression models and hierarchical regression models were employed to test relationships among identified variables.
Results: The factors most significant in predicting how comfortable nursing personnel were in performing their role during a code situation were: (a) job title, (b) type of training received, (c) comfort level with Basic Life Support (BLS), and (d) when the last live code they participated in occurred. Conducting mock code training on the home unit in an unoccupied room was viewed as 'helpful' ('4' on a 1-5 Likert scale) or 'very helpful ('5') by 94% of the code respondents.
Implications: The type of training used during mock codes directly influences the comfort and knowledge of nursing personnel in performing their roles. Incorporating a systems approach using HFE provides a valuable framework in helping identify system barriers and establishing best-practice staff competencies.

BUILDING CAPACITY FOR EBP AND RESEARCH AT THE BEDSIDE

IMPLEMENTING A HOSPITAL-BASED CLINICAL SCHOLARS PROGRAM

Jane Kerzan, Jean Benzel-Lindley

THE CLINICAL SCHOLARS MENTOR PROGRAM IN A HOSPITAL SYSTEM

Melanie Brewer, Alyce A. Schultz

BUILDING CAPACITY FOR EBP AND RESEARCH AT THE BEDSIDE

Implementing a Hospital-Based Clinical Scholars Program

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Aim: To develop a cadre of Clinical Scholars to promote and implement clinical research and evidence-based practice in a community hospital.
Background: In September 2008, a cooperative agreement between a consultant expert in evidence-based practice and clinical research and the hospital was concurred to promote the conduct of clinical research and the use of evidence by the point of care nurses. The educational mix of staff nurses at this facility is approximately 35/65 with 35% of the nurses prepared at the baccalaureate level. The facility is in the early stages of their magnet Magnet™ journey.
Approach: Following a promotion workshop for evidence-based practice, a series of Clinical Scholar workshops were planned. The current cadre of Clinical scholars was selected from application of those nurses interested in furthering their knowledge about the use of evidence in practice as well as clinical educators and members of the nurse research council at the facility. Introductory workshops were derived on the concepts of evidence-based practice for five months prior to the Clinical Scholar workshops to prepare the staff. Management supported the workshops through paid time for attending the workshops and for project development.
Outcomes: Sixteen nurses started the 2009 Clinical Scholars program, 87% completed the series. Attrition was related to conflicts with work schedules and lack of support from clinical managers and ongoing workload. Among the positives outcomes for the program this year are two clinical studies currently in progress, one within the educational department and one in the neonatal area. Both studies are internally funded by the sponsoring department. Evidence-based practice projects are advancing in the emergency department, surgery, orthopedics, rehabilitation, medical/surgical units as well as labor and delivery.
Conclusions and Implications for Practice and Research: The total number of staff formally involved in the Clinical Scholars program over the past two years continues to represent a small percentage of the nursing workforce in-house. A new series of workshops will begin in 2010 and the experience of the prior series will be used to meet the challenges of the proceeding series, using several of the successful processes that will be presented in the next presentation.

BUILDING CAPACITY FOR EBP AND RESEARCH AT THE BEDSIDE

The Clinical Scholars Mentor Program in a Hospital System

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Aim: To build a cadre of Scholars to serve as mentors in the critique, integration, implementation, and evaluation of quality improvement data and empirical studies and in the application and evaluation of the evidence in practice in a three-hospital system. **Background:** Initially, a cooperative agreement between the local university and the health system was established to promote the conduct of clinical research and the use of evidence by staff nurses. An expert with years of experience promoting clinical research and evidence-based practice (EBP) at the point of care was contracted to collaboratively conduct a series of Clinical Scholar workshops. A nurse researcher was also hired to develop a nursing research program and use of evidence by staff nurses. The health system set a goal of educating staff nurses to read, use, and conduct studies that were meaningful to them and improved the outcomes of the patients for which they cared. The combined focus was to develop a cadre of staff nurses with knowledge of research and EBP methods that could become mentors and leaders within their respective units of practice and for the system. The educational mix of staff nurses is approximately 30/70 with 45% of the nurses prepared at the baccalaureate level. The two hospitals have Magnet designation. **Approach:** The Scholars participated in the expert-led six workshops based on the components of the Clinical Scholar Model: Observation, Analysis, Synthesis, Application/ Evaluation, and Dissemination. The first projects included both qualitative and quantitative methods, development of practice guidelines and interventions for trauma patients. As the projects progressed and positive outcomes were achieved, the projects were presented at local, regional, and national conferences. Among the scholars who were successful at designing, implementing and evaluating EBP projects, mentors were identified who would provide direction and support for the next cohort of scholars. Workshops were provided for the mentors, and specific outcomes for being a Clinical Scholar Mentor were established. **Outcomes:** The first innovators have been presented nationally at evidence-based practice and research conferences. Sixty staff nurses have completed the Clinical Scholar workshop series since January of 2008. With the expertise of these first Clinical Scholars, twenty-five projects and studies were developed and five have been presented locally, regionally, and nationally. One of the Clinical Scholars was recognized at a national EBP conference with the outstanding abstract in 2009. Five mentors have been trained and meet with Scholars to facilitate and support unit-based and system-wide project implementation and abstract development. All five mentors have completed their master's degree, and two have entered a doctorate of nursing practice program. **Conclusions and Implications for Practice and Research:** To sustain excellence, practicing clinicians must use quality improvement data and critique and synthesize clinical studies. Collaboration among disciplines in acute care is paramount to the decision-making necessary for clinical research and evidence-based practice. Involvement in the Clinical Scholar Mentorship program has renewed the spirit of inquiry in nursing. Translational research is needed to further evaluate the outcomes of Clinical Scholar Mentorship as compared to other methods of promoting inquiry.

BUILDING SIMULATION NETWORKS: AN OVERVIEW OF FOUR UNIQUE ALLIANCES

OVERVIEW: BUILDING SIMULATION NETWORKS: AN OVERVIEW OF FOUR UNIQUE ALLIANCES

Suzan Kardong Edgren

BUILDING A REGIONAL SIMULATION NETWORK: A FOUR YEAR REPORT

Suzan Kardong Edgren

A SIMULATION PROGRAM TO IMPROVE THE PERFORMANCE OF NEW NURSING GRADUATES

Deborah Bennett

IMPROVING MILITARY HEALTHCARE TEAM SKILLS THROUGH UNIVERSITY PARTNERSHIPS

Denise Smart

NURSING AND CRIMINAL JUSTICE: LESSONS LEARNED FROM DEADLY FORCE SIMULATIONS

Janet Willhaus, Katie Anne Adamson, Lauren Waggoner

BUILDING SIMULATION NETWORKS: AN OVERVIEW OF FOUR UNIQUE ALLIANCES

Overview: Building Simulation Networks: An Overview of Four Unique Alliances

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After a simulator is up and running, alliances with other agencies become a priority. Networking with unique local resources can help a group qualify for larger grants or research opportunities. Presenters will describe the development of simulation networks and alliances that have provided unusual opportunities for collaborations over the past three years. These have included research with a university department of criminal justice, the local Air National Guard (ANG) unit, a large hospital system, and multiple universities and health sciences departments, sharing one campus. Multiple articles and presentations have been produced by network members.

BUILDING SIMULATION NETWORKS: AN OVERVIEW OF FOUR UNIQUE ALLIANCES

Building a Regional Simulation Network: A Four Year Report

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Aims: This presentation describes how one university moved from an unused manikin in a box to five high fidelity manikins and a regional simulation professionals' network (SPN). This network has provided the opportunity for multiple collaborations, educational opportunities, national presentations and studies, a HRSA grant, and the build out of a regional sleep lab to incorporate health worker sleep deprivation research work with simulation.
Background: Simulation was relatively unknown and used by only a few organizations in our area four years ago. The initial working motto of the network was "it is much better to seek forgiveness than to ask permission." The Diffusion of Innovation theory was used to seek key local grant funding to introduce multiple potential partners to simulation, to move its adoption forward in the region.
Brief Description: The ups and downs of building a regional simulation network from two programs in one university to many programs in several universities on one campus and the surrounding area will be described. The SPN motto is now "share shamelessly." The difficulties created for business and academic administrations when dealing with new alliances and sharing shamelessly will be discussed.
Documented Outcomes: Multiple articles and presentations have been made and saved in the SPN annual report. Local, regional, and national simulation research opportunities and alliances have been forged by members of our simulation collaborative.
Conclusions: Building regional simulation networks to collaborate in research and grant opportunities is worth the effort and creates many more opportunities for existing infrastructures.

BUILDING SIMULATION NETWORKS: AN OVERVIEW OF FOUR UNIQUE ALLIANCES

A Simulation Program to Improve the Performance of New Nursing Graduates

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Purposes/Aims: This presentation describes a program that uses simulation to improve and refresh the nursing skills of new nursing graduates. A healthcare agency and a local university in Southern California collaborated in a pilot new grad transition program. The healthcare agency wanted to utilize simulation methodology as well as classroom and preceptor instruction for the new graduates.

Rationale/Background: Due to a lack of clinical opportunities nursing graduates are entering the workforce deficient in the nursing skills required to provide competent patient care. Healthcare organizations hiring these new graduates realize this problem and are looking for ways to improve new graduate nursing skills and apply classroom knowledge in a simulated clinical environment that provides a learning experience that does not put patients at risk.

Brief Description: The healthcare agency's education consultant collaborated with the CSUSM School of Nursing simulation coordinator to create patient care scenarios. Simulations occurred at the CSUSM School of Nursing Simulation Lab utilizing high fidelity manikins. The scenarios included community-acquired pneumonia, chronic and acute pain, pre-op blood transfusion, r/o MI, hypoglycemia, sepsis, CVA and an ethical simulation. In each simulation the new grads were given a brief report and a chart to review containing doctor's orders, labs, H & P and medication records. The care plan had to be revised as the scenario unfolded to meet the changing needs of the patient. In a fifteen minute time frame the graduates provided interventions, gave medications and reassessed the situation as needed. They also had to effectively communicate with each other, the patient and family, and other members of the health care team using the SBAR format.

Outcomes: All simulations were filmed and the new RNs watched the video after the scenarios were completed followed by a one hour debriefing using the DASH format and conducted by the simulation coordinator. A family member was played by a clinical instructor using a script written by the simulation coordinator. The new graduate nurses discussed what went well and didn't go well, what they would have done differently, and their goals for the next simulation. This first group of graduates felt that the realistic nature of the simulations contributed to their knowledge and helped them to prioritize their thinking and resulting actions. The educators provided clinical expertise as needed during the discussion.

Conclusions: The new grad transition program is still being evaluated by both the hospital and the CSUSM simulation coordinator. Additional groups are scheduled to attend the program and will provide the additional information needed to judge its effectiveness. The expected outcomes of these simulations were for new grads to safely deliver patient care in a variety of clinical situations by identifying areas of strength and of weakness and reinforcing clinical competency. Further study may indicate a change is needed in classroom instruction techniques as well as the order in which subject matter is taught and clinical or simulated clinical instruction is provided in order to better prepare nursing graduates for the real world environment.

BUILDING SIMULATION NETWORKS: AN OVERVIEW OF FOUR UNIQUE ALLIANCES

Improving Military Healthcare Team Skills through University Partnerships

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Purpose: This presentation describes the development of a partnership between a local Air National Guard (ANG) group and a local university nursing skills and simulation lab to improve readiness and meet yearly skills training objectives.
Background: Finding the means to train large cadres of technicians and officers in required medical readiness (wartime and disaster response) skills was increasingly difficult. One local officer recognized the opportunity provided by linking a squadron with a local university simulation and skills lab to meet and exceed yearly training requirements.
Methods: The planning and coordination required to begin and maintain such a training alliance will be discussed. The university provides simulation facilities, task trainers, space, and manpower to assist with training requirements. The ANG provides needed supplies for the skills training and manpower to train the skills to unit specifications.
Outcomes: To date, after two weekend squadron training sessions over 4 months, 85% of training requirements have been met, compared to previous training sessions without the partnership. $50,000 in costs savings has been realized. Satisfaction is high. Participant comments such as “this is the best training we have ever done” are common.
Conclusions: Partnerships with simulation organizations to meet ANG training requirements is one way to provide cost-effective adequate training to meet unit state and federal goals. Partnerships such as this might be one way to provide maintenance funds in a time of scarcity for skill replacement needs for simulation and in skills labs.

BUILDING SIMULATION NETWORKS: AN OVERVIEW OF FOUR UNIQUE ALLIANCES

Nursing and Criminal Justice: Lessons Learned from Deadly Force Simulations

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Purposes/Aims: This presentation showcases best practices for data collection in simulation research.

Rationale/Background: In order to improve simulation research, nurse scientists must improve current methods of data collection and knowledge development. Techniques employed by other disciplines provide an important cache of research strategies that nursing may adopt for improving research and inquiry in nursing. Colleagues in the Criminal Justice Program set the bar for methodological rigor and replicability during deadly force simulations. The presenters monitored quality control and assisted with data collection during a sophisticated study protocol.

Brief Description of the Undertaking, including the Approach, Methods, or Process Used: This investigation focused on police performance during deadly force encounters. Due to the difficulty of conducting research on this issue in the field, high fidelity police training simulators that have been adapted for data collection. Scenarios represented the most frequently encountered interactions by police based on FBI reports. It also included development of metrics specific to encounter difficulty and police performance.

Outcomes Achieved/Documented: Participating in research from another discipline resembled getting a new pair of glasses for the presenters. The perspective from an other-than-nursing viewpoint reinforced principles of research that are sometimes overlooked in nursing. The attention to detail in every step on the methodology allowed for data collection untainted by researcher bias or protocol deviation. Pre-data collection planning included research assistant training, equipment practice sessions, dress rehearsal of the actual data collection, and multiple revisions of the data collection protocols. The focus spent on planning phases resulted in a valuable day of data collection where 27 simulations were conducted. Researcher assistants circulated throughout the day remain focused.

Conclusions: Nurse researchers can benefit from observing the precision applied to research protocols from another discipline. Replication of investigations in nursing is often difficult because methodology is not well-defined or reported in the literature. Nursing simulation studies often have small samples which make generalization across the discipline difficult. By taking more precise measures to document and plan data collection, nurse researchers can begin to replicate studies which will give more credibility to support simulation usage in nursing education (Oermann, 2009).

CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

OVERVIEW: CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

Renee Hoeksel, Janet Spuck, Linda Gwinn

MEDITATIVE THINKING: COMBINING EVIDENCE-BASED PRACTICE AND ETHICAL REASONING

Billie Severtsen

RN-BSN LEARNER-CENTERED EDUCATION: IMPLEMENTATION OF A WEB-BASED PROGRAM

Anne Hirsch, Renee Hoeksel

ADVISING ONLINE RNB STUDENTS: DOORBELL TO DEGREE

Mary Stucky

CULTURAL SAFETY: HELPING TO SITUATE RN-BSN FACULTY AND STUDENTS LOCALLY AND GLOBALLY

Dawn Doutrich, Lida Dekker, Janet Spuck¸ Kari Arcus, Catherine Pollock-Robinson

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OPERATION BSN: AN INNOVATIVE PARTNERSHIP

Renee Hoeksel, Janet Spuck, Troy Larkin, Deborah A. Burton

CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

Overview: Changing the Culture through RN-BSN Education

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Background: The complexity of healthcare needs and the evolving healthcare system call for a well-educated nursing workforce. Growth in magnet hospitals, attention to quality care indicators for reimbursement and efforts in healthcare reform escalate need for the BSN nurse yet the shortage of BSN-prepared nurses is well-documented. Nursing schools are addressing this shortage by increasing their enrollments and many offer accelerated programs for new students of nursing. There remains, however, a large work force of experienced nurses (>60% nationwide) not prepared beyond the associate degree or the diploma level. Though more than 80% of these nurses wish to return to college to achieve their BSN, overcoming multiple barriers remains challenging. Over the last 20 years, one college of nursing has established a strong track record of assisting working registered nurses to successfully achieve their BSN. Regardless of their geographic location, how long since they last attended college, what shift they work or position they hold, this RN-BSN program, along with its practice and community college partners, has worked to provide accessible courses to change and improve the culture of quality patient care.
Description of the Process: Curriculum was developed to avoid duplication of previous nursing course work and to address national standards. Challenges existed as to how to engage students ranging from new A D N graduates to RNs with many years of practical work experience. Styles of learning continue to evolve and that has led to revisions in course-delivery. This symposium will feature experienced faculty members at two different campuses of a tier 1 land-grant, research university in the West who will share their experiences in developing, implementing, and evaluating via specific outcome assessments aspects of this successful program. Presentations will include (1) moving program delivery from distance friendly video-conferencing to totally online, (2) crucial need for service-oriented advising, (3) innovative partnerships with practice partners, (4) threading research results on cultural safety into the curriuclum, and (5) facilitating a paradigm shift to meditative thinking when studying healthcare ethics.
Outcomes Achieved: By the year 2010, approximately 1,000 registered nurse students will have achieved their BSN from this college. Program outcomes measured by graduation exit surveys demonstrate that students are exceptionally satisfied with the curriculum, the faculty, and program advising. Recent rankings of program quality were very positive: exceptional (77%) and excellent (23%).
Conclusions: Registered nurses returning to school to obtain baccalaureate degrees require innovative curricular flexibility to facilitate academic success and personal goal achievement. Faculty, students, and practice partners must work together to assure that the instruction, advising, and program delivery represent educational best practices and address the growing need for the BSN nurse.

CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

Meditative Thinking: Combining Evidence-Based Practice and Ethical Reasoning

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Background: Students who enter an RN to BSN program are already socialized to some extent into the life of a practicing nurse. The nursing process is an example of calculative thinking, planning actions to achieve a specific end. The use of science in healthcare is part of this paradigm commonly called evidence-based practice. Nurses, however, commonly see patients who were assessed, treated, and supported in the best scientific way but who did not improve. They are confronted with dilemmas often involving moral dimensions that call for a different kind of thinking, meditative thinking, if the patient and family are to be treated in an ethical manner. How to teach meditative thinking to RN students enrolled in a BSN program becomes a faculty task since the nurses typically entering these programs are well socialized into the calculative model of thinking.

Purpose: The purpose of this presentation is to describe a highly successful method of instruction of a healthcare ethics course to practicing nurses utilizing meditative thinking. This approach combines evidence based practice and illness narratives into ethical reasoning and client advocacy.

Process: Meditative thinking urges nurses to reflect again and again on the illness narrative or story that patients have developed in order to appreciate the patient as they are (or, as Heidegger would say, "because they exist). This thinking represents a radical departure from calculative thinking in that, instead of trying to "fix" something, the object is to appreciate the patient (and their illness story) as a totality. Meditative thinking emerges as the story of the patient's illness is attended to with the same seriousness as the medical record. As illness narratives are deconstructed in a group, using narrative pedagogy, students are able to identify appropriate client advocacy interventions based on their knowledge of ethical reasoning. Students are invited to share their stories of ethical dilemmas they have encountered within their clinical situations with the rest of the class.

Outcomes: Graduates of this program are better able to function in their role as client advocates. Instead of embracing every new, innovative approach to patient outcomes, students learn to discern, as client advocates, along with their patients, which practices are ethically called for. Nurses need to "know" their patients in an ethical way, paying attention to the illness narrative and learning to appreciate the meaning of the illness experience in the life of the patient and their family.

Conclusion: Faculty understand and incorporate this kind of thinking in instruction across our entire curriculum. It is of particular importance that faculty teaching clinical courses reinforce the idea that there is more to a patient situation than an illness which needs to be diagnosed and treated in a best practice medical model way. Heidegger spoke often of "saving man's essential nature." If we fail to appreciate our patients and take the time to meditatively develop some sort of professional relationship with them, how can we hope to individualize their care or ethically treat them?

CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

RN-BSN Learner-Centered Education: Implementation of a Web-Based Program

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Background: The complexity of healthcare needs and the evolving healthcare system call for a well-educated nursing workforce. Hospitals seeking magnet status are endeavoring to increase the percentage of their nursing staff with advanced education. Rural areas are especially in need of experienced nurses with leadership, management and organizational systems skills; the level of education typically provided at the baccalaureate level. Yet, rural nurses are even less likely to possess a Bachelor of Science degree in Nursing (BSN) than nurses in urban centers. In Washington State over 14,000 nurses in rural areas do not have a BSN and lack access to a four year college or university to pursue that degree. The educational needs of rural nurses are also more complex than urban nurses as they often cannot leave their workplace or community to pursue advanced education as they may be the only nurse available. Therefore, it is imperative that educational programs be delivered to rural areas and that courses be available asynchronously to allow nurses to continue working while completing their degree.

Purpose: This presentation will discuss the development, implementation, and evaluation of a totally web-based, student-centered RN-BSN Program utilizing a community of learning model.

Process: In 2000, Washington State University received state funding to develop and deliver an asynchronous, web-based RN-BSN program. The program consists of 30 credits and focuses on leadership, management, community health, psychiatric nursing principles, and role change. The college faculty members were very reluctant to change their tried and true methods of course delivery, many feeling that their content could not be delivered effectively without face-to-face contact with their students. Numerous strategies were attempted to increase the buy-in and confidence of the faculty, including offering educational opportunities to increase their knowledge and skills in web-based educational modalities. In order to ensure the quality of instruction, the fears of the faculty and students must be addressed and a "community of learning" must be developed. A partnership between the faculty, students, and staff (web-course builder and educational media producer) must develop. Finally, online tools allowed the faculty to conduct threaded, asynchronous discussions and online chats, share documents with students, establish collaborative learning opportunities, present content, incorporate video and online resources, develop e-portfolios, administer exams, participate in simulation exercises, and provide feedback/grades. Students were able to turn in their assignments and journal throughout the course, always maintaining contact with their course faculty.

Outcomes: The journey, for administrators, faculty, staff, and students, has been long and fraught with challenges and triumphs. The program has grown from 9 "web RNs" to over 200 and the feedback from students and faculty has been exceptionally positive. Student achievements are equal to those of the face-to-face courses.

Conclusions: Many registered nurses are unable to attend "real time" programs to achieve their BSN. Totally web-based programs including those with a clinical component can meet this growing demand while maintaining quality outcomes.

CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

Advising Online RNB Students: Doorbell to Degree

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Background: The shortage of BSN-prepared nurses is well-documented. Growth in Magnet Hospitals, attention to quality indicators for reimbursement and efforts in health care reform escalate need for the BSN nurse. Education and practice are working together to provide accessible RNB programs and employer supported time and funding for more RNs to advance to the baccalaureate degree. The Washington State Legislature provided high demand money for the Washington State University College of Nursing to develop and implement an online RN to BSN program, fall 2000. During implementation, the Washington Center for Nursing identified RNB education as the program of greatest demand. Both instruction and advising present challenges for distance RNB students. The importance of nurse advisors is supported by Boylston and colleagues, Jacobs and others. Students have rated advisors and instructors with equal importance. Nurse advisors provide transcript review and application guidance that gives distance students the friendly support needed for time efficient and flexible course planning.

Purpose: The purpose of this presentation is to describe a highly successful model of advising for RNs in an online RNB program that demonstrates the need for continuous nursing faculty advising, tracking, mentoring, and program support.

Process: Crucial advising steps are inclusive of Inquiry and Initial Service, Pre-Program Advising, Application and Acceptance, Registration and Enrollment, Orientation and Concurrent Program Advising, Graduation and Alumni support. Partners in this process are the admissions, registrar, and graduation offices for the university as well as student support services for the college. Library and IT staff are essential service providers for database, registration, course software and e-mail programs; financial aid and bookstores are additional players.

Outcomes: Continuous, same person advising from inquiry to graduation is beneficial in establishing a personal relationship and college connection with distance students. Student interest and enrollment has grown from 9 students in 3 courses, Fall 2000 to almost 200 students enrolled in 12 courses offered 3 times a year, Fall 2009. Readily available advising provides accurate, consistent and timely information based on a working knowledge of the ever-changing factors in any program. Students recommend the program to their colleagues and graduates now teaching in ADN programs encourage students to consider their alma mater for advancement to the BSN degree in Nursing.

Conclusion: Academic advisors and faculty perform an equally important and valued role for students. Continuous advising, inquiry to graduation can provide the personal connection to program and college valued by the distant student in an online program.

CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

Cultural Safety: Helping to Situate RN-BSN Faculty and Students Locally and Globally

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Purposes/Aims: The purpose of this presentation is to explore how cultural safety, developed in Aotearoa New Zealand, informs US nursing education and specifically how cultural safety has been incorporated into RN to BSN curriculum.
Rationale/Conceptual Basis/Background: The concept and practice of cultural safety emerged in Aotearoa New Zealand as a nursing response to the bicultural relationship between Maori, the indigenous people, and other New Zealanders. New Zealand nurses have been in the forefront of developing, articulating, and teaching cultural safety for two decades. Over five years ago, The College of Nursing began the process of a systematic curricular revision based on Morey and Kitano's work with multicultural transformation in higher education.
Methods: A research study was designed using an interpretive, hermeneutic, qualitative design. The study process included interviews with 12 nurse participants describing their experiences of cultural safety in practice and education. Two US nurse researchers traveled to New Zealand and were joined by a New Zealand nurse researcher to conduct the interviews. Participants were selected through snowball, purposive, and convenience sample methods.
Results: Themes that emerged from the interviews include: the importance of knowing where you come from and telling your story; the significance of reflection; how cultural safety and the teaching about it has purposefully evolved over time; working to understand the experience of first peoples, which includes situating the understandings within historical and sociopolitical contexts; "being alongside" or "looking at a way forward together" involve the essential nature of partnership in nursing and nursing education; the examination of power differentials, conflict and "the learning that happens on the margins of discomfort"; tension between social justice for oppressed group members and others, expressed as an issue of equity versus equality; and motivation for cultural safety, which refers to a desire to be culturally safe in education and practice and includes anxiety about "getting it right."
Implications: Ways that these themes have been integrated into educational philosophy, courses, and concrete assignments in the RN-BSN program will be discussed. As the RN to BSN program has undergone curricular and faculty change, new ways of teaching about culture have been explored.

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CHANGING THE CULTURE THROUGH RN-BSN EDUCATION

Operation BSN: An Innovative Partnership

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Background: Recognizing that a limited supply of BSN nurses can compromise quality of patient care delivery, a regional health system care corporation selected, through a Request for Proposal process, a local college of nursing for an innovative partnership to increase their proportion of BSN-prepared staff nurses. Adequate numbers of newly graduated BSN prepared nurses could be hired but a significant proportion of the health system's experienced nurses were only associate degree-prepared. The college of nursing selected had a strong track record of working with experienced registered nurses who had not been in a college classroom for many years. The health system was seeking a cohort model of synchronously delivered courses such that nurses who had been hesitant to return to academia would have collegial support and professional support throughout the program.
Purpose: This presentation will summarize development, implementation, and outcomes of this innovation between nursing partners in academia and service, including benefits to the university, students, nurse executives, the health system, and the community.
Description of Process: Key health system nurse executives and educators met with two senior faculty members to design a course of study to be completed in four consecutive semesters including two summer sessions. All in-class meetings were scheduled on the same day each week to facilitate staffing and program organization. In addition to program planning, both the health system and the college of nursing worked together on recruitment of applicants and orientation of students once classes began. University support for this unique cohort of students remained within budgeted resources and included on-site transcript review at seven hospitals, specialized orientation, individualized advising, and community building activities. Hospital-based nurse educators at those seven sites assisted with recruitment and stayed in close contact with nurses who eventually became students at that site. Distance delivery technologies were utilized for course delivery as most students traveled to the college campus for class while those more than 300 miles away attended via videoconferencing. The health system established an internal application process and specific criteria for full tuition scholarships awarded once students were successfully admitted to the college.
Outcomes/Conclusions: Termed, "Operation BSN," this cooperative effort creatively enabled a pool of valued, highly experienced registered nurse employees to pursue their baccalaureate degrees in a win-win partnership for the college of nursing, the regional health system care corporation, and most importantly, patients. Student and faculty outcomes were extraordinarily positive. To change the organizational culture towards higher quality care, this regional health care system stepped up and invested tangible resources into retaining a more highly educated nursing workforce.

CLINICAL CARE PRACTICES AND OUTCOMES

CLINICAL AND ECONOMIC OUTCOMES OF CHEMOTHERAPY VIDEO INSTRUCTION TO ONCOLOGY PATIENTS

Cynthia Crist

LABORING DOWN

Terry L. Emrick, Monica Rhea

SCREENING STRATEGIES TO IMPROVE EARLY DIAGNOSIS OF DIABETES MELLITUS IN THE ADULT POPULATION

Andrew Fernandez, Joseph F. Burkard

A MOTIVATIONAL INTERVENTION TO REDUCE STROKE RISK IN OLDER ADULTS

Amy L. Silva-Smith

AN INTERVENTION TO ENHANCE PATIENT ACTIVATION IN HEART FAILURE

Mary F. Kodiath, Ann Kelly, Nancy Gardetto, Carl Stepnowsky, Carolyn Larson, Martha Shively

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EATING DISORDERS NURSING: ROLES, SKILLS, AND THE THERAPEUTIC ALLIANCE

Kirsti Weekes

COMMUNICATION PATTERNING AND DIABETIC OUTCOMES: ADVANCING RESEARCH INTO PRACTICE

James R. Kennett

DEVELOPMENT OF A GROUNDED THEORY FOR TRANSLATION OF EVIDENCE TO PRACTICE
Deborah J. Kenny

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CLINICAL AND ECONOMIC OUTCOMES OF CHEMOTHERAPY VIDEO INSTRUCTION TO ONCOLOGY PATIENTS

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Rationale/Background: The typical method of delivering one-on-one education to chemotherapy naïve patients newly diagnosed with cancer is often inadequate because of low-health literacy and information overload. The one-on-one delivery format also requires substantial provider time because information often has to be repeated. While the use of videos for patient education is well-documented, no studies to date have examined this approach nor included an analysis of cost-effectiveness in a private practice setting.
Purpose/Aims: The purpose of this project is to examine whether the inclusion of an educational video about chemotherapy prior to a one-on-one session with a nurse practitioner will increase knowledge, provide patient satisfaction, and yield a favorable cost-benefit ratio in a small private oncology practice setting. A secondary aim is to examine whether demographic variables and patient satisfaction are related to knowledge about chemotherapy after patients view the video and meet with the nurse practitioner.
Approach/Methods/Process Used: At the patients initial oncology visit, they will be instructed to watch an investigator-developed video at home before returning for a one-on-one follow-up visit with a nurse practitioner. Pre- and post-test questionnaires will measure knowledge and an investigator-developed satisfaction measurement tool will measure satisfaction. Cost will be measured indirectly by tracking provider time spent on patient education.
Results/Outcomes Achieved/Documented: The investigator expects to learn whether patient knowledge post-video significantly improves and to what extent this method of learning is satisfactory and cost-effective. This project is in the implementation phase; however study results will be available by the time of the conference.
Conclusions/Implications/Recommendations: In addition to learning whether these strategies will improve patient education and its associated costs in an out-patient oncology setting, long-term outcomes may include better management of patient's side-effects, increased communication between patients and providers, and fewer adverse health outcomes and hospitalizations.

LABORING DOWN

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Purposes/Aims: The purpose of this study is to determine which method of the management of second stage of labor supports the best practice for women laboring with an epidural. For women in labor with epidural anesthesia, does the use of laboring down improve the fetal and maternal outcomes compared to active pushing at 10 cm dilation?
Rationale/Conceptual Basis/Background: The management of the second stage of labor in women with epidural anesthesia in regards to pushing immediately at complete dilation versus allowing for spontaneous descent without pushing is controversial. There are indications that the fetus is physiologically stressed during the second stage of labor due to the use of sustained valsalva bearing down efforts, which are typically used with pushing of women who have received an epidural. The adverse affects to this process are fetal deoxygenation, maternal fatigue, increase in perineal tears which can lead to third and fourth degree lacerations, and an increase in assisted vaginal births, and, therefore, a decrease in urogynecological function including a decreased capacity of the bladder and a higher incidence of urodynamic stress incontinence. The conclusion from the literature suggest that further research on the potential advantages of minimizing the duration of pushing in labor is advisable.
Methods: A randomized controlled study was conducted over a period of several months on Primapara patients admitted in early labor or for a scheduled induction to determine the effects of laboring down versus pushing immediately at 10 cm dilation. A retrospective review of data collected from the study including the review of fetal monitor strips on patients admitted was accomplished.
Results: The researchers recruited 84 women to participate in the program. A total of 66 women were included in the experimental group and 18 in the control group. Data showed an equal distribution of inductions versus spontaneous labor (44 inductions vs. 40 spontaneous labor). Eighty-four percent of women included in the study were not in active labor on admission. Laboring down time for all subjects was 45.29 minutes.
Implications: Increased awareness of the effects of laboring down on the mother and child among medical and nursing staff members and patients.

SCREENING STRATEGIES TO IMPROVE EARLY DIAGNOSIS OF DIABETES MELLITUS IN THE ADULT POPULATION

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Background: Diabetes is the classic disease model for screening because clinical disease is typically preceded by lengthy asymptomatic phase. Recognition of patients with undiagnosed diabetes in and of itself is important because of evidence of preclinical vascular disease and also because of the potential to prevent or delay onset of actual diabetes mellitus. Not every person at risk will develop diabetes, and not everyone who develops diabetes will have progressive complications. The direct mechanism by which dysglycemia translates to vascular disease is an area of active research and is most likely multifactorial. Using diabetes screening guidelines for disease identification is beneficial and improves outcome. In both type I and type II diabetes mellitus, periods of hyperglycemic exposure can cause long-term adverse effects. Because glycemic control is not achieved in patients that have not been diagnosed, the use of diabetes screening guidelines plays an important role in preventing long-term complications. The need to use diabetes screening guidelines is evident during a new patient visit. An average day of new patients seen in the adult medicine clinic is forty-five new patients. The population represented during these visits equates to 85% Hispanic, 10% African American, and 5% Caucasian of the forty five new patients. Currently screening for diabetes is congruent with the patients' medical complaint. Implementing diabetes screening guidelines will assist all providers to screen early for diabetes among the new patients.

Aims/Purpose of the Project: The use of a rapid diabetic screening algorithm may improve early diagnosis of diabetes mellitus in the Adult population.

Designs and Methods: This project will be conducted using a retrospective chart review of 1,000 charts of patient encounters to pilot the use of the rapid diabetic screening algorithm. The rapid diabetes screening algorithm will be used for patient encounters by the healthcare providers at the clinic. The data collected during the chart review will include all patients seen in the adult clinic and all patients newly diagnosed with diabetes mellitus. The Iowa Model was used in the development of the diabetes screening guidelines.

Results/Outcomes: In Process.

Implications and Conclusions: The adult medicine clinic provides care to the uninsured population. The clinic diabetes screening guidelines are intended to guide the healthcare provider to identify patients with diabetes symptomatology. The use of the algorithm form will assist the healthcare provider to initiate diabetes screening tests and early treatment. The screening guidelines were developed based on the Screening Guidelines for diabetes mellitus developed by the American Diabetes Association, American Association of Clinical Endocrinology, (ADA/ACCE, 2007). The use of standardized diabetes screening guidelines for early diagnosis of diabetes mellitus is supported in the literature (ADA, AACE, 2007). These organizations identify the importance of healthcare providers to identify symptoms of diabetes in the early stage of the disease by utilizing the diabetes mellitus screening guidelines.

A MOTIVATIONAL INTERVENTION TO REDUCE STROKE RISK IN OLDER ADULTS

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Purpose: The purpose of this paper is to describe a theory-driven approach to developing a motivational intervention to promote physical activity and healthy diet to reduce stroke risk among older adults. The Wellness Motivation Theory (WMT) guided the development of Promoting Older Adult Wellness (POW), grounded in formative research and strengths of community-based interventions with older adults.
Description of Theory: The WMT provides an understanding of behavior appraisal and change toward a healthier lifestyle, and acknowledges the older adult interacting with their environment through promoting, social contextual resources, behavior change processes and actualization of risk-reducing health behavior. To meet its goal of promoting motivation for the adoption and maintenance of physical activity and healthy eating among older adults, POW operationalizes key dimensions of the WMT as critical inputs designed to: (a) Promote the capacity to recognize and create social contextual resources for physical activity and healthy diet. From a culturally-relevant perspective, social contextual resources are promoted through group support and resource development. (b) Encourage dialogue about individual and community resources and strategies for change through empowering education. Empowering education uses a reflective approach for providing information, anticipatory planning, and problem solving, designed to promote social contextual resources, motivation appraisal, and self-regulation. (c) Foster motivational skills to promote physical activity and healthy diet through problem solving, goal determination and shaping, strategy formation, self-regulatory strategies, self-monitoring, and anticipatory problem solving, designed to promote self-knowledge, motivation appraisal, and self-regulation.
Internal Consistency of the Theory: Intervention development was based on program theory: problem definition, critical inputs, mediating processes, expected outcomes, and implementation issues. Critical inputs target planned changes in hypothesized mediating variables including social contextual resources of social support and environmental resources; behavioral change processes of self-knowledge, motivation appraisal, and self-regulation; behavioral change variables including dietary intake and physical activity; and cardiovascular outcome variables including blood pressure and body composition measures.
Logic Linking Theory to Problem: Despite the fact that stroke is a leading cause of death and long-term disability, theory-driven interventions to reduce stroke risk have been limited. Large-scale epidemiological studies have clearly demonstrated that regular physical activity and healthy diet reduce the risk of stroke in adults. Given the risk of overweight, obesity, and physical inactivity, the identification of interventions designed to promote physical activity and healthy eating is critical for stroke prevention. Current literature suggests that motivational factors are instrumental in efforts to change health behaviors. Theory-based interventions that incorporate motivational strategies are essential to achieve the desired health outcomes of reduced stroke risk.
Conclusions: Attention to theory-based interventions that foster motivation for physical activity and healthy eating to reduce stroke risk in older adults may begin to address a significant health concern and further the science in this field.

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AN INTERVENTION TO ENHANCE PATIENT ACTIVATION IN HEART FAILURE

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Purpose: The purpose was to evaluate the implementation of an activation intervention on patient activation and self-care management in patients with heart failure. Lessons learned in implementing and evaluating the advanced practice nurse-led intervention will be shared.
Rationale: Heart failure care over the past decade has not fully explored patients' engagement or activation in their own care using the Chronic Care Model. This individualized, tailored intervention focused on activating the patient to acquire knowledge and skills needed for confident self-management.
Methods: The intervention was a 6-month program developed to enhance self-management and was tailored to each participant's activation level. At the first individual meeting, the intervention/program leaders assessed patients' stage and level of activation as stage 1 or 2 (low activation), stage 3 (medium), or stage 4 (high). This baseline activation was assessed by both the patient's self-report score on the Patient Activation Measure© (PAM) (Hibbard et al. 2005) and a brief interview. The tailored program focused on individualized self selected goals. Each participant met with the intervention nurse(s) for 6 sessions, by phone or in person. During these meetings their individualized health behavior goals were discussed, progress towards goals was reinforced and questions answered. Treatment fidelity was monitored by audio recording visits; these visits were reviewed by two members of the study team who were not part of the intervention.
Results: Thirty-nine individuals participated in the intervention. Baseline self-report PAM© scores of activation showed 26% (10/39) at stage 1, 26% (10/39) at stage 2, 30% (12/39) at stage 3, and 18% (7/39) at stage 4. The facilitators rated no participants at stage 1, 33% (13/39) of the participants at stage 2, 46% (18/39) at a medium level of activation, stage 3, and 21% (8/39) at a high level of activation, stage 4. There was no more than one level of activation difference between the (PAM) © self-reports and the facilitator rated interview for 80% (31/39) of the participants. Twenty percent (8/39) of participants had a difference of 2 or more levels and 7 of these had PAM © scores lower than the interview rating.

Exercise was the most common self selected health behavior goal chosen (n=15, 42%). Thirteen participants (33%) recorded weight, blood pressure, and pedometer readings in month 2. This gradually declined to 10% (n=4) by month 6. Participants consistently voiced dislike of monitoring outcomes and recording behaviors. Overall participants were well informed regarding heart failure. Their knowledge needs were related to their health goals rather than general information.
Implications: The PAM© was an effective tool to assess patients' level of activation and could be used in a clinic setting. Tools for monitoring outcomes and recording behaviors that participants like and will use need to be developed. Patient education needs to focus on how the individual can make health behavior related changes.

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EATING DISORDERS NURSING: ROLES, SKILLS, AND THE THERAPEUTIC ALLIANCE

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The role of the nurse caring for eating disorders (ED) patients has varied over the years, yet limited attempts have been made to clearly define this role. This lack of definition is due in part to the fact that this role has been expanded in recent years, focusing on the psychosocial and therapeutic aspects of care, in addition to meeting the physical needs of this complex patient population.

It has been suggested that one component of the ED nurses' role is the development of a therapeutic relationship or alliance with the patient. The ED nurse is central in the treatment of patients with ED because nurses often have the most continuous patient contact and the greatest opportunity to interact and develop a relationship with the patient. Through the development of a therapeutic relationship with the patient based on caring, respect, and empathy, an improvement in the patient's treatment outcome can result.

The purpose of this study was twofold: (1) to identify the perspectives of ED nurses regarding their role, comparing a variety of sites/types of treatment; and (2) to develop a comprehensive description of the ED nurses role to aid in the development of training programs and assist with program development and evaluation. The aims of the study were to identify roles, skills, and approaches used in ED nursing and to explore the nurse-patient relationship and whether the development of a therapeutic alliance is part of that role.

A mixed method study was conducted to gain an understanding of the role of the eating disorders (ED) nurse and to explore the nurse-patient therapeutic alliance in this context. Thirty-five nurses from six ED treatment centers in Canada and the United States participated. The qualitative component involved manifest and latent content analyses of semi-structured interviews.

Nine nursing roles were identified in addition to ED nursing skills. Three themes emerged in relation to the therapeutic alliance: creating a therapeutic environment, establishing a connection, and empowering patients. The quantitative component consisted of an established measure of therapeutic alliance in questionnaire form. Results from the survey supported the qualitative findings in identifying differences between Canadian and American nurses.

Implications for nursing practice that arose from this study highlighted the strong need to develop a comprehensive training program for nurses working with ED patients. The findings indicated that ED training should focus on fundamental clinical and mental health nursing skills, group facilitation, and nutrition. Strong emphasis should be placed on the interpersonal component of a training program, stressing the need to develop an alliance with the patient based on trust, empathy, and support.

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COMMUNICATION PATTERNING AND DIABETIC OUTCOMES: ADVANCING RESEARCH INTO PRACTICE

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Purpose: Examine the degree of communication patterning that influences diabetic outcomes.

Background: Twenty-four million people are diagnosed with diabetes in the US (8% of the population). Diabetes is the sixth leading cause of death in the US. There has been an increase of 3 million people with diabetes since 2007. There is an estimated 57 million people with pre-diabetes. By 2025, there will 333 million people worldwide with diabetes. There is an estimated $174 billion spent between direct and indirect cost for diabetes care. Current strategies are lacking the needed results for people with diabetes. The American Diabetes Association reports 7.3% of all three biological markers (hemoglobin A1c, blood pressure, and cholesterol) are being achieved. Yet when people with diabetes have access to nursing, there is a 50% improvement of hemoglobin A1c. People who have diabetes have more than just a medical condition—diabetes is a human condition. More evidence-based practice for people with diabetes needs to be established that works. Nursing science has contributed uniquely to the literature for improving diabetic outcomes. More specifically, nursing uses more than objective data (HgA1c) but relies heavily on subjective data via communication patterning. Communication patterning is defined as having three key elements: sharing, reciprocity, and synergy.

Aims: Aims of the study include: examine the relationship between effective communication and diabetic outcomes; investigate the dynamic of effective communication for people with diabetes; investigate the differences between effective communication patterning with age, gender, marital status, education level, and ethnicity; describe the usefulness of a conceptual framework guiding research to minimize the gap between research and practice.

Methods: A non-experimental survey design will be used. Data will be collected from a Southern California Diabetes Center. Sample size will be targeted at 110. Inclusion criteria: all people diagnosed with type 1 and type 2 diabetes for a period of more than two years, 18 years old and greater; who can read and write English or Spanish. Exclusion criteria will be those individuals with gestational diabetes. Procedurally, after obtaining human subject approval from the University and Diabetes Center, the researcher will introduce the project to the center staff. Posters/announcements will be placed in the waiting areas, and the healthcare provider will invite the patient to participate in the study after the completion of the encounter. Survey Monkey® will also be used for the patients of Center, who may choice to do the survey at another time. The Boren Health Partnership Scale will be used as the measurement tool with a Clinical Record review for each completed survey for the latest HgA1c, current BP and LDL-c.

Analysis and Implications: Data collection, analysis and implications are pending. Anticipated data collection time frame October 2009 to December 2009.

Funding: Dean's Scholar Research Award.

DEVELOPMENT OF A GROUNDED THEORY FOR TRANSLATION OF EVIDENCE TO PRACTICE

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Purpose: The goals of this grounded theory study were to: (1) identify new factors inherent to knowledge utilization that may or may not have been addressed in current instruments used to measure knowledge utilization and attitudes towards it, (2) explore the process of using evidence as it occurred during a resourced evidence-based practice project, and (3) develop a theory that asserts a reasonable relationship between the identified concepts within the context of the military hospital environment.
Design: True to its philosophical underpinnings of basic social processes, the grounded theory methodology was used to examine the process of translating evidence to practice, collecting data during a resourced evidence-based practice implementation project. Grounded theory generally does not begin from a posture of extant theory or a conceptual framework. Its goal is to discover inductively theory from the data as they are collected and analyzed. Thus no conceptual framework was identified to guide this grounded theory study; however Rogers' Diffusion of Innovations was used as a basis for focusing inquiry toward data collection that would yield information from which to build theory.
Methods/Analysis: This study paralleled and collected data from an ongoing evidence-based practice implementation project. Five focus groups comprised of the guideline teams, administrators and end-users were conducted to explore the process of knowledge translation. Discriminate sampling was used to select focus group participants, based on their roles and differing perspectives in the guideline development and implementation process. In addition, field notes and memos were kept as data. Data were analyzed throughout the study using Corbin and Strauss' analyzing techniques and the Atlas.ti data management software.
Findings: Participants identified many of the same barriers and facilitators inherent in previous qualitative studies, however new concepts not previously described emerged as being important in nurses' use of new knowledge in their practice that could be further examined. These included confusion over evidence-based practice terminology, the need for an active role of leadership, feedback throughout the process, identification of the benefits of implementation and peer communication channels. A picture of how determinants of knowledge translation interplay has emerged, enabling the development of a theory applicable to the hospital where the study was carried out and, with adaptation, generalizable to other organizations.
Nursing Implications: This study has the potential to provide a generalizable foundation for new models of knowledge utilization and provide the basis for model testing research.

Funding Support: Funded by the TriService Nursing Research Program, HU0001-04-1-TS17 N04-P05.

VIGILANT CARE: EARLY DETECTION OF PRESSURE ULCERS—A CONCEPT ANALYSIS

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There are nearly one million people in the Untied States who will incur a pressure ulcer annually with associated costs of over $1.6 billion. Pressure ulcers that require hospitalization have estimated costs ranging from $2,000 to $70,000 per hospital stay (Day, 2008; Moody, 2004; Suddaby, 2006). The purpose and aim of this paper is to describe the theoretical concept of vigilance and how this concept can be applied to the nursing phenomenon surrounding the early detection of pressure ulcers, specifically applying this analysis to a subgroup affected by chronic reoccurrence of pressure ulcers—the spinal cord injured patient (SCIP) using principle-based concept analysis as described by Penrod & Hupcey (Penrod & Hupcey 2005).

The concept of vigilance is well defined in experimental psychology and human factors with applications found in industry and the military as early as the 1920s – 40s (Stroh, 1971, Warm, 2008). More recently, in the 80s and 90s, this type of research has slowly began to diffuse into nursing science where it has been applied to cytological screening, electrocardiogram monitoring, and anesthesia (Daly, 1983; Gill, 1996; Weinger, 1990). The theme of vigilant care that is discussed by King emerged from a SCIP's description of self-care and pressure ulcer prevention (King, 2008).

Vigilance and vigilant care are concepts that on reflection appear to be inherent qualities much like caring is to nursing. The first line of awareness is the patient. Regular skin checks can be challenging for a number of reasons and compliance with regular skin self-inspections are not consistent as reported in the literature (King 2008). Often SCIPs are hampered by limitations depending on the level of injury and must rely on assistive devices to visualize areas that are prone to breakdown. Factors that play a role in the patient's routine of inspection involve self-efficacy, agency, knowledge, conflicting priorities, and self-care.

The patient may not always be the primary inspector of their own skin, often skin care maintenance falls to a family member. The next level of skin care for the patient is the community. At this level care is intermittent and driven by the periodicity of follow-up. The final level takes place at the institutional level; at this stage either a pressure ulcer has developed and the patient is now institutionalized or the patient is in a situation within an institution where they are at particular risk. Each level is part of a whole and ideally there is an interplay between the levels (members) in detecting pressure ulcers. At the foundation of this model is the concept of vigilance. Vigilance and vigilant care holds the potential to become a sound conceptual framework within nursing that this author believes is primed for further investigation.

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PREDICTORS OF CRITICAL CARE DETERMINATE FACTORS: SAFEST PATIENT EMERGENCY DEPARTMENT ADMISSIONS

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Background: Decisions made in the Emergency Department (ED) regarding patient flow have a direct impact on patient safety outcomes. Early recognition of a patient's clinical status requiring critical care services should be accurately and efficiently triaged prior to admission from the ED. Evidence demonstrates that when patients are not transferred from the ED to the intensive care unit (ICU) within 6 hours their mortality rate and length of stay is higher than those who are not delayed. This project will discuss determinants associated with ICU clinical deterioration as patients are admitted from the ED.

Aim/Purpose of the Project: (1) Predict determinate factors associated with ICU admissions. (2) Decrease the number of unplanned transfers to the ICU within 24 hours of admission.

Design and Methods: One hundred and twenty electronic medical records of patients admitted from the ED that required a higher level of care within 24 hours of admission in the year 2008 were reviewed for clinical variables that were predictors of ICU admission. Mortality and in-patient hospital length of stay were assessed. Utilization of the Charlson Index prior to ED hospitalization will determine if ICU acuity was correctly addressed. Mortality and in-patient length of stay pre- and post-implementation are in evaluation.

Results and Outcomes: Common risk factors in the patients who required emergent transfer were identified such as male gender, advanced age, Emergency Severity Index Triage category of 2 or higher. A strong relationship between co-morbidities and emergent transfers included a history of cancer, coronary artery disease, renal disease, and pneumonia. Final results are pending.

Conclusions and Implications: This project will support utilization of clinical determinates prior to hospital admission from the ED to assess the risk of critical care needs. The Charlson Index will provide ED clinicians with an effective way of determining vulnerable patients that clinically deteriorate within 24 hours of admission. Promotion of patient safety will be achieved in a reduction in the number of ED admitted emergent transfers within the first 24 hours of hospital admission. It is anticipated that this reduction will improve mortality rates and result in a decrease in-hospital length of stay.

TELEMONITORING AND HEART FAILURE OUTCOMES

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Purpose/Aims: The purpose of this study is to compare the differences between home healthcare only and home health care plus telemonitoring on heart failure patients' symptom burden, self-care of heart failure, and hospital admission.

Rationale/Conceptual Basis/Background: Heart failure has emerged as a major public health burden. Although only 14% of Medicare beneficiaries have heart failure, they account for 43% of Medicare expenditures. Like other chronic conditions, heart failure patients have an important role to play in the day-to-day management of their condition. One of the principal reasons for introducing telemonitoring in home healthcare was to increase heart failure patients' capacity to self-manage their conditions at home.

Methods: This study used a prospective, non-experimental, comparative, descriptive design. Participants in the home healthcare plus telemonitoring (HHC plus TM) group were recruited from a telemonitoring program in the recruitment site. Participants in the home healthcare only (HHC only) group were recruited from patients who met the inclusion criteria but did not enroll in the telemonitoring program. A total of 68 participants were recruited with 34 in each group. The Memorial Symptom Assessment Scale – Heart Failure was used to assess symptom burden and the Self-Care of Heart Failure Index was used to measure 3 dimensions of heart failure self-care (self-care maintenance, heart failure management, and self-confidence) on enrollment and 40 days later. Hospitalization was measured as an event that either occurred or did not, as opposed to the number of hospitalizations.

Results: Although no between-group differences in symptom burden were found, both groups showed significant decreased symptom burden (19% in the HHC only group and 14% in the HHC plus TM group) over the 40-day period. Of the three self-care measures, only self-care maintenance differed significantly between the two groups at the 40-day follow-up ($p<.05$). The HHC only group's score dropped 5.5% while the HHC plus TM group remained stable. The HHC plus TM group had 17.7% more hospital admissions than the HHC only group over the 40-day period.

Implications: The addition of telemonitoring produced similar outcomes to regular home healthcare, except for self-care maintenance. Like most prior studies, this study focused on evaluating the overall relationship between telemonitoring and outcomes without concern for the transformation process. Although these evaluations were able to provide an overall assessment of whether or not the telemontiroing program worked, they cannot identify the underlying mechanisms that generate the effects. Without knowing what made the program work or not work, it is difficult to pinpoint what needs to be done for future improvement. A theory-oriented evaluation will be needed in future research. Theory-oriented evaluations not only allow researchers to clarify the connection between a program's operation and its effect, but also to specify intermediate effects of a program that might become evident and measurable.

PERIPHERAL SENSITIZATION OF TRIGEMINAL NERVE RESULTS IN ACUTE CEPHALALGIA

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Acute headache pain predictably lasting 2-7 days occurs for persons undergoing Endoscopic Foreheadplasty Surgery (EFS). EFS is a surgical procedure used to rejuvenate the upper one third of the face and performed for correction of genetic abnormalities, or abnormalities from disease or traumas. This study will use mixed methodology to explore acute headache pain experience and sensory changes following EFS. Currently there is a dearth of research exploring patient experience or the etiology of the predicted acute headache pain following EFS.

Purpose/Hypothesis: The purpose of this research is to describe, based on participant interviews, the phenomenon of acute headache pain that is currently uncontrolled with current medication strategies. The hypothesis of the etiology of this postoperative headache pain is peripheral sensitization as result of direct trauma to the superior branch of the trigeminal nerve during surgical dissection. Quantitative Sensory Testing will be performed to discern neurogenic inflammation leading to peripheral sensitization resulting from nerve trauma.

Specific Aims: Qualitative and quantitative methods will be employed to describe EFS postoperative pain The research questions are: (1) what is the lived experience of acute HA among individuals undergoing EFS patients 7 days postoperative; (2) from the participants' perspective, what pain management strategies are effective and ineffective; (3) what sensory changes were noted using the TSA-II quantitative sensory testing device (QST): Preop within 1 week prior to surgery, first 24 hours postoperative, and 2 weeks postoperative; and (4) using the McGill Short-Form Questionnaire—what is the pain intensity 24 hours postoperatively.

Description of the Undertaking including Approach/Methods/Processes: Recruitment will occur at the participating plastic surgeons' offices. Identified patients meeting inclusion and exclusion criteria will be offered an Investigational Review Board (IRB) approved flyer by the surgeon or office personnel. In the initial telephone discussion a brief history to obtain demographic and basic descriptive information to assure the patient is eligible to participate and meets study inclusion criteria. The researcher will arrange to meet with the participant during her physician's appointment to explain study purpose and protocols and the patient's right to participate or withdraw will be discussed. An UCLA IRB approved consent form will be explained and if the participant is willing to proceed, she will be asked to sign consent. Following seven days after surgery, an interview will be conducted to ascertain participants experience with pain, characteristics of HA pain, and effective and ineffective pain management will describe the acute HA pain phenomenon (Specific Aim 1 and 2). Through interviews participants' experiences following EFS HA pain will be examined. The second methodology will be quantitative. This method includes the accumulation of data such as: level of pain and sensory changes in trigeminal nerve. The Short Form McGill Pain Questionnaire (SF-MPQ), with set pain descriptors, will offer quantifiable pain intensity data. The characteristics used by participants will describe the HA pain in universal terms (Specific Aim 4). Further the effectiveness or ineffectiveness of prescriptive medication may just beginning to be experienced.

Outcomes Achieved/Documented: Pending.

Conclusions: Pending.

THE EFFECT OF A SLEEP HYGIENE PROGRAM IN REHAB CENTERS WITH ALZHEIMER'S DISEASE PATIENTS

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Background: Alzheimer's disease (AD) accounts for approximately 69.9% of all dementia in the elderly population. Patients with AD often have nocturnally disrupted sleep. AD patients exhibit several types of disruptions, including an increase number of nighttime awakenings after falling asleep, lower sleep efficiency (percentage of time spent asleep in bed), increased daytime napping, changes in the amount of rapid eye movement (REM) and non-rapid eye movement (NREM) sleep, and increased latency to the first episode of REM sleep. Disruptive sleep, in AD patients, is strongly related to cognitive and functional decline and significantly increases the odds of nursing home placement. For older patients, with AD, rehabilitation is increasingly being provided outside the acute care setting in post-acute care facilities, such as nursing homes, skilled care facilities and rehabilitation centers. Once in a post-acute care facility, AD patients may receive treatment, such as physical, occupational, and speech therapy, and many AD patients often nap during therapy or become too tired to complete therapy. Developing and training certified nursing assistants to implement an individualized sleep promotion program to help patients with AD sleep at night may improve rehabilitation outcomes. The purpose of this presentation is present an overview of a proposed study.

Specific Aim/Question: The specific aims are: (1) to assess the feasibility of the nursing assistant role in promoting sleep in persons with AD and increasing therapy performance by implementing an individualized program, and (2) to obtain preliminary evidence of the efficacy of a sleep hygiene program on sleep outcomes in persons with dementia. The purpose of this proposed study is to develop and evaluate the feasibility of the training of certified nursing assistants to implement an individualized sleep promotion intervention for AD rehabilitation patients.

Methodology and Design: The research design for this proposed study will be a two group measure of pre-test and post-test design to obtain preliminary evidence about feasibility, safety, and efficacy of an individualized sleep promotion intervention. The study will include an intervention group and a control group.

Subjects: The proposed sample will include forty rehabilitation patients diagnosed with AD and nursing assistants (n=8); four CNAs on working on the day shift and four CNAs working on the evening shift.

Measurements/Analysis: Data will be analyzed using non-parametric statistics Wilcoxon Sign Test and Bonferroni correction will be used to control for Type I Error.

Conclusions: The study described will be submitted as a NRSA Grant proposal. Further studies will include efficacy and effectiveness of the proposed intervention.

DIET, BMI AND ACTIVITY IN SURVIVORS OF ALL

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Purpose: To compare dietary intake, body mass intake (BMI) and physical activity levels of young adult survivors of acute lymphoblastic leukemia (ALL) with a control group of young adults without ALL.
Background: Survival after diagnosis of acute lymphoblastic leukemia (ALL) has improved significantly with new treatment regimens. Long-term follow-up of survivors indicates significant long-term effects leading to chronic health problems. Obesity is a significant problem in the young adult survivors of ALL. Factors leading to obesity in the general population include lack of exercise and increased caloric intake from fats and carbohydrates. It is unclear whether weight gain in ALL survivors is due to lack of exercise, increased caloric intake or other causes including their treatment.
Participants: A convenience sample of young adult ALL survivors' ages 18 – 30 years was recruited through a database of survivors being followed in a young adult survivor clinic in a large city in the south. Twenty-eight survivors were recruited (14 male and 14 female) with an mean age of 22 years (SD ± 2.4). Mean age at diagnosis of ALL for survivors was 7 years of age. Each survivor was asked to invite a friend of same age and sex who had no chronic health problems or history of cancer. Twenty friends were recruited, 8 males and 12 females (M = 22.10 years, SD ± 2.56) for a total of 48 participants.
Methods: Dietary intake of all participants was collected using the long Willett Food Frequency Questionnaire (WFFQ) consisting of questions relating to frequency and amounts of various types of foods ingested in the past month. The modifiable activity questionnaire (MAQ) assessed work and leisure activities and number hours of sleep. Demographic and anthropometric data was collected including height and weight and body mass index was then calculated. Questionnaires were administered on a one-time basis after the consent was signed. ANOVA and *t*-tests were used to compare differences between and within the groups.
Results: Calcium intake in both males and females was below the 1500 mg recommended daily intake. Average intake of males both survivors and controls was 1000 mg daily while intake for females was 880 mg per day. Differences in BMI was not statistically significant between survivors and controls, although female controls had an average BMI of 26.0 versus that in the survivors which was 21. Additional results will be discussed including implications for clinical practice.

CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL

OVERVIEW: CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL
Carolyn B. Yucha, Shirlee J. Snyder

CURRICULUM REVISIONS FOR THE CSCLV
Ludy Llasus, Jessica Doolen

DESIGN & CONSTRUCTION OF THE CSCLV
David Frommer

STAFFING OF THE CSCLV
Shirlee J. Snyder, Carolyn B. Yucha

FUNDING OF THE CSCLV
Carolyn B. Yucha, Shirlee J. Snyder

CHALLENGES EXPECTED IN YEAR 1
Lance Baily, Shirlee J. Snyder, Carolyn B. Yucha

CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL

Overview: Clinical Care Simulation Center: Multi-Disciplinary & Multi-Institutional

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This symposium will summarize the trials and tribulations experienced by faculty and staff in southern Nevada as they worked for three years to develop a multi-disciplinary, multi-institutional clinical simulation training site called the Clinical Simulation Center of Las Vegas (CSCLV). This new collaborative effort involved curriculum revisions, design and construction of the 31,000 square foot space, determination of staffing needs, hiring and orientation of staff, and creation of a equitable funding model. This area was designed to meet the Simulation/Skills training requirements for 200 nursing students from University of Nevada Las Vegas (UNLV), 200 nursing students from Nevada State College (NSC), and 60 medical students and 120 medical and surgical residents from University of Nevada School of Medicine (UNSOM) each semester. Future challenges to developing multi-disciplinary educational opportunities and a sustainable funding model will be discussed.

CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL

Curriculum Revisions for the CSCLV

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Purposes/Aims: The purpose is to describe and discuss the process of curriculum revisions undertaken by two schools of nursing to ensure education quality while streamlining educational process in preparation of sharing a common skills laboratory facility.

Rationale/Background: Funding opportunities in the current economic environment facilitates the pooling of resources. Schools of Nursing working together are better able to offer nursing students cost effective, innovative teaching/learning strategies. Merging the skills portion of the Fundamentals in Nursing and Health Assessment courses to create a curriculum that is similar was a critical step in preparation of sharing the common skills laboratory in an efficient and cost effective manner.

Brief Description: NSC and UNLV Schools of Nursing collaborated through one on one and with group meetings. Regularly scheduled meetings were held at alternating sites to plan a strategy to accommodate both schools simulation and skills lab requirements. Each level coordinator met with their counterparts separately and together to design curriculum. Laboratory course syllabi, required textbooks, course schedule, and learning activities were reviewed and compared. Similarities and differences in these areas were explored and identified. Discussion of how each of the laboratory skills class was conducted in relation to the concepts and expected skills performance was undertaken for Health Assessment and Fundamentals of Nursing courses. Scheduling needs were discussed and rough drafts established by the Skills Lab Coordinators at both schools. Course numbers and content in Fundamentals of Nursing courses were aligned. Content in Health Assessment courses were aligned.

Outcomes Achieved: Curriculum adjustments were made by both schools to align with skills lab schedule for the Fundamentals in Nursing and Health Assessment courses. Procedures were developed to share open labs for students to practice.

Conclusions: The application of curriculum adjustments and changes started in the Fall 2009 semester. Continued evaluation and revisions in the curriculum and instruction are ongoing.

CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL

Design & Construction of the CSCLV

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Purposes/Aims: Describe the capital and project planning/delivery process and outcomes for a collaborative health sciences simulation/skills lab for Nursing and Medical health sciences programs in Nevada.
Rationale/Background: The need to collaborate among institutions and health sciences programs in capital projects, to best leverage resources, and to provide integrated learning experiences, particularly in lean budgetary climates, has resulted in the development of the Nevada System of Higher Education (NSHE) Health Sciences System CSCLV at the UNLV Shadow Lane Campus in Las Vegas, Nevada. This project will demonstrate the process and outcomes of multi-institution and multi-discipline collaboration to deliver an effective and efficient purpose-driven facility.
Brief Description: The undertaking included program, project, operations, and budget planning to validate the ability to deliver the CSCLV, and design, construction and fixture, furnishings and equipment (FF&E) planning, and execution to support the delivery of a complex project with a variety of users in a 24-month period from initial legislative funding/approval to facility opening. Design-Construction Manager At-Risk project delivery was utilized, with early and concurrent planning of FF&E to positively impact project delivery due to the high intensity of FF&E in a project of this type.
Outcomes Achieved: The project was delivered within timeframes for operation with complex FF&E well integrated into the delivery, on budget and with limited changes during delivery, resulting in a high-quality facility for the end users. Floor plans and photos will be shown.
Conclusions: We were able to validate alternative delivery methods as a valuable design, construction and delivery approach to manage and effectively deliver project scope, schedule and budget. Early concept planning (program, project, FF&E, operations, budget, other) among institutions and disciplines is critical to positively impact outcomes of the delivery of a multi-institution and multi-discipline capital project.

CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL

Staffing of the CSCLV

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Purposes/Aims: To describe the process used to develop the staffing requirements, to recruit and hire, and to orient new staff.

Rationale/Background: An advisory committee was established with one representative from each institution and the NSHE Health Sciences System. Because this was a new center, it required a full set of new staff. The Advisory Committee discussed the support staff requirements to meet the educational needs of all the nursing and medical students and medical residents. State law requires that nursing faculty hold a master's degree in nursing. Actual instruction is accomplished by the faculty with the support of the staff.

Brief Description: A number of organizational charts were developed, discussed, and revised as funding evolved. Position descriptions were drafted, discussed, and revised and shared with Instructional Technology personnel. Positions were advertised using one institution's Human Resources online system. Each of the advisory committee members was able to access the online system and rate the applicants. The top applicants were invited for phone interviews before checking references and inviting the final list of applicants for a face to face interview and tour of the center. During construction, the hired staff were provided offices in one institution and spent the months before the lab opened getting oriented to simulations and skills and meeting with faculty and staff of all three institutions.

Outcomes Achieved: The final staff consists of a Director (overseeing entire center), an Administrative Assistant (purchasing, tracking income/expenses, ordering equipment/supplies), a Simulation Technician (programming and running simulations), an IT/Simulation Technician (maintaining server and computers and assisting with simulations), and a Laboratory Assistant (setting up and tracking equipment and supplies, scheduling rooms). The plan is that all staff will be cross-trained to assist one another. In addition, each institution provided part-time nursing lab assistants to assist nursing faculty and conduct open labs for practice.

Conclusions: The number and skills mix of the staff is being evaluated during Fall 2009, the first semester of operation.

CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL

Funding of the CSCLV

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Purposes/Aims: To describe the funding model for this multi-institutional center.
Rationale/Background: Although this center was in the planning for three years, the needs for funding arrived with the recession. This created a need to develop alternate sources of funding because the initial budget proposed to the state was not funded.
Brief Description: The 2007 state legislature allocated $12 million for extensive remodeling of a 31,000 square foot space. Concurrently, the three institutions developed a contract to help pay off the purchase of the building and land (e.g., lease fee). Based on estimated number of students and square foot usage, the contract delineated a 40-40-20 split among institutions to cover the costs. In Summer 2008, the center received $3.2 million from a private foundation for initial FFE. Two additional federal earmark grants totaling approximately $2 million were received to expand the ability to purchase equipment. Unfortunately, none of the funds could be used for staffing and operating costs. After much deliberation, a significant increase in student fees was proposed to cover staffing and supplies in the 40-40-20 ratio. This was approved in Spring 2009 (effective fall 2009) by the NSHE Board of Regents because this was a collaborative program that provided an excellent opportunity to integrate simulation into the nursing and medical curricula. The fees, however, would not be available until Fall and staff needed to be in place before the beginning of the school year. In the interim, the Health Science System contributed $52,000 to cover the staff salaries and benefits. These funds allowed the hiring of three technical staff. In addition, everyone contributed the equipment they had available at their institution. One institution contributed extensive new simulation equipment and the other two institutions contributed monies for a Director and an Administrative Assistant.
Outcomes Achieved: The outcomes of this project were achieved by contributions from seven different sources (three involved institutions, state funds, NSHE HSS, students, and a private donation).
Conclusions: In these difficult economic times, it is far easier to obtain additional sources of funds when a collaborative program is proposed.

CLINICAL CARE SIMULATION CENTER: MULTI-DISCIPLINARY & MULTI-INSTITUTIONAL

Challenges Expected in Year 1

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Purposes/Aims: To describe the challenges and goals we expect to encounter as we get the CSCLV fully functioning in year one.

Rationale/Background: Multi-institutional, multi-disciplinary projects require far more discussion/meetings than single entity projects. Time must be invested to develop the group dynamic and trust among the members of the advisory committee and the staff.

Brief Description: The first major challenge was scheduling of the center for all three institutions. Various scheduling systems and methods were tried before settling on a free and intuitive Google calendar inputted by a single contact person. This challenge demonstrated a need to create new systems that could be used to umbrella over all three institutions in areas of management, scheduling, and communication.

The second major challenge was transitioning faculty responsibilities and roles into new staff. Because we are hiring new staff to fill positions previously managed by groups of faculty, the need to delicately transition these responsibilities is crucial. Thus, integration into the Center not only meant external changes into a facility being shared among other entities, but also internal changes within each individual institution regarding role identification and responsibility.

The third major challenge was the continuous reassessment and alteration of envisioned plans and procedures. After moving into the Center, previously projected goals were quickly cast aside. The true difficulties the Center faced became increasingly apparent from our direct interaction with the people, space, and equipment.

Faculty development and promoting collaboration is a primary goal. Step one is a combined orientation for faculty from all three institutions. Future plans include developing faculty seminars as well as hosting community workshops and national conferences that highlight the Simulation Center and provide revenue.

Outcomes Achieved: At the time of this submission, the center is running, with a major goal of getting through the first semester. Approximately 10,000 nursing student visits to the center are expected for the first year. Issues to be resolved include scheduling conflicts, advance preparation for instructional activities (e.g., simulations), faculty and staff development, public relations, promoting collaboration and fundraising.

Conclusions: Faculty and staff must be invested in the big picture and not just their own educational needs. The price for dedicating ourselves to new technology is the requirement to accept and deal with great and rapid change.

CREATIVITY IN NURSING SCIENCE: IMPLICATIONS FOR POLICY AND PRACTICE

OVERVIEW: CREATIVITY IN NURSING SCIENCE: IMPLICATIONS FOR PRACTICE AND POLICY

Pauline Komnenich

CREATIVITY IN NURSING SCIENCE THROUGH DIVERGENT VIEWS IN PHILOSOPHY

Jennifer A. "Eve" Krahe

CREATIVITY AND ITS IMPORTANCE TO NURSING PRAXIS IN THE 21ST CENTURY

Anne-Marie O'Brien

REFLECTIONS ON CREATIVITY IN NURSING SCIENCE THAT DRIVE POLICY

Nan M. Solomons

CREATIVITY IN NURSING SCIENCE: IMPLICATIONS FOR PRACTICE AND POLICY

Overview: Creativity in Nursing Science: Implications for Practice and Policy

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Purpose: The purpose of this symposium is to present a multidisciplinary perspective on creativity in Nursing Science as a force in informing practice and driving policy. Reflection on creativity in Nursing Science that contributes beyond the discipline to the broader world view of science with implications for nursing practice and health policy will be explored by three doctoral students from an interdisciplinary perspective. Examination of the perception by non-nurses that creativity may not authentically exist in Nursing and reflection on what can be done to increase creativity in Nursing Science that will contribute to informing practice and driving health policy at all levels will be discussed.
Rationale: Outsider views of Nursing and Nursing as a Science are that Nursing is prescribed, pedantic, and is limited in creativity beyond that required to adjust practical techniques to meet the immediate demands of the patient. There is a limited view of Nursing as a creative science that contributes to innovations in healthcare and changes in practice and policy that go beyond the expected.
Overview: The symposium will be comprised of three papers, generated from the thinking of three doctoral students, one focused on building creativity in nursing science through philosophy, the second focused on creatively using nursing science in practice and the third focused on the place of creativity in health innovation and policy. The symposium will be concluded with response to the papers from a faculty member in Nursing.
Conclusions: Discussion as to the place of creativity in building Nursing Science to transform practice and influence policy will conclude the symposium, perhaps raising more questions than providing answers.

CREATIVITY IN NURSING SCIENCE: IMPLICATIONS FOR PRACTICE AND POLICY

Creativity in Nursing Science through Divergent Views in Philosophy

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Purpose: This paper seeks to better understand creativity as a bridge between the art and science of nursing. Undergirding this notion are two assumptions: first, that the science of nursing is elegant and complex and serves as a foundation for nursing knowledge, and second, that the art of nursing comes only from the unique practice of each nurse and is more intuitive. These two assumptions help to support this paper's assertion that creativity is a vehicle to expand the scope of nursing by bridging its science and art, and that we must begin to better understand creativity and how to bring its strengths to the science in order to inform the art of practice.
Rationale: Employing the philosophy of Paul Feyerabend, Mihaly Csikszentmihalyi, and Martha Rogers, this paper identifies philosophical precepts intended to bring the art of nursing closer to its science through an examination of the three key thinkers' thoughts around the vehicle of creativity.
Logical Links: We begin by making a case for the importance of creativity in nursing education. Next, we explore Csikszentmihalyi's thoughts on the definition, cultivation, and facilitation of creativity. Csikszentmihalyi is followed by Feyerabend, whose advocacy of methodological anarchy takes us far afield of Csikszentmihalyi's thinking on creativity in nursing with a discussion of what Feyerabend feels are the restrictions of definition and methodology and his championing of an anarchy that fosters creativity. Our answer to Feyerabend's extremism is its translation into a more pragmatic, Rogerian perspective that supports a more realistic version of creativity to bridge the art and science of nursing. We conclude with suggestions for bridging the art and science of nursing by infusing nursing with creativity, and reflect upon the importance of creativity as a vehicle to expand the scope of nursing.

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CREATIVITY IN NURSING SCIENCE: IMPLICATIONS FOR PRACTICE AND POLICY

Creativity and Its Importance to Nursing Praxis in the 21st Century

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Purpose: The purpose of this paper is to examine the gaps between contemporary nursing knowledge and the realities of practice, and to explain the role of "cultural creatives of nursing" in bridging this divide (Barrett, 2002). In addition, we will explore how creativity in the practice setting can lead to improvements in patient outcomes and the quality of care experienced as well as improvements in the collective workplace environment and clinician satisfaction.
Background and Rationale: In 1952, Hildegard Peplau wrote: "In each situation, the readiness of nurses to work for opportunity to think for themselves and to share in the determination of what can be done to meet patient needs, or their readiness to permit others to make all decisions and govern all their actions, is an important factor in defining nursing and what it can do" (Peplau, 1952, p. 16). Ironically Peplau's words are perhaps even more relevant to nursing today than when she first wrote them, as we confront the challenges of healthcare reform and its impact on nurse clinicians and the institutions in which they practice. Nursing's ability to confront these challenges effectively is hampered by the profession's existing knowledge development and practice paradigms that foster disconnect among educators, researchers, and clinicians (Cody, 2003; Reed & Lawrence, 2008). At the same time, the emergence of creative academic nursing partnerships with healthcare institutions such as, the Institute for Johns Hopkins Nursing and the VA Nursing Academy, offer new models for an integrated nursing science that emphasize the coproduction of knowledge and practice.
Conclusions and Utility of Nursing Science in Practice: Through the lenses of nursing theorists, such as Peplau, Rogers, Barrett, and Reed, nurses have the opportunity to become reacquainted with nursing science and its significance to professional practice. This paper concludes with recommendations for helping nursing professionals to learn how to improve nursing praxis by becoming a "cultural creative" and how nurses can evaluate their own readiness to work toward "new opportunities" for determining the future of their profession.

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CREATIVITY IN NURSING SCIENCE: IMPLICATIONS FOR PRACTICE AND POLICY

Reflections on Creativity in Nursing Science that Drive Policy

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Purpose: The purpose of this paper is to explore the place of creativity in policy and to address the question "What assumptions about creativity in Nursing Science drive health policy?

Definitions of Concepts and Links to Policy: According to the freedictionary.com, the definition for policy is "A plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions, and other matters." From the same source, creativity is defined as "characterized by originality and expressiveness; imaginative." A third definition for creativity focused on the workplace comes from Amabile et. al, (2005) in DeHaan (2009) who defined creativity as "coming up with fresh ideas for changing products, services and processes so as to better achieve the organization's goals." In addition, creativity is the ability to look at present circumstances from another perspective. There are shades of creativity. People who are grounded in a discipline may question present methodology. Creativity may be serendipitous—when something unusual happens and the observer documents the event and questions the resulting phenomenon, e.g. Alexander Fleming and the discovery of penicillin. Policy can range from local at the department level to national and global. Creative policy means being open to new ideas, trying old solutions in new ways or trying novel solutions on new problems. There is also a financial and fiscal component that must be addressed: can we afford to implement something new? What are the consequences? Creativity can be stifled under the guise of policy. "You can't do that, because it would be breaking current policy." Or your idea addresses something of little significance to the status quo. New ideas may infringe on someone else's domain. Despite these warnings, creativity that bends policy exists. Creativity, under the guise of improvisation, is used by nurses with some frequency.

Implications: In the past, policy, particularly the Stark law, has been an obstacle to creativity. Today, the Stark laws have been modified so that providers and hospitals can use the same EMR system. The project is a testing ground for bundled payments (Medicare Part A and B). In these days of lowered payments, co-morbidities, and healthcare reform, we have to continue to look at creative ways to design and implement policy that will improve quality and put the patient at the center of care.

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DIMENSIONS OF CULTURALLY RESPECTFUL NURSING CARE

MANO AMIGA: AN EXPLANATORY MODEL FOR MULTICULTURAL RURAL COMMUNITIES

Jennifer B. Averill

INSTITUTING A CHRONIC CARE MODEL FOR INCARCERATED MALE INMATES WITH ASTHMA

Matt L. Pimentel

LIFE EXPERIENCE AFTER STROKE AMONG IRANIAN STROKE SURVIVORS

Asghar Dalvandi, Sadat Seyed Bagher Maddah, Hamid Reza Khankeh, Sirkka Liisa Ekman, Kristiina Heikkilä

INCREASING MINORITIES IN NEW MEXICO

Kathy Lopez-Bushnell

THE RELATIONSHIP OF ACCULTURATION TO HEALTH: IMPLICATIONS FOR NURSING RESEARCH

Dian Baker

RELATIONSHIP BUILDING WITH CULTURALLY DIVERSE VULNERABLE POPULATIONS

Mikal Black, Pam Springer, Kim Martz, Cathy Deckys, Terri Soelberg

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MEDICATION COMPLIANCE IN THE HOMELESS: CHALLENGES AND OPPORTUNITIES

Angela D. Banks

SAMOAN HEALTH-WORLD VIEWS AND PERCEIVED RISK FOR DISEASE
MAJ Leilani A.C.L. Siaki

CULTURE CARE THEORY APPLICATION FOR BSN STUDENTS' ENTRY INTO A PAUITE TRIBAL COMMUNITY
Ann O. Hubbert

NURTURING CULTURAL COMPETENCE IN NURSING: COLLABORATION AND PROMISING PRACTICES
Dawn Doutrich, Kristine K. Campbell, Peggy Wros

HEALTH BEHAVIORS OF AMERICAN INDIAN YOUTH SOCCER PLAYERS IN NEW MEXICO
Mark Siemon, Marie Lobo, Anita Parmar

WHO TO TELL? LATINO MEN'S DISCLOSURE OF THEIR PROSTATE CANCER
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MANO AMIGA: AN EXPLANATORY MODEL FOR MULTICULTURAL RURAL COMMUNITIES

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Purposes/Aims, Brief Background: The purpose of this paper is to propose *Mano Amiga*, an explanatory model for study findings from a recently completed study in the southwestern US. The study combined critical ethnography and community-based participatory research (CBPR) to analyze indicators of health disparities for multicultural rural elders and to construct preliminary explanatory models based on elders' definitions of health and perceptions of major problems/challenges as well as recognized determinants of health status for that population. The study occurred near an international border, with modest population and vast geographic areas spanning desert and mountainous terrain. Definitive priorities for action identified by participants included long-term access to prescriptions for managing chronic symptoms, transportation gaps for people living at a distance, inadequate primary and specialty care options, poor coordination of social and health services, and barriers related to culture, language, and economics.

Description of Explanatory Model: The model is based on the assimilation of complexity theory, critical ethnographic analysis, and the primacy of relationships. Central to *Mano Amiga* are contexts of history, economics, culture, migration, geography, mining, agriculture, hardship, and rural values. Keys to model development included a sense of mutualism between participants and researcher, multiple options/sources for problem-solving, openness to change, incorporation of heritage and traditions, practicality and simplicity, and human connections/relationships.

Dynamics of Theory Development: Based on research that was *critical-social,* as opposed to empiric-analytic or interpretive-hermeneutic, the theoretical tasks were: (1) to integrate difficult contexts of rural life, human experiences and narratives, local power relations, barriers to care, community resources, and plans for lasting change to the system; (2) to move from identifying key ideas/issues to *processes* in support of meaningful change; and (3) to approach model development as practical reasoning, adapting Mithaug's processes of constructive theorizing—define discrepancies and relevant data, develop reasons for the findings based on collaborative interpretations, evaluate the value and credibility of the model, and adjust principles/beliefs and actions suggested by dialectic.

Linking the Model to Practice and Research, Drawing Conclusions: Practice and research implications of the model continue to develop but converge around: recurrent dialogue and mutuality of purpose; consensus-building for action and change; ongoing partnerships among community residents, health care providers/planners, researchers and others; and Habermas' *communicative reasoning/action* to benefit personal and public well being in rural communities. These elements both inform and respond to problems/issues identified in human experiences of community members, clinicians, and researchers. Meaningful outcomes will include improved health status and healthcare access for rural elders, as well as a practical framework for describing and explaining local situations/problems, then facilitating change.

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INSTITUTING A CHRONIC CARE MODEL FOR INCARCERATED MALE INMATES WITH ASTHMA

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Incarcerated male inmates in the California Department of Corrections & Rehabilitation (CDCR) have poorer outcomes of management of chronic care conditions such as asthma, hypertension and diabetes than the rest of the general population. The aim of this program is to promote healthy measurable outcomes of inmates with asthma at the Correctional Training Facility, Soledad, one of the 33 facilities that constitute CDCR. Inmates will be stratified per their CDCR number and followed in the nine clinics at the facility. These inmates will be identified, tracked, educated and followed up using the Patient-Centered Medical Home (PCMH) model. The education and assessments will be geared through the Transtheoretical Model (TTM) to determine readiness of teaching modalities. This program will include peer-to-peer education between inmates, group education by the nurse instructor, and RN/PCP (primary care provider) intervention visits. An asthma action plan and severity indexing will be determining the specific protocols that will be followed for this population. Inmates will take ownership of their individual health problems and custody and medical staff will work collaboratively to facilitate timely visits to the clinic and safety concerns of medication accessories. The goal of this program is to decrease unexpected deaths due to asthma to zero per year. A secondary goal is to decrease the number of Treatment & Triage Area (TTA) visits for sign and symptoms of exacerbated asthma by 95%. Outcomes will be measured by tracking a number of key indicators including RN/PCP visits, assessments and diagnostics tool measurements, subjective control tests and number of TTA visits.

Clinical relevance: The adept teaching methodology along with a cogent and flexible healthcare model is germane to the optimal control of chronic care diseases.

Keywords: inmates, CDCR, asthma, PCMH, TTM, healthy outcomes, teaching, chronic care

LIFE EXPERIENCE AFTER STROKE AMONG IRANIAN STROKE SURVIVORS

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Objectives: Stroke survivors develop their own strategies to combat disabilities, developing strategies to maintain or re-establish a sense of continuity after the disruptive life event that stroke represents, using strategies to foster hope during the process of adjusting to life after stroke and drawing on spiritual practices. The aim of this study is to identify the used and recommended strategies of life after stroke among Iranian people.
Methods: A grounded theory approach was recruited using semi-structured interviews with 10 stroke survivors, 12 family caregivers, and 6 formal care givers.
Results: Based on study participants, five main concepts emerged as used and recommended strategies, including improving functional performance, relearning life skills and educational support, accessing to rehabilitative services, socio-economical support, and well-suited coping strategy.
Conclusions: According to the study findings, the provisions care facilities for stroke survivors in their homes, accessing to appropriate rehabilitation services in community, increasing social insurance coverage, social support system, and accepting reality are the appropriate strategies for stroke survivors and their caregivers.

INCREASING MINORITIES IN NEW MEXICO

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Purposes: The purpose of Project DIVERSITY is to create a nursing pipeline for Native American and Hispanic students who are interested in nursing to receive academic and professional support as a means to augment the numbers of underrepresented groups in the nursing workforce.

Aims and Rationale: The aims and rationale of Project DIVERSITY were to recruit middle school and high school students who were interested in nursing and educate them about the nursing profession through workshops, job shadowing, and mentoring. By providing tutoring in academic subjects we hoped to strengthen their chances of entering nursing school and higher education.

The conceptual basis is based on the Bandura's (1986) social cognitive theory.

Background, Methods, Results, Implications: New Mexico has more than a 50% minority population and less than 10% of the state's nurses are Hispanic or Native American. Statistics show that more than 54% of NM ethnic minority students do not graduate from high school. It has been shown that people generally feel more satisfied when they are cared for by someone who looks like them, speaks the same language, or are from the same racial or ethnic background. It is because of this disparity in healthcare that the need for minority representation in nursing is so important at this juncture in time. In the US, ethnic minority communities make up around 30% of the total population of the nation whereas only 11.6% of the nations' nursing workforce is comprised of minorities.

There were more than 60 Native American and Hispanic high school students and 40 middle school students recruited into this program. The high school students were chosen on the basis of interviews, applications, letters of recommendation, written essays, and GPAs. The program granted high school students access to nursing workshops, tutoring, and college preparation support as well as nursing mentoring and job shadowing. The mentoring workshop segment of the program is made up of 2-hour sessions covering topics such as dissections, nutrition, STDs, and various presentations, among other informational sessions. Tutoring and college preparation time was provided three days a week after school where students could work with tutors and counselors to improve their grades and prepare for college. The students have close relationships with their mentors and formed close bonds. They communicate frequently with their mentors via phone and email. Eight students participated in the job-shadowing and stated that they plan on entering the nursing workforce.

The data indicated that underserved ethnic minority high school students require a great deal of additional academic preparation, as they are not ready to enter the nursing workforce given their current skill set and knowledge base. Although there is definite interest and enthusiasm for entering nursing, their educational foundation is so weak that even with increased support they still lack the necessary skills to enter nursing at this time. The implications are clear that in order to accomplish the end goal of having students enter the nursing pipeline, they must be identified earlier and academically supported.

THE RELATIONSHIP OF ACCULTURATION TO HEALTH: IMPLICATIONS FOR NURSING RESEARCH

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Purposes/Aims: To evaluate the application and effectiveness of acculturation as its effect on health as a research variable.
Rationale/Conceptual Basis/Background: Acculturation is one of the most explored dimensions of the immigrant experience in multicultural nursing research. Interest in the link between acculturation and health outcomes has increased significantly since the release of Healthy People 2010 by the US Department of Health and Human Services. One of two overarching goals of HP 2010 is the elimination of health inequities. Inequities in health outcomes have been disproportionately found in immigrant populations and their subsequent US born generations. Several research studies have pointed to acculturation as a robust predictor of health outcomes within these populations. Findings from these studies demonstrate both positive and negative trends in health outcomes depending on the degree of acculturation. Health-related acculturation research typically relies on proxy measures of acculturation such as use of the English language or use of Western healthcare systems. Discerning the parameters of acculturation and its use in research is a critical step in understanding the health of immigrants and refugees.
Methods: Using the Asian and Pacific Islander American communities as an exemplar population, a systematic review of the literature using the terms acculturation, health, and/or Asian American in multiple databases from nursing, sociology, psychology, political science, medicine, and epidemiology was completed. Selected articles were analyzed to determine issues of measurement and application of acculturation as variable in research.
Results: Despite advancement in other fields, health-related research has not yet developed a sustainable, reliable model of acculturation that allows for measurement and explanation in a consistent manner. Dilemmas in measurement of key attributes of acculturation include unidirectional and bidirectional analysis, transferability of measurement scales between groups, psychometric issues, and the appropriateness of proxy measurements. Outcomes of acculturation on health can be positive or negative depending on how acculturation was understood and measured in the study. Despite these limitations pragmatic recommendations for future acculturation research can be made.
Implications: While debate continues about the appropriate use and definition of acculturation, it continues as an important construct in health-related research of migrating individuals and groups. Currently there is no testable framework that delineates the role of acculturation in health outcomes. Further research is indicated to clarify the relationship between acculturation and health.

RELATIONSHIP BUILDING WITH CULTURALLY DIVERSE VULNERABLE POPULATIONS

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Nurse researchers from Boise State University collaborated with the Somali Bantu Community in Boise, Idaho with the mutual goal of enhancing healthcare for this refugee population. A foundational understanding of the Somali Bantu Community was achieved through cultural and community assessments. Utilizing a community-based participatory research (CBPR) philosophy was valuable in helping to meet the challenges of working with a vulnerable population unfamiliar with the process of research. The nurse researchers used this philosophy in making contact with this group, establishing a working relationship, assisting them in learning about the research process, and developing a core community advisory board to develop and work toward mutual goals. By utilizing CBPR and relationship building practices, the groundwork has been set for continued collaboration for the goal of improving the health of this community and has provided a gateway to working with other African refugees.

This presentation will discuss the factors that made this relationship effective and specific practices that facilitated the relationship building process.

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MEDICATION COMPLIANCE IN THE HOMELESS: CHALLENGES AND OPPORTUNITIES

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Purposes/Aims: To identify the impact of a video intervention on factors that influence compliance with anti-hypertensive medications in African Americans.
Rationale/Conceptual Framework/Background: African Americans have the highest prevalence of hypertension in the world, increasing their risk for cardiovascular disease and stroke.
Methods: Using a pre-test/post-test design, 40 men and women, 50 (±7) years of age, 60% male, and 65% single, were enrolled at a community clinic in San Francisco. Data was collected August 2007 to June 2008. A structured interview guide consisting of 21 items on hypertension knowledge and beliefs was used. The Hill-Bone Compliance Scale was also used and consists of 14 items assessing patient behaviors in three domains of high blood pressure treatment. The three domains include reduced sodium intake, appointment keeping and taking medication. The differences in SBP and DBP were assessed using paired t-tests between those receiving intervention compared to those receiving usual care; gender differences in responses were also assessed.
Results: There were no differences in compliance scores across age groups. For subjects receiving intervention, there were no differences observed in SBP, however there was a decrease in DBP (p=.02) compared to the control group. At baseline, the compliance scores were higher for men than for women indicating that men were less compliant in taking their anti-hypertensive medications (p=.01). No changes were observed in SBP by gender, but men had lower DBP compared to women at the 3-month follow-up (p=.006).
Implications: In this sample of homeless African Americans diagnosed with hypertension, women were more compliant with taking anti-hypertensive medications compared to men. This is a critical new finding because prior research indicates that women are usually less compliant in taking anti-hypertensive medications compared to men, thereby increasing their risk for heart disease and stroke. Video intervention may be an important strategy for improving medication compliance and identifying the contributing factors but merits further research in homeless African American populations.

SAMOAN HEALTH-WORLD VIEWS AND PERCEIVED RISK FOR DISEASE

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Purpose/Aims: Describe the relationship between Samoan health-world views and perceived risk for cardiovascular disease (CVD) and diabetes.
1. Explore beliefs, values, and images of Samoan health-world views in the context of perceived risk for CVD and diabetes.
2. Identify the ways of knowing within the Samoan health-world views that inform perceived risk for CVD and diabetes.

Conceptual Basis/Background: Health-world views are cognitive orientations that evolve from peoples' attempts to explain phenomena such as health, well being, disease, and death. Health-world views include beliefs, values, images, and ways of knowing that underlie interpretations of health phenomena and guide health behaviors. Research results linking perceived risk with health behaviors have been inconsistent. A lack of cultural exploration of perceived risk and the use of mainstream populations to develop the majority of health behavior models have been cited as reasons for this inconsistency. Millstein's Process Model of Risk Perception informed by neomodernism and adapted to include health-world views guided this mixed-methods study. Only qualitative results are reported here.

Methods: Forty-three adult Samoans with metabolic syndrome conditions were recruited from three Churches on the Island of Oahu using a non-probabilistic sampling strategy and the services of a culture broker. Data were collected using audio recorded focus group discussions and analyzed using content analysis supported by Atlas.ti software. Focus group questions were derived from subject matter experts and the health belief, health-world view, perceived risk literature.

Results/Implications: This is the first study exploring health-world views in the context of perceived risk for CVD and diabetes in a Pacific Island community, Samoans specifically. Seven general codes: harmony/balance, physical health, stress, knowledge, personal motivation, personal responsibility, specific perceived risk influences; and two culture specific codes: change and food, supported the category health-world view. Five ways of knowing: personal, aesthetic, sociopolitical, empiric, and unknowing; and seven values, beliefs, and images: respect, family, religion, harmony/balance, responsibility, health practices, and healthy body image were interwoven among the codes. Although the area of interest was perceived risk for CVD and diabetes, participants also discussed their health-world view in the context of both general overall health and specific conditions such as gout, cancer, and pregnancy. Lack of knowledge about risk factors for disease regarding family history, diet, activity, and environmental conditions was noticeably absent in the data, a finding different from similar research with other minority groups (Asians, Hispanics, and Blacks). These results may inform culturally appropriate interventions to reduce health risks in at-risk Samoans and other Pacific Island peoples. Culturally appropriate interventions facilitate the National Institute of Nursing Research (2006) agenda, Healthy People 2010 goals, and the Agency for Healthcare Research and Quality mission.

Disclaimer: The views expressed in this presentation are those of the author(s) and do not reflect the official policy or position of the Department of the Army, Department of the Defense, or the US Government.
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CULTURE CARE THEORY APPLICATION FOR BSN STUDENTS' ENTRY INTO A PAUITE TRIBAL COMMUNITY

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Purpose: Culture Care Theory (CCT) is presented as the theoretical framework and guiding modes of actions used for positive entry and assimilation of a BSN community clinical semester experience. The class was the first one accepted for nursing experiences in the rural Pyramid Lake Pauite reservation in Northern Nevada. The culturally respectful and congruent specific actions for the educational experiences are shared for future nursing educational opportunities within diverse community cultures. Nursing education objectives were tremendously enhanced through the students' knowledge of cultural competence methods and the actual tribal community and student relationships and accomplishments.
Background: The creation of partnerships within the Pyramid Lake Tribal (PLT) community were undertaken by the author with full knowledge of CCT and specific application of the theory's Universal Care Actions and the Sunrise Enabler's 3 Modes of Actions in order to facilitate acceptance and trust of the faculty member and the goals for nursing education. In addition, CCT was applied with the concepts of health literacy for multiple approaches for various sub-cultures, including elders, teens, young children, and the tribal focus to incorporate Pauite language in daily activities.
Implementation Methods: The first phases of implementation were the utilization of CCT's enablers, which literally provide the directions that 'enable' the educator to gain trust and acceptance within the community. Specifically, the "stranger to friend" enabler was enacted. All educational methods were developed utilizing the CCT's "3 Modes of Actions," which acknowledged the two primary cultures of nursing education and the PLT community joining together in multiple levels of partnerships in order to offer the community health nursing experiences. Action 1, "Preservation," is addressed from both perspectives, including the nursing education learning objectives and the PLT importance of accepting "outsiders" with positive intent and sustainability of actions. Action 2, "Negotiation," included what both cultures could provide toward common goals and partnerships. Action 3, "Restructuring," included actual events of both cultures working together for positive acceptance within the community and positive health care outcomes.
Outcomes Achieved: Specific outcomes are discussed in categories of the sub-culture partnerships established, including: tribal health care services, tribal elders, junior-senior high school students, school faculty, Head Start participants and staff, and the Inter-Tribal task forces on suicide prevention. The students' qualitative class evaluations are discussed in relation to their learning outcomes of: (1) their knowledge of Culture Care theory and the applications, (2) their identification of professional values, and (3) their knowledge of cultural assessment.
Implications for Education: Similar applications can be accomplished by educators in diverse community cultural experiences when they utilize the CCT foundation and acknowledge the Universal Care Actions, even when they may not have expert knowledge or experiences within a specific culture.

NURTURING CULTURAL COMPETENCE IN NURSING: COLLABORATION AND PROMISING PRACTICES

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Purposes/Aims: The Nurturing Cultural Competence in Nursing (NCCN) program provides mini-grant funding and resources to promote cultural competence within the nursing workforce in Oregon and SW Washington. Long-range goals of the NCCN program are to improve the quality of care for the region's increasingly diverse population, and to recruit and retain nurses from underrepresented groups. Culturally competent healthcare has the potential to significantly impact longstanding health disparities.

Rationale/Background: Development of the cultural competence of nurses, the largest sector of the healthcare workforce, is increasingly important in order to deliver effective healthcare. As such, an important long-term goal of the project is to create supportive, culturally competent work environments to improve the recruitment and retention of nurses-both those from underrepresented populations and those serving underrepresented populations. For the NCCN program, cultural competence is defined as: the lifelong process of examining values and beliefs and developing an inclusive approach to practice with active intercultural engagement. This definition reflects a broad description of culture that includes, but is not limited to, age, gender, race, ethnicity, religion, sexual orientation, socioeconomic status, and physical or mental abilities.

Methods: Through a Request for Proposals process, nursing schools and healthcare organizations in Oregon and SW Washington were encouraged to design demonstration projects that would increase cultural competency and diversity in the nursing workforce, across all sectors and settings. In year one of the grant period, 13 proposals were received from a variety of healthcare organizations and schools of nursing. A team of community partners selected seven projects the first year (2009-2010). Goals of funded mini-grants include: (1) Design and deliver training modules to enhance culturally competent practices among public health nurses; (2) Integrate culturally enriched teaching scenarios in a simulation lab; (3) Build organizational capacity for cultural competence through assessment and training in a long term care setting; (4) Develop multiple strategies to advance cultural competence in a hospital setting, both for individual staff and the organization as a whole; (5) Design and implement an online cultural competence tutorial; (6) Conduct training in culturally competent practices for nurse leaders in a medical center; and (7) Develop rubrics for cultural competence as an assessment and teaching tool. The second call for mini-grant proposals is underway.

Outcomes: The primary project objectives for the NCCN project are: (1) Identify, communicate, and disseminate best practices to improve cultural competence in nursing to community partners and regional stakeholders; (2) Develop collaborations among grantees and between grantees and funders that extend beyond the grant period; and (3) Foster community commitment to sustain cultural competency projects beyond the grant period.

Conclusions: At two NCCN project gatherings, mini-grant project teams reported (1) expanded conceptualization of culture and cultural proficiency; (2) expanded partnerships within and between departments and institutions; and (3) deepening commitment to sustaining innovations that advance culturally competent practices in widely diverse geographic, practice, and institutional settings. Data collection and evaluation to document project outcomes is ongoing; preliminary results will be included.

HEALTH BEHAVIORS OF AMERICAN INDIAN YOUTH SOCCER PLAYERS IN NEW MEXICO

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Purpose/Aims: The purpose of this paper is to describe the health behaviors of New Mexico American Indian middle school participants in the Native American Soccer Project (NASP) and Indigenous Soccer Cup (ISC).
Background: There have been few studies examining the impact of organized sports on the health of American Indian children. The New Mexico State Legislature passed a memorial in 2009 requesting an evaluation of the health impact of the Native American Soccer Project and Indigenous Soccer Cup (SM004, 2009).
Sample: The sample was composed of children (n=63; mean age 12.4 years) who participated in the 2009 ISC. The children were residents of New Mexico (NM) who were entering middle school, 6th through 8th grades in the fall of 2009, who could read and speak English, and who reported their race as all or partially American Indian.
Methods: This descriptive study was conducted in August 2009 using the 2007 Youth Risk & Resiliency Survey (YRRS) for New Mexico middle school students. Human Research Review Committee approval was obtained. Parents or Legally Authorized Representatives (LARs) were notified of the study two weeks before the ISC. Passive consent was used with the parents/LARs. Children assented to participate in the research prior to administration of the survey. Chi square assessments using SPSS 17.0 were completed to test for differences between NASP/ISC middle school responses and 2007 YRRS NM middle school results and 2007 YRRS NM middle school results for American Indians.
Results: NASP/ISC middle school participants from NM were found to be significantly more likely to report never having tried smoking cigarettes (25% versus 43%), $\chi^2(1, 61)=6.68$, $p=0.01$; never having drank alcohol other than a few sips (25% versus 53%), $\chi^2(1, 61)=17.55$, $p=0.00$; and report they think it is very wrong for someone their age to drink alcohol (68% versus 50%), $\chi^2(1, 61)=10.05$, $p=0.00$; when compared with results from the 2007 NM middle school YRRS (n=8,484, mean age 12.9 years). NASP/ISC middle school participants from NM were found to be significantly less likely to report never having used marijuana (16% versus 32%), $\chi^2(1, 61)=6.75$, $p=0.01$, when compared with results from the 2007 NM middle school YRRS for American Indian students (n=2,118, mean age 12.9 years). There was no significant difference between NASP/ISC middle school participants from NM in reported suicidal ideation or having ever made a plan to commit suicide when compared with the results from the 2007 YRRS for NM American Indian middle school students and all NM middle school students.
Implications: The results of the research will be used by the New Mexico Department of Health and New Mexico Indian Affairs Department to improve programs to increase resiliency and health behaviors among New Mexico American Indian youth.

WHO TO TELL? LATINO MEN'S DISCLOSURE OF THEIR PROSTATE CANCER

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Purposes/Aims: The purpose of this study is to understand prostate cancer disclosure decisions from the perspectives of Latino men who have had prostate cancer treatment.
Background: Decisions related to prostate cancer treatment, disclosure, and screening are fraught with uncertainty. Understanding how Latino men cope with this uncertainty has become critical for several reasons. Prostate cancer is the most common noncutaneous cancer and second leading cause of death among men in the United States, and Latinos are the fastest growing minority in the United States accounting for 50% or more of the population in some regions, such as California. While there is little data on immigrant status and prostate cancer, what is available indicates that Latino immigrants have higher prostate cancer rates than rates reported in their native countries, but similar rates to US-born Latino men. Many Latino men carry the added burden of being monolingual Spanish-speaking or speaking English as a second language. For these men, much of the available written or verbal information is not accessible. Also, it is unknown if or how acculturation influences these situations. Additionally low-income Latinos are more likely to be uninsured and have less formal education than their non-Latino white counterparts, which has been cited as a reason for having higher stage disease at diagnosis than Caucasian men. Yet, as Gilligan (2005) highlights in his review of literature related to prostate cancer and social disparities, prostate cancer among Latinos has received very little attention in the medical or public health literature. Little is known about how Latino men who have been treated for prostate cancer view disclosing their diagnosis to others. This is especially important for first degree male relative to be aware of their increased risk.
Methods: We employed a descriptive design using "fundamental" qualitative description. We did in-depth individual interviews with 30 Latino men who had been treated for prostate cancer and could reflect back on their disclosure experiences. Interviews were conducted in-person by male, bilingual interviewers. Analysis is being conducted using constructivist grounded theory techniques.
Results: Analysis is not yet completed, but preliminary results are revealing that there is a range of disclosure patterns among Latino men from not disclosing at all to becoming active in telling others to have screening. This range will be more clearly characterized as analysis proceeds.
Implications: These results will inform the development of interventions to encourage and facilitate Latino men's disclosure of a prostate cancer diagnosis, especially to their first degree male relatives.

CULTURAL APPROPRIATENESS IN COMMUNITY-BASED PARTICIPATORY RESEARCH

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Purpose: To explore the concept of cultural appropriateness through three observations during establishing and sustaining a community-academic partnership. The goal of the partnership is to develop a culturally appropriate tribal palliative care intervention for an American Indian nation by using a Community-Based Participatory Research (CBPR) approach.

Background: The consideration of cultural appropriateness is crucial when promoting health and a behavioral change. Cultural appropriateness is not defined clearly and is a relative term since the word culture can include various levels from an individual household to an ethnic, racial, or linguistic group. However, cultural appropriateness in a CBPR approach should reflect on values, beliefs, and attitudes of a partner community. Then a question arises as to what extent the community's values, beliefs, and attitudes override those of the academic partner.

Approach: Three observations were utilized to exemplify value conflicts and explore the concept of cultural appropriateness. The first observation involved two students' approaches in a community awareness project. One was a community member, another was a minority American. The approach by the community-member student was rather passive while that of the non-member student was active, stating that "I cannot sit there and wait for people to come." The second observation included a perception difference at work between a professionally hired community member and an academic staff. Is an explanation of the project during grocery shopping considered to be a paid work? The third observation was concerned with a monetary value of knowledge. How much would the knowledge of each be worth of Elders and of a PhD prepared expert?

Outcomes: The first event was viewed as a student learning opportunity on what cultural appropriateness was. Although the community people accepted the active approach by the minority American student by being receptive to be study participants, what if the member student had asked in the manner the non-member student had asked? Would it be accepted by community people? Another layer of this observation was the fact that the non-member student was a minority American. What if she was a White American? This observation crossed over the situation of the researcher herself. The perception difference in work in the second observation was negotiated with two strategies: an intention of the interaction with the community people and a clear job description in a contract and research agreement. The third observation also required reconciliation. A donation to a Buddhist monk for his teaching could be seen as a similar occurrence. Similar concepts such as cultural competency and cultural attunement were reviewed.

Conclusions: Since the partnership has been driven by the academic partner and is still in a developmental stage, the color of the academic, that is, its values, beliefs, and attitudes are stronger than those of the community partner. As the community is a sovereign nation, the academic partner envisions the community's values, beliefs, and attitudes should eventually override those of the academic partner. In the meantime, concepts of effectiveness, efficacy, and knowledge of oral tradition would evolve along with the maturity of the partnership.

CREATING A RURAL HEALTH TRACK FOR A DOCTOR OF NURSING PRACTICE PROGRAM

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Purpose/Aims: Advanced practice nurses need broader preparation at the practice doctorate level in order to meet current and future patient care and healthcare delivery system needs both locally and nationally. We believe that more intense preparation and mentoring are necessary within Doctor of Nursing Practice (DNP) programs to both attract students to rural practice as well as provide the education needed for the unique challenges of rural practice. The purpose of this presentation is to present preliminary development of a model for a rural health track within a DNP program. **Rationale/Background:** Oregon is a geographically and demographically diverse state, with 31% of its population living in rural areas. Because the population is spread over a large geographic area, significant healthcare access challenges exist for the individuals in rural and frontier communities and the health delivery systems serving those communities struggle to survive. Oregon's rural and frontier areas face many serious, documented challenges maintaining and providing access to adequate healthcare. Rural dwellers experience health disparities. According to the Oregon Office of Rural Health, 103 of the 131 primary care service areas in Oregon are designated as rural. Of these 103 rural service areas, 52 have unmet healthcare needs. This designation is based on an index of 5 measures that are uniquely sensitive to Oregon's rural health environment: primary care capacity, ambulatory care sensitive conditions ratio, travel time to nearest hospital, comparative mortality ratio, and low birth weight rate. The project focuses on meeting the health needs of a rural and increasingly diverse state and will enhance the current DNP program by developing clinicians with both the interest and skills to meet the unique rural health needs of Oregon. **Description:** The goal of the project is to develop and implement a rural health track in a DNP program with the goal of recruiting and retaining advanced practice nurses to meet the healthcare needs of rural Oregonians. The rural health track provides coursework, mentoring, and clinical experiences in rural settings. The rural health track is open to DNP students in the family nurse practitioner, psychiatric mental health nurse practitioner, and adult health clinical nurse specialist specialties and emphasis is put on creating cohesive cohorts of students choosing the rural health track. Students spend their 3rd year of the program in a rural immersion experience. The latter will consist of 9 months of clinical residency as well as the conduct of a clinical inquiry project in a rural setting. Sub-objectives also address student and faculty recruitment, selection of clinical sites, and faculty and preceptor development. **Outcomes:** Outcomes will include numbers of students choosing and completing the rural health track and rates of employment in rural areas. **Conclusions:** The expanded scope of the practice doctorate provides the opportunity to develop a more comprehensive approach to preparing advanced practice nurses for meeting the health needs of rural dwellers.

LATINO YOUNG MEN AND HEALTH BELIEFS, ACCULTURATION, AND EMERGING ADULTHOOD

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Purpose/Aims: The purpose of the study is to: (a) explore and describe relationships among emerging adulthood, acculturation processes, health beliefs and behaviors, and the meaning of health as perceived by a group of young Latino/Hispanic men and (b) to generate hypothesis that can be used to develop and test culturally appropriate measurements and intervention strategies to promote and improve the health of young Latino/Hispanic men. **Rationale/Background:** It is important for researchers to determine, for instance, what factors influence 18 to 25 year old Latino/Hispanic men to stay healthy. It is also important to examine the experiences of Latino/Hispanic young men as they negotiate the demands of love and work (including education in many cases) as they develop their mature identity and worldview. Negotiating these facets of emerging adulthood can potentially impact the young man's health status. **Methods:** This pilot study uses a mixed methods triangulation convergence research design. Qualitative and quantitative data is being collected separately and the results will be compared and contrasted, thus allowing validation or corroboration of quantitative data with qualitative findings. The sample consists of Latino/Hispanic young men between the ages of 18 to 25. Recruitment is occurring with the collaboration and assistance of the staff of the University of New Mexico's Centro de la Raza, which is a multi-service center that provides a variety of academic and social programs for Latino/Hispanic students. A demographic questionnaire developed by the investigator collects data regarding age, sexual orientation, racial/ethnic identification, HIV status, and testicular self-exam. Instruments include the Short Acculturation Scale for Hispanics (Marin et al., 1987) and the Acculturation Rating Scale for Mexican-Americans-II (Cuellar, Arnold & Maldonado, 1995), Health Promotion Lifestyle Profile-II (Walker & Hill-Polerecky, 1996), and the General Health Visual Analog Scale (VAS), Quality of Life VAS, and Self-Rated Health Scale (Lorig et al., 1996). The qualitative piece consists of individual interviews that seek to understand how young Latino/Hispanic men address health promotion, acculturation, and emerging adulthood. **Results:** Preliminary findings indicate that 18-25 year old Latino/Hispanic men are impacted by several health concerns or issues. Among these are establishing and maintaining healthy relationships, sexual health, use and abuse of alcohol, and the lack of access to healthcare. **Implications:** The findings of this study will enhance understanding of how the tasks of emerging adulthood and the processes of acculturation influence or impact health behaviors and beliefs in young Latino/Hispanic men. In the long term, the findings will be an important first step in developing culturally appropriate measures and interventions that can have a positive impact on the health behaviors and beliefs of young Latino/Hispanic men.

FACTORS ASSOCIATED WITH SAFER SEX PROGRAMS FOR MIDLIFE AND OLDER MSM

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Purpose: The purpose of this study was to explore (1) the sexual behavior, including HIV/STD risk behavior, of midlife and older (age 50 and older) men who have sex with men (MSM) and (2) the healthy aging program preferences, including safer sex programs, of this population.

Background: According to the CDC, midlife and older adults account for 15% of new HIV diagnosis and 19% of new AIDS diagnosis. Additionally, midlife and older adults comprise 24% of those living with HIV and 29% living with AIDS as improved effectiveness of highly active antiretroviral therapy (HAART) has led to greater longevity. Though 5-7% of men report having sex with men, MSM represent 68% of men living with HIV/AIDS. Previous studies have examined risk behavior of MSM while not accounting for potential differences between younger and midlife/older MSM.

Methods: This study recruited San Francisco men age 50 and older from the Urban Men's Health Study, a probability-based telephone survey. A structured, telephone interview was administered addressing different factors, such as social support networks, leisure activities, life satisfaction, and ageism, in addition to sexual & risk behaviors and healthy aging program preferences. Differences between MSM with and without partners were analyzed and predictors of risky behavior were identified for MSM with a current or recent sexual partner. Program formatting (e.g. discussion groups vs. presentations), mentoring opportunities (e.g. group or individuals), target population (e.g. only MSM age 50+ vs. everyone), design source (e.g. by professionals), information distribution (e.g. print vs. online media), and content (e.g. social or health concerns) were also explored.

Results: Findings suggest MSM with a sexual partner differ significantly from those without a sexual partner in several key domains including ageism, social activity and connectedness, emotional well being, and physical & sexual health. Further exploration among MSM with recent sexual partners identified several significant predictors of high risk behavior including having a main partner, sexual performance enhancer use, time since testing for serostatus, life satisfaction, loneliness, and beliefs regarding barebacking. This study also analyzed participant preferences for healthy aging programs and revealed significant differences between HIV positive and HIV negative participants. For example, midlife/older MSM who were HIV positive preferred programs that chronicled life experiences of midlife/older MSM, included discussion groups regarding midlife/older MSM concerns and interests, utilized group mentoring, and were designed with input from gay men of all ages influenced likelihood of attending such programs.

Implications: This study highlights the importance of developing healthy aging programs tailored to meet the needs of midlife/older MSM in general as well as components tailored to meet the needs of HIV positive versus HIV negative individuals. Moreover, by integrating safer sex information into an overarching healthy aging program, such programs may be more appealing to these two populations.

USING THE BRIEF PAIN INVENTORY (SHORT FORM) IN A SAMPLE OF SOUTHWESTERN AMERICAN INDIANS

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The purpose of this mixed methods study was to describe the experience of cancer pain in a group of adult American Indians (AIs) from the southwest United States.

Controlling cancer pain is a challenge for many people with cancer, particularly those diagnosed at later stages of disease. Minorities are more likely than Caucasians to be diagnosed with advanced disease and to be under-medicated for cancer pain. The experience of cancer pain is poorly understood in AIs, in part because few pain assessment instruments have been tested in AI populations.

American Indian informants with cancer were recruited from a regional cancer treatment center in the southwestern United States. During the interview process, pain was assessed using the Brief Pain Inventory (Short Form) (BPI-SF). The BPI-SF is an 11-item questionnaire that assesses pain intensity and degree to which pain interferes with daily life and has widespread use in diverse populations. Descriptive statistics were used to analyze the BPI-SF data. Qualitative data were analyzed using basic descriptive qualitative methodology.

Thirteen AI informants from a variety of southwestern tribes ranging in age from 36 to 76 years and with a variety of tumor types were interviewed. Informants who followed a more traditional AI lifestyle displayed more difficulty in pain description and localization. While pain assessment scores from the BPI-SF were only approximate for many informants, on a zero (no pain) to ten (worst pain) numeric scale, their average worst pain was 5.3, average pain was 4.8, and pain at the time of interview was 3.1. The informants also described the considerable interference pain had on their activities of daily living, demonstrated by mean scores for interference with activity at 3.7, mood at 5, walking at 4.7, and sleep at 4.2. Interference was measured on a zero to ten numeric scale, where zero indicated no interference and 10 indicated complete interference. Because the sample had difficulties in utilizing the zero-to-ten pain scale, using the BPI-SF interference subscale was useful in identifying how pain affected daily life. Measurement of interference pain has on daily life is a useful proxy for symptom distress in a population for which pain is notoriously difficult to assess. Informants described conceptualizing pain in four distinct domains, physical, spiritual, emotional, and mental, and exhibited difficulty in discerning between domains during pain assessment.

Cancer pain assessment using the zero-to-ten scale may prove inaccurate in American Indians from the Southwest because of the difficulty informants demonstrated in using zero to ten scales. Clinician pain assessment that includes discussion of pain interference on daily activities may lend important insight into the degree to which the patient is suffering from physical pain from cancer. Additionally, AI patients who lead more traditional lives may require alternative methods of pain assessment.

SIMULATION: A BRIDGE TO CULTURE CARE

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Purpose: High Fidelity Human Simulation (HFS) shows promise as a venue in which students can gain experience in working with clients from a variety of cultures different from their own. The purpose of this study is to explore simulation as a strategy to increase and expand cultural exposures so as to enhance cultural competence. Providing opportunities for students to practice culture care with diverse populations in a safe environment may facilitate their ability to adapt appropriately and with sensitivity to new situations encountered in clinical practice. A second purpose is to foster self-awareness and self-discovery as students examine their own cultural values in response to the simulation experience.

Rationale/Conceptual Basis: In order to meet the needs of an increasingly diverse patient population, nurses must be prepared to provide culturally relevant and appropriate care. Culture is frequently taught in didactic courses with the expectation that students will be able to apply this knowledge in the clinical setting. Nursing students must be given the opportunity to experience and perform culture care practices so they are able to bridge knowledge to practice. Simulation can provide a safe experiential learning environment for nursing students to explore their own values, beliefs, and biases about patients and families who come from a variety of diverse backgrounds.

Methods: Students will participate in HFS scenarios with "patients and families" from three different cultures that are present in local communities: Somalian, Hmong, and Latino. These scenarios have been developed in collaboration with cultural brokers from each of the communities. In addition to the high fidelity simulator, "actors" from the communities will play the parts of family members. This design gives students the opportunity to learn how to focus on the central themes of a given culture and learn to adapt their culture care practices appropriately. This research addresses the following specific research questions: (1) Does an increase in cultural encounters through the use of HFS increase cultural awareness and cultural knowledge as measured by the Cultural Competence Assessment (CCA) tool (Schim, Dorrenbos, & Borse, 2005)? (2) Does an increase in cultural encounters through the use of HFS enhance a student's sense of cultural competence as measured through student-centered guided reflection self appraisal? The research project is a mixed design method using nursing students enrolled in medical-surgical nursing. Levels of cultural competence will be measured prior to and following the HFS intervention using the Cultural Competence Assessment (CCA) tool. After each simulation a guided reflection debriefing session will take place during which students will be prompted to identify their strengths and areas for improvement related to their culture care believes and practices.

Results: Data collection is in progress and will be completed by February 2010. Data analysis will include qualitative and quantitative strategies. This research will add to the body of knowledge about the efficacy of high fidelity simulation in nurturing cultural awareness, knowledge, skills, and behaviors.

Implications: (1) Show the efficacy of high fidelity simulation (HFS) as a teaching strategy to inform culturally competent nursing practice. (2) Describe the way in which HFS promotes the application of classroom knowledge to clinical practice.

Schim, S. M., Doorenbos, A. Z., & Borse, N. N. (2005). Cultural competence among Ontario and Michigan healthcare providers. *Journal of Nursing Scholarship, 37*(4), 354-360

SOCIAL POSITIONING AS EXPERIENCED BY LATINO FATHERS DURING END-OF-LIFE CARE

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Purpose/Aims: Discover relational processes within the interaction of Latino fathers experiencing end-of-life care for their child and the healthcare providers in an acute care setting. Describe Latino fathers' perceptions of their interactions with healthcare providers. Identify those factors that helped or hindered Latino fathers' interactions with physicians and nurses. Analyze issues of health disparities against the backdrop of social positioning, power dynamics, and oppression theory within the American healthcare culture.

Background: Health disparities involve important issues of culture and power inequities. Power issues may be magnified when viewed through the lens of another culture. The extent to which end-of-life care is affected by health disparities among Latino families experiencing the death of a child has not been adequately addressed. Analysis of the interrelationships of health providers and patients/family members can offer valuable insights into "power" dynamics within the healthcare culture.

Methods: *Design:* A descriptive, qualitative grounded theory design based on symbolic interactionism is used for a pilot study incorporating data obtained through a secondary analysis of Latino father interviews, provided by Dr. Betty Davies from her NIH study, Fathers Experience with Pediatric End-of-Life Care. *Data Collection and Analysis:* Using a Grounded Theory approach, data from 6 Latino interviews were coded, categorized, analyzed, and interpreted. Using constant comparative analysis, relationships emerged from the data that could lead to theory development. *Setting:* Fathers' experiences occurred in an acute care hospital. Interviews were conducted, usually in the father's home, within five years of the child's death.

Results: This pilot study revealed perceptions and behaviors that mold and define the nature of social interactions between Latino fathers and healthcare providers. Negative interactions with healthcare providers, perceived by the fathers, resulted in focused, articulate descriptions of social positioning often reflected in terms of low self-esteem, characteristic of marginalized populations. However, a surprising preliminary finding surfaced in positive interactions with healthcare providers. Namely, fathers' perceptions described a collapsed hierarchy marked by a more egalitarian social interaction. When the fathers and individual healthcare providers had these positive interactions, fathers perceived feelings of symmetry, respect, and trust.

Implications: While the findings are preliminary, they offer insight into the nature of the healthcare hierarchy as experienced by Latino fathers. If negative interactions enhance social differentiation and if positive communication and caring interaction can collapse a social hierarchy, temporarily or even perceptually, the nature of such interactions must be studied meticulously to further understand the power dynamics within the healthcare culture and its potential impact on care for all. This study can lead to greater understanding about the constructs of power dynamics within our healthcare culture and how those dynamics may impact the type and quality of care delivered. The focus on Latino fathers' experience may shed more light on the nature of health disparities in general.

THE CHALLENGES OF PREPARING FOR PRISON RESEARCH AS A DOCTORAL CANDIDATE

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Purpose: Motivated by a doctoral candidate's experiences and insights, the purpose of this paper is to describe and analyze the challenges of doing multiple methods dissertation research with a prison population. Few researchers are willing to enter a prison and do research because it is a highly regulated, restrictive environment that constrains more than it enables research. As a doctoral student planning a mixed methods dissertation (using validated instruments for quantitative work and visual ethnography as a qualitative technique), the author encountered challenges in areas of faculty and peer support, support for a mixed methods approach, gaining support from all levels of corrections/prison officials, and negotiating approval for the study through an Institutional Review Board.

Specific Aims:

- To create a critical dialogue about the challenges of conducting prison research as a doctoral student/candidate.
- To propose strategies for how to successfully plan and implement prison research as a doctoral candidate.

Rationale/Background: There is a paucity of prison research conducted by nurse scientists. While other disciplines such as sociology and psychology have a long history of prison-based research, the work has used primarily quantitative methods. Qualitative methodologies that use visual ethnography and photo-elicitation techniques are not familiar to all research review boards or corrections personnel and the use of photographic method is sometimes interpreted as a potential threat or risk to the population of interest. The complexities of prison research can be difficult for anyone, so doctoral students are often not supported in such inquiry, even for individuals who have previous experience working with incarcerated persons.

Brief Description of Undertaking: The suggested *approach* includes these strategies and methods: (1) Secure dissertation committee members who support prison research and are enthused about a mixed methods study. (2) Develop and sustain key relationships within own department or college, within the prison community, and among IRB staff assigned to assist with new studies. (3) Perfect and practice effective skills of negotiation, so that dialogue, questions, and debate can proceed in an affirmative and helpful way. (4) Become an expert in the art of patience, as all processes and progress take longer than anticipated or desired to reach completion.

Outcomes Achieved/Documented and Conclusions: This dissertation proposal was finally approved by an Institutional Review Board and supported by correctional officials at all levels. The study is awaiting NIH approval for a certificate of confidentiality before data collection proceeds. The lengthy process was educational to all concerned with the preparation, refinement, and approval of this research.

COMPARING PHYSICAL ACTIVITY IN CULTURALLY DEAF MEN AND WOMEN: A SECONDARY ANALYSIS

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Purpose/Aims: This study was a secondary analysis of the Validating the Adapted 7-Day Physical Activity Record by Pedometer With Deaf Adults study. The purpose of this study was to compare differences in physical activity in culturally deaf men and women. Additional research questions explored were differences in the relationships between (1) body mass index (BMI) and physical activity, (2) age and physical activity, and (3) education level and physical activity.

Rationale/Background: There is evidence that deaf adults may be at risk for inadequate physical activity, but there is no evidence about whether deaf men are more active than deaf women. From the numerous studies to evaluate interventions to increase physical activity among various populations, including men versus women, none have targeted deaf adults, and how they would benefit from interventions tailored for their cultural context. In addition, none have addressed the question of whether deaf men are more active than deaf women, which is consistent with other research about physical activity among men versus women in other populations.

Methods: The sample population of the secondary analysis consisted of 30 participants who satisfied the inclusion criteria. Step count obtained from the Yamax Digiwalker pedometer and demographic sheet were used to collect data. Statistical analyses performed included t tests to show significance between physical activity and men and women and Pearson correlation to show relationships between physical activity and BMI, age, and education level.

Results: Results from the study found no significant relationship between physical activity and culturally deaf men and women, and no correlation between physical activity and BMI, age, and education level.

Implications: The overall implication of this study was the need for further research involving the culturally deaf population. From the limited resources that pertain to the deaf community, statistics such as the estimated number of culturally deaf adults, research on physical activity, and other health statistics are almost entirely based on outdated estimates, the hearing population, and other minority groups. Conducting more research with the culturally deaf community will ultimately give rise to their trends in health, major chronic and acute health problems, and most importantly, areas where physical activity interventions will have the greatest impact.

INITIATION INTO METHAMPHETAMINE USE IN RURAL USA

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The methamphetamine (MA) epidemic has spread from the urban areas of the western United States to rural areas in the West, South, and Midwest. Data on methamphetamine and other drug use for rural areas is scarce, but what is available suggests significant problems. In the frontier areas of Montana and Wyoming, MA abuse has spread through farms and ranches and among Native Americans. Wyoming's high school students have the 2nd highest rate of lifetime MA use and the 3rd highest rate of lifetime MA injection in the US. In 2003, 11.6% of high school students in Wyoming had used methamphetamine at least once in their lifetimes compared to a nationwide median of 7.5% (CDC, 2004). The high rates of drug use and risky sexual behavior among youth suggests that identifying factors that relate to the early initiation of methamphetamine use are important.

In this study we utilized Bronfenbrenner's bio-ecological model (1977, 2000) as a framework for identifying contextual factors that contribute to the initiation of methamphetamine use. Between June 2007 and June 2009, 80 rural methamphetamine users participated in 1 to 2 hour qualitative interviews. Interviews were transcribed and coded for factors that surrounded initiation into methamphetamine use based on the bio-ecological model. Contexts of initiation were coded according to family, peers, work, community, and individual issues. Hierarchical clustering based on reasons for initiation yielded 4 clusters: two younger groups (average age of initiation was 18) who report either family or peers as their primary motivation for starting meth use, a slightly older group (mean age of initiation was 21) who report a combination of family and peers, and the oldest group (mean age of initiation was 25) who reported work and school factors as primary motivators of initiation. Themes related to starting meth use included coping with psychosocial problems (weight loss and body dissatisfaction), work and household duties, depression, stressful home environments, previous alcohol and drug use, and social pressure. Unlike studies of urban meth users, the strong association between younger age and family mediated initiation into meth use is unique.

CULTURAL TRANSITION: A MIDDLE-RANGE THEORY

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Purpose: The purpose of this presentation is to discuss development of a new middle-range theory focused on cultural transition for use in caring for the health and well being of individuals and families who experience a move from one culture to another.
Description of Theory: This new theory focuses on understanding the distinct type of transition that occurs when persons move from one culture to another, within the context of other significant variables. Cultural context is considered an important condition of all transitions and cultural values and beliefs are believed to influence the meaning associated with transitions (Schumacher & Meleis, 1994).
Process Used: Theory derivation was used to extend the existing theory of transitions (Meleis, Sawyer, Im, Hilfinger Messias, & Schumacher, 2000) to address another relevant and contemporary form of transition, cultural transition, as it relates to health and well being. Within the theory of transitions, cultural transition has not been identified as a distinct type of transition.
Logic Linking the Theory to Nursing Practice or Research Problem: This theory links directly to research findings. A study about the resettlement transition experiences of a group of southern Sudanese refugee women who came to the US with their children revealed that it was the cultural transitions that were the most challenging for the women (Baird, 2009). Other studies of immigrants have reached similar conclusions (Lindgren, 2004). It is argued that adding cultural transition as a distinct type of transition will provide a useful tool for to explore the process of moving between cultures.
Conclusion: As immigrant and refugee populations increase in numbers in the US and other host countries, it is important for nurse investigators to better understand the process of cultural transition in order to identify ways to facilitate a healthy transition. This new theory of cultural transition is a useful framework for advancing research and practice regarding the immigrant experience as it relates to health and well being.

TAEGYO: LEARNING FROM KOREAN WOMEN'S CULTURAL EDUCATION AND SELF-CARE PRACTICES

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The trend of recent global migration has highlighted the importance of cultural awareness among healthcare providers who increasingly interact with the diverse population migrating to the US from all over the world. Considering this, healthcare providers need to understand how traditional cultural beliefs influence the health behaviors of childbearing immigrants from different culture.

All human health behavior is deeply rooted in one's beliefs or value system, usually encompassed within the culture in which they live. Furthermore, women's health beliefs and practices related to pregnancy vary widely depending on the socio-cultural context. Therefore, the awareness of particular culture-group's traditional beliefs and practices and cultural health behaviors during pregnancy is particularly crucial in obstetrical care settings in order to prevent any misunderstanding between healthcare providers and childbearing immigrant families, and thus, improve pregnancy health outcomes.

The purpose of this study is to review the literature surrounding Korean traditional cultural beliefs and practices related to pregnancy with particular focus on *Taegyo*, which is a type of traditional education and cultural self-care behaviors among childbearing Korean women. In the traditional concept of *Taegyo*, it is defined as the holistic efforts of childbearing couples toward appropriate conception, fetal development, and healthy delivery from the moment of preparing parenthood to childbirth among Koreans.

CINAHL Plus, PubMed, and EthnoMed databases were used to identify research studies, published both in Korea and the United States between 1991 and 2009, on Korean cultural beliefs and practices during the pregnancy. Thirteen research studies published both in Korea and the United States between 1991 and 2004 were selected for the review. The selecting method was iterative, with inclusion criteria being refined, as the review progressed. The findings, context, and analysis of the selected primary studies were used as data in this study.

Background and components of *Taegyo* as well as the factors affecting recognition and practice of *Taegyo* among Korean were identified from the literature review. In addition, the multi-dimensional effects of *Taegyo* on the process of pregnancy among Korean women and their family were described in this study.

In order to better understand their self-care behaviors and thus, to improve communication and health outcomes during the pregnancy, acknowledging the practices of *Taegyo* embedded in Korean's unique perspective toward fetus is an essential part of providing more holistic and individualized prenatal care to Korean women and their family in the US.

Since the latest literature included in this review paper was published in 2004, the existence of gap in absence of recent research that examine recognition and practice of *Taegyo* among childbearing Korean women is recognized as a limitation for this study. In addition, generalization of the research findings needs caution since it is always advised not to assume that all from the same cultural group would share same cultural beliefs and practices during the pregnancy. Therefore, the learned cultural knowledge from this study should be applied in planning individualized, culturally sensitive prenatal care to Korean population along with active listening to each individual Korean mother and her family.

ENGAGING NURSING UNDERGRADUATES IN VULNERABLE POPULATIONS RESEARCH THROUGH ARRA STIMULUS GRANT

OVERVIEW: ENGAGING NURSING UNDERGRADUATES IN VULNERABLE POPULATIONS RESEARCH THROUGH ARRA STIMULUS GRANT

Leah FitzGerald

BIOPHYSICAL MEASURE TO DETECT PRESSURE ULCERS IN ELDERS WITH DARK SKIN TONE

Barbara M. Bates-Jensen, Julienne Chavez, Sean Scott, Lisa Miyamoto

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PAIN AND SYMPTOM EXPERIENCES IN HISPANIC CHILDREN AND ADOLESCENTS WITH CANCER

Eufemia Jacob, Jacqueline Marroquin, Lupita Díaz, Ana Beatriz Tomas

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HYPERTENSION KNOWLEDGE, ATTITUDES, AND ACCULTURATION IN FILIPINO AMERICANS

Aurelia Macabasco-O'Connell, Lidia Michel, Crystal DeGuzman, Janet Weir

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USE OF TECHNOLOGY TO DELIVER AUTOMATED PHYSICAL ACTIVITY MESSAGING IN PERSONS WITH ID

Leah FitzGerald, Joanna Macalalad, Joan Hahn

ENGAGING NURSING UNDERGRADUATES IN VULNERABLE POPULATIONS RESEARCH THROUGH ARRA STIMULUS GRANT

Overview: Engaging Nursing Undergraduates in Vulnerable Populations Research through ARRA Stimulus Grant

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Purpose/Aims: One strategy for decreasing health disparities is to provide opportunities for minority nursing students to engage in research in vulnerable populations. This symposium will present four research projects by undergraduate nursing students from culturally diverse backgrounds. The research experiences were made possible by an administrative support from the National Institute of Nursing Research through the American Recovery and Reinvestment Act (ARRA). Among the major goals of ARRA were to create jobs, economic development, and accelerating the pace and achievement of scientific research by direct involvement in mentored research, and encouraging students to pursue research careers in health related sciences.
Background: A highly competitive process was implemented by the UCLA Center for Vulnerable Populations Research (CVPR) team to select 12 undergraduate students for the 10 week summer research experience. The CVPR collaborates with communities in the design of health promotion programs with the goal of eliminating health disparities in VP. The program engaged students in learning experiences designed to stimulate their interest in pursuing careers in nursing research. Students participated in a six hour summer institute learning about community based participatory research, attended monthly seminars sharing their experiences with faculty mentors and program participants, and were actively immersed with the research activities of their faculty mentors.
Overview of Studies: The four innovative projects were designed by UCLA faculty who were selected affiliates of the UCLA CVPR and prior pilot award recipients. Research included community participants of diverse ethnic/racial minority backgrounds addressing unique needs of marginalized populations in Los Angeles. Specifically, the four areas of research were (1) detection of early pressure ulcers in nursing home residents; (2) pain, symptoms, and quality of life in cancer; (3) heart disease risk factors and symptoms; and (4) promotion of physical activity through individualized teleprompting.

The first study employs a cross sectional observational design to evaluate use of a biophysical measure of skin and tissue water (subepidermal moisture) to detect early pressure ulcers (stage I) in nursing home residents with a special focus on persons with darkly pigmented skin. The second study examines pain and symptom experiences in children and adolescents with cancer. Marroquin explores the difficulties and problems experienced by parents in relation to pain and symptom management, and evaluate the effect of pain and symptoms on quality of life. The third explores knowledge, attitudes, and beliefs about cardiovascular risk factors (CRFs) and heart disease in Filipinos. Weir, et al. advances the knowledge of the relationships that knowledge, attitudes, and acculturation has on CRF management and symptoms among Filipinos. Integrating technology into clinical practice, the fourth study employs a randomized controlled design to assess the effect of individualized teleprompting in promoting physical activity in college students with intellectual disabilities. Macalalad describes how the use of technology influences heath promotion.
Implications: Engaging undergraduate nursing students in mentored research experiences will promote research careers as nurse scientists for these participants. In addition, the findings from these studies provide innovative and unique approaches in enhancing health protection among populations at great risk for health disparity.

Funded: NIH/NINR #3P30 NR005041-10S1

ENGAGING NURSING UNDERGRADUATES IN VULNERABLE POPULATIONS RESEARCH THROUGH ARRA STIMULUS GRANT

Biophysical Measure to Detect Pressure Ulcers in Elders with Dark Skin Tone

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Purpose/Aims: To examine the relationship between a measure of sub-epidermal skin moisture (SEM) and visual assessment of early pressure ulcer (PU) damage in nursing home (NH) residents with dark skin tones.
Background: Visual assessment of PUs is difficult in persons with dark skin tones and the blanch response is often not observable in dark skin tones so diagnosing non-blanchable erythema (e.g., stage I PU) is unlikely. Inflammatory changes with local edema occur with tissue ischemia from pressure 3-10 days before visible skin changes. An alternative non-visual method of detecting early PU damage would be beneficial.
Methods: 82 residents from 4 NHs were followed for 12 weeks. Participants received weekly concurrent visual skin assessments (skin rated as normal, blanchable erythema [BE], non-blanchable erythema/stage I PU [stage I PU], or ≥ stage II PU) and SEM measured with a hand held dermal phase meter across 9 anatomical locations (sacrum, buttocks, ischium, trochanters, heels) where higher SEM values indicated increased water in the skin and tissues. Data was analyzed with the observation as the unit of analysis with ANOVA used for comparison between groups. Data for the sacral location is presented.
Results: Participants were diverse: 56% (46) female, 49% (n=40) Hispanic, 21% (n=17) African American. Mean Braden Scale score was 17.11 (SD 3.99), indicating risk for PU development. Participants were somewhat functionally dependent as indicated by the Minimum Data Set Bed Mobility mean score=1.98 (SD 1.48) and Transfer Self Performance mean score=2.05 (SD 1.41). For observations at the sacral location of normal skin, BE, and stage I PU mean SEM values were significantly lower for Hispanics (normal: 38.7, SD 7.36; BE: 40.64 SD 8.35; stage I PU: 49.08, SD 8.24), highest for Caucasians (normal: 42.27, SD 8.38; BE: 51.22, SD 6.21; stage I PU: 52.28, SD 15.61) and in the middle for African American (normal: 40.95, SD 9.48; BE: 49.85, SD 5.59; stage I PU: 51.1, SD 21.24). The same pattern (SEM lower for Hispanic and highest for Caucasian) was observed in the other anatomic locations. In all groups, at the sacral and buttocks locations, mean SEM for normal skin was significantly lower from mean SEM for stage I (all P<.001).
Implications: Although results are preliminary, use of SEM for detecting early PU damage may help better detect early skin damage in persons with darkly pigmented skin. SEM threshold values may differ based on skin tone. This study provides a foundation for a larger study to implement and assess SEM as a more reliable method in comparison to visual assessments alone for detecting PUs. Further, this study provides important beginning information on characteristics of Hispanic and African American NH residents with PUs.

Funded: NIH/NINR #3P30NR005041-10S1

ENGAGING NURSING UNDERGRADUATES IN VULNERABLE POPULATIONS RESEARCH THROUGH ARRA STIMULUS GRANT

Pain and Symptom Experiences in Hispanic Children and Adolescents with Cancer

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Purpose: The purpose of this study is to examine the pain and symptoms experiences from the Spanish speaking parent's perspective and evaluate the effect of pain and symptoms on the quality of life in children and adolescents with cancer.
Background: The language barrier increases the risk for underassessment and under treatment of pain in non-English speaking populations. The UCSF Symptom Management Model was used to guide the selection of variables, including quality of life, which is one of the outcomes of pain in this model.
Methods: Parents of children and adolescents with cancer participated in a 30 to 60 minute interview, which occurred in the hospital and focused on questions about pain, difficulties and problems with reporting pain and symptoms, ability to communicate with clinicians about pain and symptoms, and how pain affect quality of life of their child/adolescent. At the end of the interview, parents were asked to evaluate their child's quality of life using the Spanish version of the Pediatric Quality of Life Inventory (PedsQL).
Results: Parent participants (n=9) had a mean age of 38±6.0; 1 was male and 8 were females. Collectively, their children were 3 toddlers (2-4 years), 3 school age children (8-12 years), and 3 adolescents (13-18 years). The most common cancer diagnoses were leukemia and sarcomas. In comparison to toddlers (2-4 years) and adolescents (13-18 years), school age children (8-12 years) had the lowest mean quality of life scores in the four core dimensions of health: physical, emotional, social, and role functioning. The mean scores were 48.9, 40.0, 48.3, and 45.0, respectively. The physical subscale of the PedsQL included general fatigue scores, which was the most problematic symptom in all age groups. The mean fatigue scores were 56.9 ± 2.4 (toddlers), 44.4 ± 20.5 (school age children), and 51.4 ± 15.7 (adolescents). No significant differences were found in the reported quality of life scores between those with pain (49.9 ± 13.5) and those without pain (64.7 ± 11.4, $p>0.05$), mostly due to the small sample size.
Implications for Practice: The Spanish version of the instruments allowed parents to communicate about pain, fatigue, and symptoms, and how these symptoms affect the quality of life in Hispanic children and adolescents. Research is needed to determine the utility of these instruments in clinical practice.

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ENGAGING NURSING UNDERGRADUATES IN VULNERABLE POPULATIONS RESEARCH THROUGH ARRA STIMULUS GRANT

Hypertension Knowledge, Attitudes, and Acculturation in Filipino Americans

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Purpose/Aims: The purpose of this study is to explore hypertension (HTN) knowledge and attitudes in the Filipino American (FA) population and its relationships with acculturation.
Background: Hypertension has been identified as a major public health problem within the Filipino American (FA) population. Filipino Americans are the second largest Asian ethnic group in the United States, with the largest group living in California. Compared to the overall California hypertension prevalence of 24.4%, FA have a prevalence of 26.6%, second only to the 33.3% of African Americans. Although heart disease and stroke account for 60% of the deaths in FA, very little has been published about FA health. Hypertension knowledge, and attitudes are important modifiable factors, playing a vital role in controlling HTN. Population-based programs for increasing awareness of HTN have proven to be beneficial in reducing the burden of HTN. Assessing knowledge and awareness in FA may be useful in developing culturally sensitive educational programs in this population.
Methods: This descriptive, cross-sectional study aims to recruit 30 FA over the age of 30 years. Recruitment is conducted at various local Filipino markets during HTN screenings. Potential subjects complete a short questionnaire including sociodemographic data and medical history including height, weight, waist circumference, and blood pressure (BP) measurements. Subjects undergo an interview utilizing a Cardiovascular Risk Factor Survey with four major components: knowledge, attitudes, acculturation, and educational preferences. Acculturation is based on a modified 10-item Short Acculturation Scale for Filipino Americans (ASASFA) measuring language use and preference, media language use and preference, and social relations. Scores range from 10-50 with higher scores denoting higher levels of acculturation.
Results: A sample of 24 FA subjects (n=24) have been enrolled into the study (mean age 60±12 years, 46% female, 74% married, 61% with health insurance, 65% unemployed, and 65% with annual incomes <$15,000). Mean systolic BP 133±23 mm Hg; diastolic BP 75±12 mm Hg; waist circumference 38±4 inches. Many reported high levels of HTN knowledge (65%), 74% report they can do something to lower HTN, and 78% reported the most desirable BP as <120/80. Sixty percent reported low acculturation with mean total ASASFA score 24±6. This research is still in progress.
Implications: Preliminary findings suggest that rates of HTN within this sample are high despite high levels of knowledge regarding HTN. Further, acculturation is low which may contribute to decreased BP control. Results of this study show that this low income, low acculturated sample of FA may benefit from culturally sensitive community-based educational programs discussing HTN in the context of FA's specific risk factors and culture.

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ENGAGING NURSING UNDERGRADUATES IN VULNERABLE POPULATIONS RESEARCH THROUGH ARRA STIMULUS GRANT

Use of Technology to Deliver Automated Physical Activity Messaging in Persons with ID

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Purpose/Aims: The goal is to characterize physical activity (PA) of adults with mild-moderate intellectual disabilities (ID) using accelerometer technology (Personal Activity Monitor—PAM) to objectively monitor sedentary, moderate and aerobic activity. This study will determine if the use of a PAM increases PA in adults with ID compared to those using PAM plus receiving electronic messaging. In addition, this study will build upon previous work describing PA of adults with ID to aid future intervention work.
Background: Regular physical activity and active recreation are essential in health promotion and maintenance. There is vast information on health promotion for the general population and for people with chronic diseases, such as diabetes and arthritis. However, programs have not been tailored to meet the specific needs of people with ID. PAM will be utilized to monitor PA patterns 24 hours of the day for a 28 day period in young adults with ID.
Methods: This randomized controlled study will be composed of 50 young adults with ID, ages 18-25 enrolled in UCLA Pathway program, a two-year postsecondary education program for young adults with ID. BMI, waist circumference, and blood pressure will be measured at baseline and Day 28. The Personal Activity Monitor will be worn 24 hours daily with the exception of bathing. Following fourteen days of habitual PA measurement, participants will be randomized. The treatment group will receive individualized daily cell phone or computer prompts to maintain or increase their PA. Participants will download activity data daily using their personal computer to a centralized data base. The International Physical Activity Questionnaire (IPAQ) short form and Goldin questionnaire will be completed at baseline, Day 28, and 1 month follow up.
Results: Work currently in progress. It is hypothesized that the young adults using a PAM while receiving individualized electronic prompts will maintain or increase their physical activity, as compared with their counterparts who are using only PAM.
Implications: Prevention of disease, promotion of health, and maintenance of functional independence require such behaviors as regular physical activity, sports participation, and active recreation. These health behaviors are essential for persons with and without disabilities. Although ID is usually not associated with known biological causes, it is associated with insufficient physical activity resulting in high rates of chronic disease, contributing to increased premature and preventable morbidity. Secondary conditions resulting from ID may require certain revisions to various health promotion interventions to assure successful adaptation and outcomes. Further efforts are critically needed in the area of the development of PA assessment methodology for persons with disabilities.

Funded: NIH/NINR #3P30 NR005041-10S1

ENCOURAGING POSITIVE BEHAVIOR CHANGE IN VULNERABLE POPULATIONS

OVERVIEW: ENCOURAGING POSITIVE BEHAVIOR CHANGE IN VULNERABLE POPULATIONS
Elizabeth Marlow

FRAMEWORKS FOR WORKING WITH MIDDLE-AGED LATINAS
Teodocia Maria Hayes-Bautista

TRANSITIONS: EXPLORING URBAN AFRICAN AMERICAN WOMEN'S SEXUAL DECISION-MAKING
Ann Kiki Anaebere

NONVIOLENT COMMUNICATION (NVC) TRAINING AND EMPATHY IN MALE PAROLEES: A PILOT STUDY
Elizabeth Marlow

TURNING POINTS: CUES FOR CHANGE AND INTERVENTION
Susan Stemmler

ENCOURAGING POSITIVE BEHAVIOR CHANGE IN VULNERABLE POPULATIONS

Overview: Encouraging Positive Behavior Change in Vulnerable Populations

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Purpose: Vulnerable populations often encounter significant challenges, e.g. barriers to healthcare access and developing and maintaining health-enhancing behaviors. Therefore, the purpose of this symposium is to examine the processes of behavior change in four vulnerable population groups: Middle-aged Latinas, Urban African American Women, Male Parolees, and Methamphetamine-Using Mothers. The Transtheoretical Model (TTM) and Turning Points will be examined as conceptual frameworks for understanding processes of change. Motivational Interviewing (MI) and Nonviolent Communication (NVC) will be presented as specific interventions with which to encourage health-promoting behaviors in these vulnerable population groups. The presenters are pre- and post-doctoral students in the National Institute of Nursing Research (NINR)-funded T32 on Health Disparities of Vulnerable Populations.

Overview of the Presentations: Hayes-Bautista will begin with an overview of the TTM and discuss MI as a strategy for obesity prevention and management in middle-aged Latinas. Anaebere's presentation will employ the TTM to explore factors contributing to transitions in sexual decision-making related to condom use and sex partner selection, among African American women from urban communities. Marlow will present findings from a pilot study examining the impact of NVC, an empathy-based intervention, on male parolees' ability to resolve conflict peacefully and develop meaningful social support. Stemmler will conclude the symposium with a discussion of Turning Points, or significant life events that alter an individual's self-perception and promote positive intrapersonal change, as well as provide a critique of the TTM.

Implications: Conceptual frameworks, such as the TTM and Turning Points, can provide nurses with ways to understand processes of change in vulnerable populations. Specific interventions, such as MI and NVC, can offer nurses strategies to provide culturally-relevant support to patients as they develop and maintain health-enhancing behaviors.

ENCOURAGING POSITIVE BEHAVIOR CHANGE IN VULNERABLE POPULATIONS

Frameworks for Working with Middle-Aged Latinas

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Purposes/Aims: The specific aim is to explore the usefulness of MI in identifying the sources of change on an individual basis, especially in situations involving non-rational decision-making.

Description of Concept: Motivational Interviewing (MI) is a qualitative method, a hybrid tool, adapted from the fields of ethnography, anthropology and sociology, whose purpose is to allow the respondent to describe her/his world to the researcher. The trained MI researcher does not impose a priori constructs onto the respondent, but facilitates the respondent's description of the constructs that she/he perceives.

Internal Consistency of the Concept: This project will explore the usefulness of the MI approach in discovering an individual's perceptions of "mediators, moderators and confounders" that so often influence decisions about behavior change. In particular, this project will test the ability of MI to help a patient discover her/his own source of motivation to affect a behavior change. In essence, MI may allow a nurse to tailor individual conceptual models of behavior change, on a one-by-one basis.

Research Problem: The fundamental job of nursing is to assess, evaluate, diagnose, plan, and then intervene. The Transtheoretical Model (TTM) has been offered as a conceptual tool to assist in the basic nursing process in dealing with patient behaviors around use of substances—e.g. tobacco, drugs, etc.—that produce health-harming outcomes. The TTM is built on the assumption that a rational individual is provided with information and the conceptual model tracks the process of behavior change. However, many human behavioral decisions are not made on a rational basis, hence information alone may not be sufficient to modify such behaviors.

Utility of Concept: MI will be explored as an alternative method to achieve nursing assessment, diagnosis, planning, and intervention in situations necessitating behavior change for health improvement. This will be applied in the area of obesity prevention and management in a sample of middle-aged Latinas in Pacoima, California.

ENCOURAGING POSITIVE BEHAVIOR CHANGE IN VULNERABLE POPULATIONS

Transitions: Exploring Urban African American Women's Sexual Decision-Making

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Purpose/Aims: Research targeting urban African American women has primarly focused on identifying causes of high-risk sexual behaviors (e.g. poverty, impaired gender-power perception, and lack of social support). However, research continues to emphasize the importance of understanding the sexual decision-making patterns of heterosexual African Americans. The purpose/aims of this presentation are to explore factors contributing to transitions in sexual decision-making, related to condom use and sex partner selection, among African American women from urban communities.
Description/Definition of Theory/Concept: The Transtheoretical Model (TTM) is a framework that seeks to identify and explore the steps of behavioral change. The model asserts that individuals move through five distinct stages that lead to the adoption of an adaptive health behavior. The stages for behavior change include: pre-contemplation, contemplation, ready for action, action, and maintenance. A 'relapse phase' is also included as part of the model.
Internal Consistency of the Theory/Approach: As a theoretical model for examining behavior change and decisional balance, TTM has strong empirical support and internal consistency. It has been used to examine health behavior change related to mammogram screening, diet/weight control, AIDS prevention, and contraception. A review of the literature will be conducted to identify and synthesize factors that are likely to influence urban African American women's decision to transistion between condom use and non-condom use and to alternate between sexual activity within a monogamous and casual sexual relationship.
Logic Linking Theory/Concept to Practice/Research Problem: Elements of this presentation can lead to the advancement of clinical care for nursing and other professionals who are focused on the primary prevention of HIV among African American women, who account for more than 66% of the estimated AIDS/HIV cases among women nationally.
Conclusions: The utility of this framework for this presentation stems from its recognition that 'relapse' to prior behaviors are possible even after the initiation of positive behavior change. The inclusion of a 'possible relapse phase' in TTM provides a helpful tool by which to examine various psychosocial, cultural, economic, and contextual factors that can lead to alternations between sexual risk and non-risk behaviors among urban African American women. This presentation can aid nurses and researchers in the development of a clear paradigm for practicing culturally-congruent reproductive health care for African American women from urban communities.

ENCOURAGING POSITIVE BEHAVIOR CHANGE IN VULNERABLE POPULATIONS

Nonviolent Communication (NVC) Training and Empathy in Male Parolees: A Pilot Study

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Purpose: The purpose of this study was to pilot test a behavioral intervention program, Nonviolent Communication (NVC), for improving communication skills in men on parole. The specific aim was to evaluate the impact of NVC training on changes in the participants' ability to develop empathy for others and for themselves. It was hypothesized that participants' capacity to resolve conflict empathically and to develop positive relationships with others would improve as a result of NVC training.
Background: Approximately 60% to 70% of all individuals released from prison return within 3 years of release. These individuals often have long criminal histories and their time in the free world is punctuated by frequent reincarcerations. Many formerly incarcerated individuals reenter their communities having adapted to the psychological demands of prison and criminal life. These adaptations, e.g. interpersonal distrust, social isolation, and institutional dependence, critical for survival in the correctional facility and on "the streets," are considered antisocial in free society. There is limited research on the process of undoing the disadvantageous coping skills and psychosocial adaptations resulting from multiple periods of incarceration and long histories of substance abuse. Such research is important, as is it often these forms of coping that most greatly impact an individual's ability to successfully reintegrate into his home community.
Methods: A single group pre- and post-test design was employed to test the impact of the intervention. Changes in participants' level of empathy were evaluated via: (1) pre- and post-test completion of the Balanced Emotional Empathy Scale (BEES), (2) post-intervention focus groups, and (3) post-intervention individual interviews with key informants.
Results: Thirty male parolees residing in a community-based substance abuse treatment (SAT) program enrolled in the 8-week NVC intervention. Findings revealed significant changes in BEES scores, i.e. increased levels of empathy pre- and post-intervention ($p<.05$). During focus groups and individual interviews, participants articulated their use of NVC to: (1) resolve conflicts with friends and family members; (2) negotiate stressful interactions with parole agents and SAT program staff; and (3) give empathy to themselves, although self-empathy was the most difficult skill for most participants to master.
Implications: These findings indicate the beneficial impact that NVC training had on participants' levels of empathy and empathic communication skills. They reveal a high rate of acceptance of NVC among participants and demonstrate participants' ability to employ NVC skills during challenging interpersonal interactions. Results from this study suggest that NVC training may be an efficacious intervention for improving paroled individuals' communication and coping skills and may positively influence participants' reintegration efforts, particularly in developing supportive relationships with others.

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ENCOURAGING POSITIVE BEHAVIOR CHANGE IN VULNERABLE POPULATIONS

Turning Points: Cues for Change and Intervention

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Purpose: This presentation will define "turning points" as influential life events that instigate shifts in self-perception and health behaviors. As such, recognition of turning points highlights windows of opportunity for assisting and directing individuals to affect healthful behavior change.

Rationale: Research about health trajectories focuses on the onset, duration, and relapse of disease processes. Few researchers conceptualize critical turning points that might be responsible for change in health behaviors associated with life events. Life course theory, an interdisciplinary framework, provides an ecological perspective considering human development, agency, historical context, timing of life events, and relationships. It articulates change over a lifespan and outlines the dynamic life course. However, chance encounters also shape the human experience. The Transtheoretical Model of Change (TTM) stratifies behavior change into a framework of readiness for change and provides a guide for designing intervention based on the individual's stage of change; it fails to identify turning point events that may compel personal behavior modification.

Description: Denzin (2007) notes the epiphany in a personal crisis, which can prompt a reversal of behavior because of new understanding. Sociologist Anselm Strauss (1969, 2007) describes turning points as "critical incidents that force recognition that 'I am not the same as I was, as I used to be.'" Unlike developmental milestones, turning points modify the individual's understanding of self, rather than a focus on aging, psychosocial or biological development. Turning points may be abrupt or cumulative events. As well, they can be macro-events that affect all of society; for example, the impact of an economic recession or the World Trade Center tragedy. Turning points are often associated with role transitions, such as marriage or new employment. Within a life trajectory, transitions have embedded turning points that clearly influence the personal selection of action and direction.

Concept to Practice: Turning point events may sharply disrupt the status quo, forcing the individual to recognize the need for personal change. Maturational effect describes the cessation of drug use at life events like pregnancy, and motherhood. These are turning points in which significant change in personal identification increase social investment, modifying addictive behavior in favor of a more healthful lifestyle. Laub (1993) identifies both positive and negative influencing factors for criminal career trajectories. Social investment in marriage and family responsibilities predict stability, while unemployment and further substance use predicted high risk for reincarceration.

Conclusion: In health and illness, nursing strives to appreciate each individual client within the context of personal history, health status, and social environment. Turning points may sharply disrupt the status quo, forcing the individual to recognize the need for personal change. Turning point events can make individuals more amenable to behavior change by intervention and independently from nursing or the helping professions.

Funding from the following sources is gratefully acknowledged: NIH/NINR T32 NR007077 Health Disparities and Vulnerable Populations Research Training Program.

HEALTH ISSUES OF OLDER ADULTS

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

Karen Zulkowski, Julie Pullen

PHYSICAL ACTIVITY TO REDUCE FRAILTY RISK AND FALLS: A REVIEW OF INTERVENTION RESEARCH

Siobhan McMahon, Julie Fleury

MENTAL HEALTH OF CAREGIVING GRANDPARENTS

Barbie Vander Boegh, Jeri L. Bigbee

WII FIT EXERGAMES TO IMPROVE BALANCE IN OLDER ADULTS: A WORK IN PROGRESS

Maayan Agmon, Huong Nguyen, Cindy Perry, George Demiris

INTERDISCIPLINARY RESEARCH: MEDICATION MANAGEMENT BY COMMUNITY ELDERS

Marilyn Smith-Stoner, Margaret L. Beaman

TREATMENT DECISION-MAKING IN OLDER ADULTS NEWLY DIAGNOSED WITH MYELOMA

Joseph D. Tariman, Donna L. Berry¸ Barbara Cochrane, Ardith Doorenbos, Karen G. Schepp

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DEMENTIA CARE IN RURAL ASSISTED LIVING: STRENGTHS AND OPPORTUNITIES

Glenise McKenzie, Juliana Cartwright, Elena Siegel

RECRUITMENT CHALLENGES IN A STUDY OF OLDER ADULTS WITH ADVANCED HEART FAILURE
Yi Yan, Lois Miller

PILOT STUDY OF USE OF A PEDOMETER TO MONITOR PHYSICAL ACTIVITY IN OLDER ADULTS
Young-Shin Lee, Chul-Gyu Kim

CRIMINAL ELDER ABUSE: A FOCUSED FORENSIC NURSING ANALYSIS
Amy Y. Carney

OPTIMIZING WELL BEING IN CAREGIVERS OF A SPOUSE WITH DEMENTIA
Kathy A. Ward

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

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Purpose: Conducting a meaningful "hands on" project as part of an undergraduate research course is challenging. In Fall semester 2008 and Spring semester 2009, we decided to conduct a project that would add needed geriatric contact and provide useful data on senior citizens in Billings MT. The purpose of both studies was to examine the nutritional status of senior citizens in our area and look at consistency of results.

Background: Physical, social, and environmental factors all contribute to nutritional problems, which become pronounced among those elders 65 years of age and older. While inadequate nutrition is not always apparent, it is estimated that between 37% and 40% of community dwelling elders are affected. Among the hospitalized elderly, both morbidity and mortality increase due to malnourished states and this occurs even when there are no obvious signs of malnutrition. In older adults, it is estimated that more than 55% of those hospitalized and between 52% and 85% of those living in long term care may be malnourished.

Some psychosocial issues have been identified that adversely affect nutritional status among elders. The issues identified include residing alone, limited income, and impaired mobility. Other studies have further identified key factors, such as a feeling of food insecurity that is experienced by elders and reliance on peanut butter and crackers for at least one meal per week. As a result, nutritional instruments that accurately evaluate the nutritional status of elders are vital and results will help nurses determine which tool is appropriate for patient assessment.

Methods: Junior nursing students at MSU College of Nursing collected data as part of their undergraduate research requirement during Fall 2008 and Spring 2009 semesters. Senior citizens residing in community and assisted living facilities were randomly selected for study inclusion.

Fall 08, two nutritional assessment instruments (MNA screening, total assessment and Determine Your Nutritional Health) were compared to examine correlation in identifying at risk individuals. Spring 09, testing used the screening portion of the MNA only. This was then compared to previous results.

The MNA has six screening and 12 assessment questions and the Determine instrument has 10 screening questions and includes item explanations. Both are valid and reliable instruments.

Results: A total of 352 surveys were completed Fall 08 and 230 Spring 09. Nutritional questionnaires with missing information were eliminated, which resulted in 310 (MNA) and 347(Determine) responses and 217 (MNA) valid surveys for Fall 08 and Spring 09 respectively.

There was no significant difference in age, gender, or living arrangements by time of collection. MNA results showed 46.5% and 45.2% of seniors to be at risk for malnutrition at times 1 and 2, which was not significantly different ($p \leq 0.05$) In addition, at time 1 the MNA screen, total assessment, and determine score were significantly correlated ($p \leq 0\text{-}00$).

Implications: Senior citizens in Billings, MT are at nutritional risk. Both the Mini Nutritional Assessment and Determine Your Nutritional Health are effective screening instruments and should be included as a component of any wellness examination and should be included in undergraduate education.

PHYSICAL ACTIVITY TO REDUCE FRAILTY RISK AND FALLS: A REVIEW OF INTERVENTION RESEARCH

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Purposes/Aims: The objectives of this paper were to (a) review and evaluate intervention studies designed to promote physical activity for the prevention of falls among community dwelling older adults and (b) provide recommendations for future research involving older adults in physical activity intervention programs for fall prevention.
Rationale/Conceptual Basis/Background: The growing number of falls and related injuries among older adults continues to be a major public health concern. The negative impact of falls on life quality and healthcare cost is significant. Potential consequences include fractures, fear of falling, emergency room and hospital admissions, dependence, confusion, immobilization, depression, and death. Physical activity is a proven preventive strategy, yet the majority of older adults in the United States have sedentary lifestyles, and the rate of falls continues to increase.
Methods: Computer and manual searches were conducted of articles in the English-language literature from 1980-2008. Studies whose interventions did not demonstrate a positive effect on any of the targeted outcomes were excluded from this review as the focus was to gain better understanding of interventions with empirical support. Studies taking place in long term care settings were also excluded because their participants had higher risks of falling and higher rates of frailty than community dwelling older adults. A total of 52 research reports were reviewed; 13 studies that met the inclusion criteria were retrieved and analyzed. A coding frame was developed and refined to record results of primary studies, study participants, study methods, and interventions.
Results: The majority of study participants in the research reviewed for this paper were White, between the ages of 71 to 84, educated, and living in urban community settings. Each intervention reviewed included strengthening and balance exercises. Many studies also addressed flexibility and endurance activities. Other intervention specifics such as interventionist characteristics and training methods varied. A number of studies reviewed emphasized education as influencing psychosocial dynamics, physical activity behavior, and fear of falling. Few studies reviewed for this paper explicitly identified theoretical bases. The outcomes of this review document that a variety of physical activity interventions have positive effects in group based and home settings.
Implications: While the evidence is clear that physical activity effectively reduces frailty risk and falls, questions remain regarding intervention content such as behavioral components essential for the adoption of physical activity and its continuation over time. Differences in populations targeted, outcomes measured, intervention strategies used, and attention to theory make it difficult to draw conclusions about the long term effectiveness of physical activity interventions in the prevention of falls. A review of the current fall prevention research identifies strengths and limitations of existing interventions providing a starting point for determining salient approaches for their expansion and evaluation and to program implementation and sustainability.

MENTAL HEALTH OF CAREGIVING GRANDPARENTS

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Purpose/Aims: The purpose of the study was to assess the mental health of custodial grandparents as compared with part-time caregiving grandparents.
Rationale/Conceptual Basis/Background: Increasingly, grandparents are stepping up to help raise their grandchildren due to the high demand on parents to hold two or more jobs, single parents who work outside the home, increasing divorce rates, along with problems resulting from substance abuse and/or child neglect and abuse. Of the mental health stressors reported by caregiving grandparents: relationships with their adult children, issues of being totally responsible for raising another family at an increased age, and legal issues predominate. Previous research indicates that grandparents raising their grandchildren may have lower levels of mental health than non-caregiving grandparents. Little is known however how the mental health of custodial caregivers compares with that of part-time caregivers, especially among rural populations. Pender's Health Promotion Model served as the conceptual framework for the study.
Methods: A comparative descriptive pilot study was conducted with a convenience sample of 11 caregiving grandparents residing in a frontier county in Idaho. The sample included five grandfathers and six grandmothers with a mean age of 60.5 years (range=46-75). Six grandparents were full time custodial caregivers and five were part-time caregivers for their grandchildren. The SF-36 Health Survey was administered and the norm-based mental component score used to assess mental health status. Non-parametric statistics were used to compare the groups due to the small sample size.
Results: The norm-based mental health scores for the total sample ranged from 45.2 to 60.2 with a mean of 53.6. The mean score for custodial grandparents was 50.8 compared with 56.9 for part-time caregivers. This difference was not statistically significant.
Implications: These findings suggest that full-time custodial and part-time caregiving grandparents have similar levels of mental health. The fact that mean mental health scores for both groups were slightly above the norm is important to note. This conflicts with previous research indicating lower mental health levels among caregiving grandparents and among rural adults in general. This finding may suggest that caregiving may actually support mental health among frontier grandparents. This study was limited by the small sample size, and further research with larger samples is indicated to more fully assess the mental health of grandparent caregivers to guide future nursing intervention.

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WII FIT EXERGAMES TO IMPROVE BALANCE IN OLDER ADULTS: A WORK IN PROGRESS

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Purpose: The purpose of this study is to determine the feasibility and preliminary efficacy of using the Nintendo Wii Fit exer-gaming console, a relatively inexpensive virtual reality and biofeedback technology to improve balance among older adults in a 12-week individual training program.

Background: Falls due to impaired balance are a major health problem among older adults. Studies show that exercise in general is beneficial in reducing fall risks. Specifically, balance training that includes biofeedback and virtual reality improves balance in this population. The challenge to wide dissemination of such technologies to older adults is its expense. Consumer gaming consoles such as the Wii Fit which has elements of virtual reality and biofeedback associated with balance exercises offers a potentially affordable alternative.

Methods: This study uses a single group, pre-/post-test design. A total of 8 individuals (>65 y/o) who are at risk for falls (Berg Balance Test <52 points) will be recruited from 4 retirement communities in the Puget Sound, WA region. Participants receive individualized instructions on how to play four Wii Fit games (basic step, soccer heading, ski slalom, and table tilt) and are asked to play these games in their homes 3 times a week for at least 30 minutes per session over 3-months. Although the Wii automatically records game play, participants are also asked to log their exercises and rate how they feel after each session. A research assistant conducts weekly telephone follow ups with participants. Participants complete a battery of tests (Berg Balance Test, 4 meter timed walk test, Trail Making A & B, Digit Symbol Substitution Tests) and questionnaires (exercise enjoyment and quality of life) and wear an activity monitor at baseline and 3 months. Semi-structured qualitative interviews will be conducted at the 3 month assessment.

Results: Two participants are currently enrolled and the remaining six will be enrolled in the next four months. Based on participant observations and weekly telephone calls with the first two participants, we have found no challenges with the technology or participant engagement in the training protocol. Effect sizes will be calculated for changes in outcomes from baseline to 3 months for all participants and the qualitative interviews will be subjected to an anthropological analysis.

Implications: If use of the Wii Fit for balance training is found to be safe, feasible, and shows preliminary evidence of efficacy in improving balance, such tools could be further tested and disseminated widely by nurses to promote health enhancement in older adults.

INTERDISCIPLINARY RESEARCH: MEDICATION MANAGEMENT BY COMMUNITY ELDERS

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Project Purpose and Aims: The aim of this multiphase study is to identify the factors contributing to medication adherence in community dwelling elderly from vulnerable populations in the Coachella Valley, California. Effective medication regimens require a team of healthcare professionals working together with the client in order to ensure that all medications (prescribed and over the counter) are organized using best practices from a pharmacologic, economic, and person centered perspective. The purpose of this interdisciplinary evidence-based project is to assess the medication management skills and needs for community-based elders and develop community partnerships among a nursing program, community-based social workers, pharmacists, and strategies to assess and interpret the medication management issues of a representative elders. The study has two phases: (1) utilize extant research on medication management sample (n=24) of the target population of elders and (2) determine medication management issues for the elderly participants.

Background: A review of the literature on medication management shows that, for the elderly, medication management is a complex set of skills, requiring collaboration and ongoing adjustment with family and healthcare providers.

Methodology: Data collection instruments were developed from a review of the literature. Orem's Self Care Theory provided the framework for the study design. The tools included a brief assessment, a comprehensive medication profile and self assessment Likert-type scale of the universal self care requisites in Orem's self care theory. Twenty-four community dwelling elders over age 65 were recruited though fliers posted in the senior housing project, individual contacts with the social worker; senior nursing students or RN to BSN alumni who received training in research methods conducted the elder interviews in the summer of 2009. Each student completed a brief health assessment (BP, BMI, pain and general health history), and a medication profile for each volunteer. Pharmacists reviewed the profiles and made recommendations for medication management based on pharmacy best practice. The nursing students shared the recommendations with the elder participants and designed individualized medication regiments based on the literature and team reviews.

Results: Preliminary results indicate that medication management for this group of community-based elderly participants with limited financial means is a complex issue. Social, economic, physiological, and cultural issues impact the intent to adhere to medication schedules, the ability to pay for and manage changes to medication regimens.

Implications: The initial assessment of medication profiles revealed that elders had difficulty affording medication, organizing them, and updating them in meaningful ways. Many participants had significant alterations in their ability to provide self care, which impacted their ability to be independent. Students assisted participants to develop a medication management system that was customized to each person.

This study was supported through a grant from the College of Natural Sciences.

TREATMENT DECISION-MAKING IN OLDER ADULTS NEWLY DIAGNOSED WITH MYELOMA

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Purpose/Aim: To examine treatment decision-making in older adults aged 60 years and above with newly diagnosed multiple myeloma. The specific aims of the study are to: (1) Describe physicians' personal perspectives on the decision-making process and perceptions of patients' preferences for participation in decision-making. (2) Examine patients' personal perspectives of the decision-making process including personal values, preferences for participation, and past experiences relevant to treatment decision-making. (3) Describe information needs and preferences for participation in decision-making in older adults newly diagnosed with multiple myeloma. (4) Explore the association of socio-demographic variables with information needs priorities and preferences for participation in decision-making.

Background: Multiple myeloma is a B-cell malignancy of the plasma cells primarily affecting older adults with median age of diagnosis at 65. There is considerable evidence that patients want to be informed and consulted with regard to the impact of treatment on not only survival but also quality of life. However, no data exist regarding the process of treatment decision-making and degree of control preferences over treatment decisions in older adults diagnosed with multiple myeloma.

Design and Method: This study will employ a multi-method, cross-sectional survey design. Physicians and patients will be interviewed separately to describe how treatment decisions are made from both perspectives. After the interview, patients will be asked to report their degree of preferred control over treatment decisions using the Control Preference Scale (CPS) and complete the Information Need questionnaire to asses their information priorities for participation in the decision-making process.

Results: The study is currently accruing subjects. Preliminary data will be analyzed by March 2010.

Implications: Physicians and other clinicians will gain further understanding of patients' information needs and control preferences over treatment decisions. This information is important in improving patient participation and satisfaction in care. The findings will guide the development of web-based patient education material and treatment decision tools.

DEMENTIA CARE IN RURAL ASSISTED LIVING: STRENGTHS AND OPPORTUNITIES

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Purpose/Aims: The purpose of this qualitative study is to describe system and practice factors in rural assisted living settings that support the identification and management of psychological and behavioral symptoms of dementia for individuals residing in assisted living.

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. Yet, little is known about the benefits and challenges for providing dementia care in ALFs in rural settings.

Methods: This qualitative descriptive study utilizes data from 20-24 individual semi-structured and open-ended interviews. Data sources include rurally located assisted living administrators, supervisors, licensed and unlicensed care providers, and state surveyors. Interview questions explore current facility practices and systems related to identification and management of psychological and behavioral symptoms of dementia. Interviews are currently being conducted in three rural assisted living settings in southern Oregon.

Results: Qualitative descriptive analysis of transcribed interviews will be completed by January 2010 and will be reported with a focus on areas of identified strengths and opportunities for improvement in the provision of care for older adults with psychological and behavioral symptoms of dementia in rural assisted living facilities.

Implications: This study is addressing timely issues: care practices in an understudied and growing practice area (dementia care in ALFs) and with underserved populations (older adults with dementia and their ALF caregivers in rural settings). Findings from this study will potentially add to current knowledge regarding system influences related to dementia care in ALFs, and inform future efforts to develop, disseminate and implement interventions in ALF aimed at enhancing the identification and management of dementia-related symptoms in rural settings.

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RECRUITMENT CHALLENGES IN A STUDY OF OLDER ADULTS WITH ADVANCED HEART FAILURE

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Aims: The purpose of this poster is to describe major challenges encountered when recruiting older adults with end-stage heart failure (HF) into a longitudinal study of HF symptoms and symptom managements.
Background: Published studies have shown that participant recruitment is one of the most difficult aspects of end-of-life research. However, little is known concerning recruitment challenges in studies involving older adults with end-stage HF.
Methods: The study examines symptoms and symptom clusters during the terminal stage of heart failure in a sample of older patients, age 60 and older, residing in the community in Oregon. Details of the recruitment challenges in our study are outlined.
Results: Participants are recruited from 4 different sites—a heart failure specialty treatment clinic at a university hospital, a Heart Failure Case Management Program, and 2 local palliative and hospice programs. So far, the research team encountered 4 major challenges to recruitment. These are: (1) the screening burden of using pre-selected inclusion/exclusion criteria, (2) high rate of comorbidity in potential participants, (3) healthcare professionals acting as "gatekeepers," and (4) physical burden of participating in research to individual patients. Thoughts and recommendations drawn on our experiences to increase recruitment are provided.
Implications: Recruiting older adults with end-stage heart failure to research is not an easy task. Researchers need to be fully prepared and be ready to deal with recruitment challenges to ensure the achievement of optimal sample size.

PILOT STUDY OF USE OF A PEDOMETER TO MONITOR PHYSICAL ACTIVITY IN OLDER ADULTS

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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 10m 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.

Objective: Participant will be able to understand the characteristics of steps by using a pedometer.

CRIMINAL ELDER ABUSE: A FOCUSED FORENSIC NURSING ANALYSIS

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Rationale: Elder abuse is a recognized social problem in the United States. Although studies have examined the circumstances surrounding elder abuse as well as theories of causation and characteristics of the abusers, studies of the relationship between the abuser and the abused are less well represented in the literature.
Purpose: The purpose of this paper is to examine the type of relationship, either family or non-family, and the type of abuse through evaluation of prosecuted cases of elder abuse. Specifically, this paper aims to answer the question: "What is the relationship between type of abuser (family, non-family) and type of abuse in 100 cases prosecuted through the San Diego District Attorney's Office?"
Description: This descriptive correlational study will examine the relationship between victims of elder abuse and those who were convicted of crimes stemming from the abuse in the Court system in San Diego, California. Criminal records will be examined for the crimes of physical, sexual, and financial abuse. A case extraction tool has been developed to collect and organize data. Demographic data will be collected, and polychotomous logistic regression will be utilized to examine if the relationship between the victim and the abuser increases the odds for abuse.
Outcomes and Implications: To be determined.

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.
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, older adults 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 control design. Participants will be 55 years of age and older, male and female, residing in a retirement community located 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 control group. The intervention group will receive six HEI group sessions in which a nurse intervener will follow a standardized format designed to address personally relevant goals and concerns for each participant, while the control group will receive six newsletters focusing on health related topics.
Outcomes: 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.
Conclusion: 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.

ISSUES IN NURSING EDUCATION

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Patricia A. Shannon

IMPLICIT ATTITUDES OF NURSE EDUCATORS TOWARD INDIVIDUALS WITH DISABILITIES

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Purpose: The purpose of this study is to measure the implicit attitudes held by nurse educators toward individuals with disabilities.
Background: Students with visible disabilities have been known to be denied admission to nursing education programs on the basis of the disability or are treated poorly once admitted. While little is known about the number of individuals affected by these discriminatory behaviors, the American Nurses Association provides clear statements against discrimination in the profession of nursing and in nursing education. Building on the knowledge that attitudes effect behavior, many researchers have explored the explicitly stated attitudes of nurse educators toward individuals with disabilities. However, explicit attitudes are subject to social desirability and may not be the best measure of true attitudes. Implicit attitudes, which are unconscious or unspoken, are a better measure of attitude and will be measured through the use of the Disability Attitudes Implicit Association Test (DA-IAT).
Method: This study will use a mixed method, cross-sectional research design to explore nurse educators' implicit attitudes toward individuals with visible disabilities. A minimum of 125 nurse educators who teach primarily in baccalaureate programs will complete the DA-IAT, a demographic survey, and an open-ended survey. The DA-IAT score will provide insight to the amount of bias toward individuals with disabilities held by nurse educators. Linear regression will be used to evaluate whether various demographic variables can predict DA-IAT scores. Analysis of Covariance will be used to evaluate and control for covariates known to be associated with DA-IAT scores. Additionally, the open-ended questions, which will be evaluated through content analysis, will provide suggestions for interventions related to the admission and treatment of individuals with disabilities in nursing education as well as suggestions for future research. This study will be the first to use the DA-IAT in nursing and has great potential to effect change in nursing education by providing a more complete picture of the nursing school environment and the issues faced by both nurse educators and students with disabilities.

PEER TO PEER MENTORING: NAVIGATING A SECOND DEGREE PROGRAM

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Purposes/Aims: The aim of this longitudinal qualitative research project was to gain insight regarding students' perceptions of a peer to peer mentorship program.
Rationale/Conceptual Basis/Background: Students from other disciplines who enter the field of nursing are often unprepared for the programs rigorous and time consuming requirements. This can result in the student doing poorly in initial courses, or dropping out of the program (Eastmond-Robinson 1999). Studies have indicated that peer to peer mentorship in other college settings helps students to adjust to new surroundings and new requirements (Pitney and Ehlers 2004). Student nurse mentoring projects have promoted collegiality within the educational and professional setting (Sprengel and Job 2004; Scott 2005; Gilmour, Kopeikin et al. 2007). However, little research in the application of the peer to peer mentoring with second degree nursing students has been done. This project paired incoming (semester one) second degree nursing students with established (semester three) second degree nursing students. The students met weekly or bi-weekly initially and more often as the students wish. Additionally, e-mail conversations and chats occurred. The focus of the meetings was study tips, social and family life balance, clinical experiences, and other non-academic topics of concern to both students. The project director acted as a resource of support for both mentors and mentees and provided general guidelines for the project (i.e. purpose of the project, method, etc). Individual questionnaires were conducted for themes related to the project as identified by the students. Those themes identified as important for the students can then be developed further and perhaps incorporated in the other second degree programs within the nursing department.
Methods: *Sample:* Four cohorts of students were included in the study. Students who were in semesters 1 and 3 of the EENAP (Early Entry into Nursing and Advanced Practice) program participated in the mentoring program. All students in these two semesters were invited to participate, but were not required to do so, and there was no penalty for not participating. However, all students chose to participate. *Method:* (a) Recruitment procedures: Each class was approached, the study explained and volunteers solicited. (b) Randomization procedures: Students were matched as closely as possible for background, age, etc. No pure randomization will be utilized. (c) Research Design: Longitudinal Qualitative research design to discover key issues or themes identified by students through questionnaires. *Data Analysis*: Analysis of the data through use of coding for themes and dimensions in the tradition of Corbin and Strauss were utilized. Major recurring themes were grouped and relationships identified. Theoretical statements based on the thematic discoveries were developed.
Results: Findings included themes of inclusion, adjustment to school, support, self-esteem, leadership experience, and giving back.
Implications: Peer to peer mentoring is important for success in accelerated second degree programs. Students supported this type of mentoring as it reduced stress and focused on methods to achieve success.

BACCALAUREATE NURSING STUDENTS' STRESSORS AND COPING MECHANISMS

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Purpose/Aims: The purpose of the study was to investigate the perception of the level of stress in nursing students enrolled in baccalaureate nursing programs. The specific aims were to: (1) Identify the levels and sources of stress experienced by students in baccalaureate nursing programs. (2) Identify students' coping resources associated with these stressors. (3) Determine the relationship between levels of stress and coping resources within and across the four groups studied (traditional, accelerated, junior level, and senior level nursing students). (4) Compare the differences among the groups in terms of stressors and coping resources.

Background/Conceptual Basis/Rationale: Nursing is considered to be inherently stressful. Nurses are confronted with increasing job demands due to sophisticated technologies, budget cuts, and their job resources are often insufficient to cope effectively with these demands. Authors have long recognized that role characteristics are major work stressors and that the nursing education experience induces undue stress, discomfort, and dissatisfaction. A paucity of comprehensive research, as well as inconsistent application of theories/conceptual frameworks, has resulted in a limited knowledge of stress in nursing students. The major stressors for nursing students include academic workload, heavy examination schedules, feelings of doubt about nursing as a career choice, and feelings of inadequacy and insecurity in the clinical setting, personal inadequacy and fear of making a mistake. Stress in nursing students does not just have a negative effect on them; ultimately it will have negative effects on the nursing workforce.

Methods: *Sample:* Through a nonrandom purposive sampling procedure, all undergraduate baccalaureate nursing students enrolled in pediatrics and completing their clinical rotation at the study institution were invited to participate in the study. *Design:* The study is descriptive correlational in design. *Instruments:* Data collection instruments include the Stressors in Nursing Students (SINS) and the Coping Resources Inventory (CRI) as well as a demographic profile.

Results: Analysis (N=160) has revealed that students' highest stressor is related to the amount of class work material to be learned and surviving on a low income. The lowest stressors are related to patient's attitudes towards nurses and making less money than friends who are not nurses. Z scores were calculated for the sample to date and revealed the highest coping mechanisms are found in the emotional (2.55) and spiritual (2.26) subscales. The lowest coping resources are found in the cognitive (1.77) and social (1.91) subscales.

Differences are noted between traditional and accelerated students on several items including caring for the emotional needs of patients with accelerated students identifying that this was twice as stressful as traditional students. The highest stressor for both groups (traditional and accelerated) was fear of making a mistake, followed by the amount of class work material to be learned, and examinations.

Implications: If more is known about how students perceive stressors and coping resources, nursing faculty can target the stressors and challenges faced by students to promote a more positive and rewarding learning experience both in the classroom and clinical setting.

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A COMMUNITY PARTNERSHIP APPROACH TO PALLIATIVE CARE NURSING EDUCATION

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Purpose/Aims: (1) Design, implement, and evaluate a program of advanced training of the Palliative Care Resource Nurse (PCRN) team to enhance their ability to comprehensively care for seriously ill patients and their caregivers and (2) foster community partnerships in building University Medical Center's (UMC) capacity to deliver palliative care services.

Rationale/Background: Although mandates issued by the World Health Organization and the International Council of Nurses call for increased healthcare provider knowledge of palliative care, current education does not adequately prepare clinicians to meet the complex physical and psychosocial needs of seriously ill patients. The majority of nurses working today have had no formal palliative care training, despite the rising acuity of hospitalized patients. This is particularly unfortunate, as nurses are in a unique and powerful position to influence the quality of palliative care delivered at the bedside. The goal of our intervention is to shrink the "palliative care education gap" by providing PCRNs with structured educational opportunities to further explore critical palliative care concepts.

Methods: The sample in this descriptive study consisted of 18 volunteers from a pool of 34 UMC registered nurses (RNs) who: (1) successfully completed the previously offered End of Life Nursing Education Consortium (ELNEC) training and (2) agreed to participate as members of the PCRN team. The 18 PCRNs attended a 6 month educational series which expanded on previous ELNEC content. Community palliative care nursing leaders collaboratively developed the unique curriculum based upon self-learning needs previously identified by the PCRNs. Quantitative and qualitative data were collected at designated time points throughout the study to evaluate the PCRN's perceived usefulness and clinical applicability of the information and educational program.

Conclusions/Outcomes: Preliminary qualitative data suggests that participants: (1) found the small group learning exercises beneficial and clinically applicable, (2) created an informal network of support by sharing experiences of caring for seriously ill patients, and (3) are eager for palliative care education, particularly related to communication and pain management. Statistical analysis of quantitative data is currently underway and will be available by time of presentation. The findings of this research project will help inform nurse educators about effective strategies to enhance acute care RN knowledge of essential palliative care concepts and skills.

*Funding provided by: Tucson Nurses Foundation and Sigma Theta Tau, Beta Mu Chapter

NURSING STUDENT PERCEPTIONS OF CARING BEHAVIOR

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Purposes/Aims: Identify changes in nursing students' perceived levels of caring.
Rationale/Conceptual Basis/Background: Enhancing caring in their students is an important role of nurse educators. Even so, little research has been performed on changes in students' perceptions of their own caring and their perceptions of peers changes while they are in a nursing program. With this in mind, the purpose of this research is to provide insight into undergraduate nursing students' perceptions of their own and their peers' caring behaviors over their initial semester of nursing education. By having more information about caring in nursing education, educators can enhance undergraduate nursing students' caring.
Methods: Quantitative methods were employed in this study. Previously developed nursing student caring surveys were administered to 50 voluntary participants at the beginning and end of their first semester in the nursing program in order to quantify the levels of nursing students caring and their perceptions of their peers' caring. Between testing, students received instruction on caring in nursing courses. After the second survey was administered, descriptive and inferential data analyzed were performed using SPSS. Statistical comparisons were made between groups of students in terms of factors that influenced their own caring and their perceptions of peer member caring levels initially and over time.
Results: Students' age was significantly correlated with the students' initial reported level of caring ($p<0.01$) with older students indicating lower levels of individual and perceived peer caring. Years of education was not correlated with their own level of caring. Noteworthy correlations were found between students' initial own reported levels of caring and perceptions of their peer's caring levels ($p<0.03$). This was interpreted to mean that students who felt more caring in general also thought that other students were more caring. Data indicated that the years of education were not correlated with perception of their peer's caring. Over the semester, composite scores of perceived peer caring increased, but no significant change was seen in the composite scores of individual students' levels of caring.
Implications: These research findings suggest that many factors influence the caring levels of nursing students. From the results, one can conclude that the age and time nursing students spend in higher education may not positively enhance personal feelings of caring. Against common belief, findings suggest that younger students are more caring than older students. Previous research studies on nursing student caring indicate that more advanced students' are not more caring. Thus, this finding is supported by the literature. This work is limited by the use of students attending a single undergraduate university. Further research is needed that studies students at multiple institutions and levels. In addition, attention should be paid to identify how age and years of education influence perceptions of caring. Finally, studies are needed that illuminate how educators can better enhance caring within nursing education.

BIOFEEDBACK ASSISTED RELAXATION TRAINING TO DECREASE TEST ANXIETY IN NURSING STUDENTS

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Purpose: The first purpose was to identify which semester of nursing students had the highest level of test anxiety. The second purpose involved utilizing students from that semester and conducting a relaxation training program to determine if those students could learn to decrease their test anxiety.

Methods: Anxiety was measured across four semesters of a nursing program to determine if test anxiety differed by semester. A biofeedback assisted relaxation training program was tested as a means to reduce test anxiety in undergraduate nursing students who self reported test anxiety. Anxiety was measured subjectively using Spielberger's Test Anxiety Inventory and objectively by monitoring peripheral skin temperature, pulse rates, and respiration rates during the training program. The students were introduced to three relaxation techniques including diaphragmatic breathing, progressive muscle relaxation, and autogenics training. They were asked to practice the relaxation techniques they were taught during the following week for fifteen minutes a day and record their respiratory rates, peripheral skin temperatures, and pulse rates.

Rationale/Conceptual Basis/Background: Nursing programs have been cited as being among the most stressful undergraduate programs. Students' knowledge and skills are consistently tested and monitored and students may fail a course or be dropped from their nursing program if scores are not above a certain standard. Anxiety reactions are common to situations perceived as threatening; however, excessive anxiety may paralyze an individual and interfere with effective learning, functioning, and testing. Numerous studies have found increased anxiety causes physiological changes including increased respirations and heart rate, and decreased peripheral skin temperature.

Results: Third semester nursing students reported the highest test anxiety scores. Fourteen students from this semester participated in phase two of the study. Findings showed statistically significant changes in respiratory rates and skin temperatures during the diaphragmatic breathing session and the progressive muscle relaxation training, and statistically significant changes in respiratory rates, peripheral skin temperatures, and pulse rates were found during the autogenic training sessions.

There was no statistically significant difference between the first Spielberger Test Anxiety Inventory (TAI) and the second TAI. The students were divided into two groups, those who were able to learn the techniques, as evidence by a change in all three physiological variables, and those who were unable to learn the techniques. The pre and post TAI scores were compared between these two groups and there was no statistical significance between the difference scores.

The researcher then divided the participants into two groups according to their score on the first TAI. Group one was those scoring above the TAI 1 mean and group two was those scoring below the TAI 1 mean. TAI scores were compared after the relaxation training. There was no statistical significance between the high and low scoring students on the second TAI 1.

Implications: Nursing students do report test anxiety. Simple, inexpensive relaxation training may help those students who suffer from test anxiety learn to relax and gain control of their physiological reactions that occur with anxiety. The students reported this training to be effective and useful and 100% reported they would use this training in the future to reduce their physiological reactions associated with anxiety.

HOSPITAL PARTNERSHIPS AND THE EDUCATIONAL OUTCOMES OF ONLINE RN-BSN STUDENTS

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In order to enhance educational outcomes of RN-BSN students while meeting the needs of universities and hospitals, an innovative collaboration was developed that provides current registered nurses the opportunity to expand their education with support from their hospital in partnership with the university. These community partnerships provide financial benefit to the student while supporting recruitment and retention to supporting partners (Frank, 2008). "We must develop partnerships with others in the education-care continuum to have any real hope of mounting and sustaining an effort to build the programs needed to address the long-term challenges of a nursing workforce that is adequate in number and skill" (O'Neil, 2004, p. 295). The necessity of developing nursing programs to facilitate the movement of associate degree nurses into baccalaureate programs is apparent (Boylston & Jackson, 2008). Key to the success of this goal is increased access for higher degrees in nursing. Students overwhelmingly voice the need for convenience within the educational design and delivery (Boylston & Jackson, 2008). Inherent in providing quality accessible and supportive education to adult learners is the understanding of any situational barriers as well as facilitating factors that RN-BSN students encounter in returning to school for a higher degree. This joint venture provides a supportive cohort model of RN-BSN enrollment, increasing the BSN workforce, and promotes the growth of university-agency partnerships. Healthcare organizations recognize the imperative need to assist nursing employees to return to school for higher education in order to enhance the quality of healthcare. Community partnerships between institutions of higher learning and community agencies are shaping educational redesign in the 21st century.

Research generated from the qualitative portion of this study support the importance of bridging the gap between healthcare agencies and academic institutions. Emergent themes highlighted the need for continued endorsement of joint partnerships. Quantitative data emphasizes the benefit of these joint endeavors on student success and retention within RN-BSN programs. This study examines the outcomes of a collaborative educational model and a theoretical framework integrating diverse student needs and creative pedagogy through online education access.

FACULTY PERCEPTIONS ON VARIED SHIFT LENGTHS FOR STUDENT CLINICAL ROTATIONS

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Nursing shortages will greatly impact the United States healthcare system if solutions are not found to increase the number of new nurses able to enter the profession. Clinical site availability is one limiting factor in the growth of nursing programs. Alternatives to improve access to varied clinical shifts and to improve clinical site availability should be evaluated to find ways to increase the number of clinical slots for students. Evaluating what current nursing programs are doing to facilitate students in the clinical setting is a first step to determine potential new strategies in clinical site utilization.

As Lippitt, Watson, and Westley (1958) have identified in their seven-step change theory, step one identifies the problem. It is identified that nursing programs have challenges in both scheduling and staffing clinical rotations. Steps two and three state assessment is the next course of action in the change process. Evaluating faculty perceptions of current practice and past experiences assesses the motivation for change (from faculty responses to the questionnaire), the capacity for change (addressing what has been done and what suggestions faculty provide in the questionnaire), and the change agent (faculty willingness to make changes; faculty support and/or resources to make any changes to their program related to clinical rotation shift hours).

This research study surveys nursing faculty from varied nursing programs throughout California. Descriptive statistics will be used to evaluate the results of an online web survey distributed via convenience sampling to current nursing faculty of these programs. Questions evaluate nursing faculty perceptions and experiences of varied clinical shift types and durations, as well as their opinions about what strategies have been implemented to manage clinical placement difficulties.

Faculty experiences and modifications used in different programs may provide ideas related to how nursing faculty can utilize shift hours for meeting the clinical hour requirements. Clinical site availability is one of the three reasons for limitations in nursing program growth as reported by the California Board of Registered Nursing (2008). This study may lead to further research related to clinical practices, simulation lab use, and comparing alternative shift types.

A NURSING STUDENT'S COLLABORATIVE STUDY ON THE ROLE OF 5-HT2A RECEPTOR IN COGNITION

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Patient education of drug action is an important nursing role. Inherent in this role is the understanding of the mechanisms involved in a drug action, an important content in nursing pharmacology classes. This study reports on a summer research experience of an undergraduate nursing student in the Pharmacology Department, which investigated the effects of direct injection of the selective 5-HT2A receptor antagonist, MDL 100,907, into the orbitofrontal cortex (OFC) on reversal learning in a rodent model for attentional set-shifting task (AST). Reversal learning is one of the measures of cognitive flexibility, a prefrontal function that may be utilized by individuals in shifting their mind set (from sad to happy). It was hypothesized that the 5-HT2A antagonist will affect reversal learning.

The experimental study design used male Sprague Dawley rats (6-8/group) stereotaxically implanted with bilateral guide cannulae aimed at the OFC and allowed to recover for > 3 days. Following a 7-day food restriction (14g/day), habituation and training, the rats were tested in the AST. The rats were taken through tasks such simple and compound discriminations, then microinjected into the OFC with vehicle or MDL 100,907 (0.02-20 nmol doses) at 0.50µl/side, and tested on the reversal task. Behavioral data were analyzed using analysis of variance with a p level set at <0.05.

Direct injection of MDL 100, 907 produced an inverted U-shaped dose curve, significantly ($p<0.05$) impairing reversal learning performance at 0.2 nmol dose compared to controls. Data indicates a role of 5-HT2A in the OFC in reversal learning.

This study is first to report that direct injection of 5-HT2A receptor antagonist in the OFC impairs reversal learning, an aspect of prefrontal cognitive function. This was also a unique collaborative opportunity for the student to learn more about the mechanistic aspects of pharmacology. Understanding of these pharmacologic mechanisms would contribute towards better patient teaching, and also scientifically inform development of drugs to improve cognition.

ACTION RESEARCH AS A FRAMEWORK FOR TEACHING A PROFESSIONAL NURSING COURSE

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Purposes/Aims: The purpose of this project was to apply principles from the action research model as a framework from which to consider professional concepts in a RN to BSN Professional Nursing course.

Rationale/Background: Many curricula for bachelor level nursing programs include a course that focuses on professional concepts—a course that is often thought by nursing students to be irrelevant and uninteresting compared to the lecture and clinical courses directly related to patient care. The content in chapters of Professional Nursing texts (historical frameworks, communication, interdisciplinary teams, organizations, important documents of nursing, theory) by necessity is generally so factual and covers so many topics without going into depth that reading it is often not engaging to faculty and students alike. Yet, educators know that a background in professional knowledge is integral to understanding, adapting, changing, and flourishing in nursing environments. Pairing action research with a team-based learning approach in a classroom provides the tools for the instructor to create an active problem-solving environment.

Brief Description: This is the first of a two-part project using action research and team-based learning as a pedagogy to assist student teams as they methodically and actively work through self-identified professional problems. Part one is the development of that structure. Action research, according to Stringer and Genat, is a systematic process of inquiry regarding issues and problems determined by the participants. This research is different from the traditional research model: (1) the problem to be studied is not identified by the researcher, but by a collective group that has identified a need; and (2) the steps of action research are unique to this participatory model. Team-based learning, as described by Michaelsen, Knight, and Fink, consists of small groups that work together during class time throughout the semester to collectively engage in assignments of pertinent issues or problems that groups analyze, solve, and communicate results.

Outcomes Achieved: Each of the five steps of action research—design, data collection, data analysis, dissemination of results, and taking action—are detailed with a description, specific in-class and out-of-class activities to meet the step, team assignments turned in at the end of the class, and an example of what is expected for each action research step.

Conclusions: As nursing educators it is imperative that we continually observe, reflect on, and adjust what and how we teach our students. It is our responsibility to create learning environments that are dynamic and meaningful. The use of action research principles within a team-based learning structure provides an interactive environment where students can actively engage in thinking about a professional problem they have identified. The expectation is that they can take the experience and continue to apply parts of the process in their real-world clinical environments to elicit thoughtful and critical change.

RESTRUCTURING CLINICAL EDUCATION: THE ACTIVE ENGAGEMENT MODEL

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Aim: To create a new clinical instruction model that equips nursing students with practical and critical thinking skills that are essential to meet the demands of modern healthcare environments.

Rationale: Nursing clinical instruction has changed little over the last 40 years, yet the settings where nurses practice have changed dramatically. Current clinical instruction pedagogy relies on staff nurses to provide instruction and orchestrate student learning activities. This added responsibility on staff nurses can be problematic given higher nurse to patient ratios, increased patient acuity, and staffing shortages, which frequently results in students observing rather than participating in patient care activities.

Model Description: The Active Engagement Model is a curriculum driven, learner-focused clinical instruction model created to enhance students' critical thinking ability, reinforce delivery of safe patient care, and refine practical nursing skills. The Active Engagement Model integrates didactic course content through curriculum-driven clinical student learning goals and activities that progress in a step-wise fashion. This model focuses on enhancing the relationships between students, clinical staff, faculty, and patients to provide a clinical learning environment that is beneficial to all.

The Active Engagement Model is structured to maximize student-to-faculty face time by returning the responsibility for student instruction and oversight back to clinical faculty. While the staff nurse maintains the overall responsibility for the patient, the nursing faculty coordinates student's patient care activities with the nurse and is responsible for student supervision. This model provides the clinical instructor with opportunities to teach at the bedside, role model professional nursing practice, and reinforce best standards of practice in patient care delivery.

In the Active Engagement Model, students bring their assessment data to frequent group debriefing sessions where they practice professional communication, identify patient problems, and formulate nursing diagnoses. The group collaborates to determine appropriate nursing priorities and interventions for each patient. The final weekly session is reserved for evaluating patient progress and the effectiveness of the selected interventions. This model encourages informal peer processing by pairing students to care for one patient. This supervised, paired learning promotes an environment whereby students learn and practice teamwork by sharing patient care responsibilities.

This model also focuses on helping faculty establish effective working relationships with unit staff. Nursing faculty complete hospital nursing orientation requirements, work shifts on the unit to become familiar with unit procedures, protocols, and patients, and attend staff meetings to assimilate into the unit environment.

Outcomes Achieved: A pilot study was conducted with eight students who had previously experienced learning under the traditional clinical model. Students felt more comfortable asking questions and delivering patient care under the Active Engagement Model. They also reported being actively engaged and in control of their learning.

Implications: The Active Engagement Model assists students in translating didactic content into clinical practice, facilitates critical thinking, increases student confidence, and creates an active learning clinical environment. This model can also decrease staff burden through shifting student supervision and instruction to clinical faculty and the responsibility of some patient care to the students.

SELF-EFFICACY OF LPNS: RELATION TO ATTAINING RN LICENSURE

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Background: Healthcare in Washington State is experiencing a growing critical shortage of Registered Nurses (RN). This looming shortage impacts the quality of and accessibility to health care for the State's citizens.

Purpose: One strategy to ease the nursing shortage would be to advance the education of Licensed Practical Nurses (LPN) to attain RN licensure. Approximately 20% of Washington State RNs began their nursing careers as LPNs, yet scant research addresses the experiences of LPN-to-RN graduates. No literature exists regarding self-efficacy as a predictive indicator for LPNs likely to attain RN licensure. Building on the knowledge of self-efficacy and career decision self-efficacy may be useful in understanding and predicting career related and general occupational behaviors of LPNs. Applications of career decision self-efficacy have been explored in engineering, mathematics, and science. However, self-efficacy studies for science do not necessarily address the science of nursing.

Methods: Self-efficacy of LPNs and LPNs who have attained RN licensure will be measured through the use of the General Self-Efficacy (GSE) and Career Decision Self-Efficacy – Short Form® (CDSE-SF®) scales. This study will use a non-experimental mixed method correlational design utilizing a non-probability convenience sample to explore self-efficacy scores of LPNs and LPNs who have attained RN licensure. A minimum of 200 LPN participants will complete the GSE and CDSE-SF® scales, a demographic survey, and an open-ended survey. Linear regression will be used to evaluate whether various demographic variables can predict GSE and CDSE-SF® scores. Logistics regression will be used to evaluate the predictive value of self-efficacy in LPNs attaining RN licensure. Additionally, the open-ended questions, which will be evaluated through content analysis, will provide suggestions for interventions designed to facilitate increasing self-efficacy expectations via attention to the sources of nursing self-efficacy.

Implications: This study will be the first to use general self-efficacy and career decision self-efficacy as predictive indicators for LPNs likely to attain RN licensure and has great potential to effect change in nursing education by providing a more complete picture of perceived self-efficacy of the LPN and issues faced by both nurse educators and LPN-to-RN students.

EDUCATION FOR EXPERTS: A CONCEPT ANALYSIS

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Purpose: The purpose of this presentation is to analyze the concept of education for experts to improve understanding of the challenges faced by expert, Master's prepared, advanced practice nurses entering study in Doctorate of Nursing Practice (DNP) programs. This concept and its antecedents, attributes, and consequences will be explored using a thorough review of the literature.

Definition of Concep: Expert nurses, through time and experience, acquire competency in multiple professional practice roles and skills, including education, clinical and personal knowledge, use of contextual and arational decision-making, intuition, reasoning, and narrative thinking. DNP education further develops these nurses into expert clinician scholars with specialized, advanced competencies in leadership, practice, and faculty roles. Entry into unfamiliar, formal, academic environments disrupts these nurses' expert performance and coping capabilities, and requires reconstruction of personal and professional perceptions and expectations.

Internal Consistency: The concept analysis method will be used to identify how entry into unfamiliar, formal, academic environments disrupts expert advanced practice nurses' cognitive, intuitive, and skill performance and coping capabilities. Successful adaptation to the DNP student role requires reconstruction of personal and professional perceptions and expectations.

Linking Theory to Nursing Practice and Education: Expert advanced practice nurses with Master's degrees are re-entering academia to receive education in the advanced theoretical and clinical DNP essentials and competencies. Integration of the academic environment and new knowledge with expert clinical skills, knowledge, and practice is essential to success in doctoral study. Analysis of the concept and identification of the factors that can facilitate and impede education for experts may suggest strategies to facilitate entry into and completion of DNP degree study.

Conclusions: Expert advanced practice nurses who enter DNP educational programs may experience major disruptions in their expert personal and professional roles, knowledge, experience, and environments. These changes may shift self-concepts, coping, and cognitive skills from the expert to novice levels and exacerbate problems with socialization into the academic and doctoral student roles, placing them at higher risk for attrition from DNP programs.

COMPETENCY-BASED COURSE DEVELOPMENT WITH USE OF KNOWLEDGE SURVEYS

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Purposes/Aims: The purpose of this project was the development of competency-based community and public health nursing online courses that would result in demonstrated increased knowledge of community/public health nursing competencies and competency application.

Rationale/Conceptual Basis/Background: For registered nurses working fulltime, particularly those in rural areas across the state, live course attendance was not a realistic option. Therefore, an online RN to BS program option was initiated. For practicing registered nurses familiar with national nursing standards a curriculum based on community/public health nurse competencies was sought. Review of the literature revealed that distance education could be effective for public health instruction. There were also multiple examples of competency-based education, which were successful. Minimal literature existed that specifically addressed rural areas, online formats, and RN to BS students.

Methods: Course objectives were developed based on national competencies. Students were provided information on community/public health theory and project development through a variety of forums; textbook readings, power points, pod casts, and interactive websites. Each student developed a learning contract outlining their plan for meeting the course competencies, as well as implementing and evaluating their individual project. Establishment of partnerships with community members and stakeholders was central to student success. With Internal Review Board (IRB) approval, pre- and post-knowledge surveys were completed by the students as a means to assess the efficacy of the course, determine if learning occurred, and to drive future learning activities.

Results: Students demonstrated application of course concepts through completion of a variety of community projects and written assignments. Comparison of pre- and post-knowledge surveys revealed that the majority of students self-rated knowledge related to community/public health nursing competencies as higher upon completion of the course than at the onset. Student comments were positive regarding the course format and knowledge acquired.

Implications: Competency-based community/public health nursing courses can be successfully delivered with an online format. Individual assignments with online discussions, project development, implementation, and evaluation provide opportunity for application of course concepts and allow for diverse experiential backgrounds among practicing RN students. Knowledge surveys can be utilized to successfully evaluate the student learning experience as well as course organization and learning activities. Future research may explore community stakeholder feedback; changes in pre- and post-knowledge survey results with alterations in curriculum based on student recommendations.

MEETING THE CERTIFICATION CHALLENGE

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The Clinical Nurse Specialist (CNS) influences the Registered Nurse (RN) credentialing process by serving as educator, researcher, mentor, and change agent. The CNS integrates practice competencies through the nursing practice sphere of influence by designing, developing, implementing, and evaluating innovative and comprehensive programs to achieve cost-effective and nurse-sensitive outcomes. Experienced and knowledgeable expert nurses are more likely to assure optimal patient outcomes. A task force that consisted of seven Clinical Nurse Specialists was formed in April 2007 and evidence-based criteria were established to meet the challenge of increasing the number of certified nurses. In alignment with this challenge, efforts were targeted to promote certification of nurses in all specialties, including nursing leaders. The oncology service served as the model and exemplar for excellence to be emulated throughout the hospital over a 10 year time span. The following strategies were implemented: a proposal was created and approved by the Chief Nursing Officer; recommendations were made for system standardization; funding was obtained; methods of promoting nurse certification were selected; onsite certification courses were offered; an interactive student response system was integrated into the classroom, study groups were formed; and a tracking method was chosen to collect the data. The number of certified nurses has increased by 18% since the initiation of this project, which has been accomplished through collaboration, support from the nursing leadership team, and the ongoing commitment of the CNS group. Implementation strategies, especially those that use advanced technology, continue to evolve to achieve this goal.

REDESIGNING TWO HEALTHCARE FINANCE, ECONOMICS, AND ACCOUNTING COURSES

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Purposes/Aims: The purpose of this project was to redesign difficult financial, economic, and accounting content to enhance student learning and improve graduate level nursing student outcomes in two online courses. Historical data, such as course evaluations, emails, and direct communication were used to identify student needs and preferences. A literature search was conducted for the latest evidence based practice to determine the current technology being applied in similar online courses. Innovative technology that blended finance, economics, and accounting was incorporated into the course content to improve student outcomes as measured through course evaluations, emails, and direct communication with the faculty.

Description/Definition of Theory/Concept: Adult learning theory was the framework for this project. Adults learn in a variety of ways. One determination of a successful learning experience is the ability of the adult learner to conceptually transfer the learning experience to the work environment.

Internal Consistency of the Theory/Concept: The online Master's in nursing program with a leadership focus includes two courses that specifically address the foundation and the application of finance, economics, and accounting. The purpose of these courses is to introduce students to basic financial, economic, and accounting principles and provide them with the skills needed for everyday application in the clinical setting. Students reported that the difficulty in understanding course concepts and the use of Microsoft Excel spreadsheets caused the majority of their anxiety and challenges. The courses reflected a disconnect between the financial aspects of healthcare and the role the nursing leader plays in healthcare finance.

Logic Linking Theory/Concept to Practice/Research Problem: The courses were redesigned by adding Adobe Presenter with voice overlay to explain difficult concepts. Adobe Captivate was used to explain the set up and use of Excel spreadsheets along with sample problems. The addition of multimedia is an effective learning strategy for adult learners.

Conclusions, Including Utility of Theory/Concept: Initial feedback from students through emails and direct communication with the faculty indicates these course revisions and inclusion of enhanced technology have facilitated the learning and the application of difficult finance, economic, and accounting concepts. Students are asked to provide real time course feedback through communication with the faculty and end of course evaluations will be done. Pre- and post-course evaluations will be analyzed and conclusions and implications for educational practice will be determined.

CONCEPT ANALYSIS OF NURSE EDUCATOR LOYALTY

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This paper examines the concept of loyalty within the structure and function outlined by Walker & Avant. With today's nursing faculty shortage, this concept is critical to understand how to attract and retain qualified nursing faculty. The concept of loyalty, with roots in the ethical principle of fidelity, has been used to describe many human relationships, from interpersonal to business oriented relationships. There is brand loyalty, corporate loyalty, organizational loyalty, and even website loyalty described in the literature. There are loyalty oaths that faculty must take in certain universities. Employment loyalty encompasses all types of employment settings from industrial to commercial to professional. There is loyalty to nurses' commitment to remain employed. However, the literature is lacking a contemporary concept analysis of the concept of loyalty. Reiss & Hoy described loyalty as a neglected concept as applied to the public school setting. There is a lack of literature analyzing the concept of loyalty at the university setting, including university level nursing programs. Loyalty is a concept embedded in the American Nurses' Association Code of Ethics with Interpretive Statements. Given that nurse educators function in both nursing and educational disciplines, the concept of loyalty is multidimensional and complex in their practice. Within the scope of practice of a nurse educator, loyalty can be conceptualized as a composite of attributes that relate to the patient, to the student, to their employer, to the profession and to themselves. Loyalty can also be described as pledged loyalty, that which the educator promises to do, and lived loyalty, that which actually occurs. Both of these types of loyalty can be applied to the patient, the student, the employer, the profession and the nurse educator. Antecedents to loyalty and consequences of loyalty are also discussed from the perspective of the nurse educator. A clear understanding of the concept of loyalty has functional implications in nursing practice, education, administration and research. The focus of this particular concept analysis is directed toward utilization of the knowledge as the foundation for recruitment and retention of outstanding faculty in nursing education.

MEASUREMENT & INSTRUMENTATION

SURVEY OF NURSES REGARDING THE IMPLEMENTATION, USE, AND EFFECTIVENESS OF CAPNOGRAPHY

Cathy Payne, Irene Morgan

THE CONTRACEPTIVE DECISION-MAKING QUESTIONNAIRE: PSYCHOMETRIC EVALUATION

Joanne Noone, Tiffany L. Allen

AMPLITUDE INTEGRATED EEG: A NOVEL PHYSIOLOGIC MEASURE OF PRETERM INFANT BRAIN FUNCTION

Lauren Thorngate, Shuyuann Wang Foreman, Karen Thomas

EVALUATION: OBSTRUCTIVE SLEEP APNEA—A NURSING APPROACH

Angela Halpin, Jill Berg, Jennifer Bunting, Sarah Choi, Paul Selecky

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THE RELIABILITY AND VALIDITY OF THE KOREAN VERSION OF THE INDEX OF SELF-REGULATION

Hye-A Yeom, Myunghan Choi, Julie Fleury

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SURVEY OF NURSES REGARDING THE IMPLEMENTATION, USE, AND EFFECTIVENESS OF CAPNOGRAPHY

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Background: Care of patients in the emergency department (ED) is challenging in the immediate resuscitation period. Vital signs and patient's symptoms may change quickly requiring emergency department nurses to rapidly identify patient's needs and intervene to reduce risks to patient's stability. Early in the resuscitation, aggressive interventions have been found to improve patient outcomes and monitoring is critical in this effort. Intubated patients pose an increase challenge to emergency department nurses because of the array of potential or actual complications associated with mechanical ventilation. The artificial airway poses a risk for obstruction, displacement or dislodgment requiring nurses to rapidly identify life-threatening situations that require immediate interventions. One adjunct recommended for use in the emergency department, though not widely available or consistently used, is capnography. Capnography offers information about clinical status that other monitoring devices cannot evaluate. This technology is new to the emergency department setting and requires nurses to become comfortable with using this technology to interpret values and waveforms to provide safe and effective care. Emergency department nurses must meet the demands of intubated patients and capnography provides one source of information to proficiently manage this vulnerable population.

Purpose of Study: Survey nurses to determine whether capnography is considered an important monitoring adjunct in the provision of safe and effective nursing care.

Theoretical Framework: The approach to the care of an intubated patient is by assessing for limiting factors and developing interventions towards the achievement of optimum health. The theoretical framework to be used in this study will be Dorothea E. Orem's Self Care Deficit Theory.

Method: A quantitative, descriptive design has been chosen to explore emergency department nurse's views about capnography. The research setting is a 613 bed Level I Adult and Pediatric Trauma Hospital and Research Center treating approximately 53,000 patients each year in their emergency department. This emergency department was chosen because it has recently implemented a standard of care in which all intubated patients are required to have capnography. This research study is in its early stages in order to gain more information about the use of capnography by emergency department nurses. The study will provide a clearer understanding of the current nursing practice of capnography in the emergency department. The research study will be used to determine whether emergency department nurses view capnography as a valuable asset during patient assessment.

THE CONTRACEPTIVE DECISION-MAKING QUESTIONNAIRE: PSYCHOMETRIC EVALUATION

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Purpose/Aims: The purpose of this study is to develop a psychometrically sound scale to measure how women make decisions about birth control. The specific aims of this study were to: (1) refine the Contraceptive Decision-making Questionnaire (CDQ) through evaluation of content validity and item clarity by women contraceptive users and expert family planning researchers and providers, (2) evaluate construct validity of the CDQ through an exploratory factor analysis, and (3) establish reliability of the CDQ through determination of internal consistency estimates.

Rationale/Conceptual Basis/Background: Forty-nine percent of the 6.4 million pregnancies in the United States that occur annually are unintended, which is well beneath the *HealthyPeople 2010* target of 30% or less. Half of these unintended pregnancies occur in women who used contraception during the month they conceived. A better understanding of how women make decisions about contraception can inform providers who counsel women on the selection and use of a method.

Methods: Items for the CDQ were generated based upon a literature review and qualitative interviews with women regarding how they made decisions about birth control. The design for this study included two phases. Content validation and clarification of the questionnaire by six professional and six lay experts occurred in Phase 1. Experts were asked to evaluate the relevance, clarity, conciseness and comprehensiveness of the questionnaire in measuring the domain of interest. After questionnaire refinement, an exploratory factor analysis was conducted and internal consistency estimates established during Phase 2 through pilot testing in a sample of 205 women who are current contraceptive users.

Results: A 40-item instrument was generated by the literature. Lay and professional experts suggested three items for deletion. Four new items were suggested. 32 items were revised for clarity and to improve reading ease. A version was revised to 41 items for Phase 2 testing in 205 women. An exploratory factor analysis was performed using principle component analysis. A Kaiser-Meyer-Olkin Measure of Sampling Adequacy of .678 and a Bartlett's test of sphericity significant at .000 supported the use of factor analysis. The scree plot and theoretical framework suggested a four factor solution. 12 items were deleted due to either poor item-to-total correlations or if they detracted from total scale reliability, resulting in 29-item final version. All remaining items loaded at .30 or higher on a factor. These four factors explained 38% of the scale variance and were analyzed according to the themes of accessibility, general properties, interpersonal influences and personal beliefs. Cronbach's alpha for the total scale was .79. Subscale Cronbach's alpha was .71 for accessibility, .63 for general factors, .64 for interpersonal influences, and .72 for personal beliefs. All reliability estimates were significant at $p<.000$.

Implications: Both professional and lay experts established content validity of the CDQ. Results of the factor analysis and reliability estimates support the construct validity of the scale. Factors of accessibility, general factors, interpersonal influences and personal beliefs fit within the theoretical framework. Reliability estimates for scale and subscales showed acceptable internal consistency. Next steps include a confirmatory factory analysis to further establish the psychometric properties of the CDQ.

AMPLITUDE INTEGRATED EEG: A NOVEL PHYSIOLOGIC MEASURE OF PRETERM INFANT BRAIN FUNCTION

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Purposes/Aims: Establish feasibility of amplitude integrated EEG (aEEG) as a non-invasive measure of premature infant brain function. Evaluate reliability of published quantitative scoring system (Burdjalov, 2003) and individual items including continuity of background, presence of cycling, amplitude lower margin (μV), and bandwidth span (peak to trough), combined with lower border amplitude (μV).

Background: aEEG is a non-invasive technology designed in the 1960s to evaluate brain function after resuscitation in hospitalized adults. The electrical signal (raw EEG) from a single channel via three scalp electrodes undergoes filtering, rectifying, smoothing, and compression onto a semi-logarithmic scale. A bedside monitor displays or downloads the data as a trended pattern. Baseline voltage and continuity of background represent a global picture of brain function rather than identifying particular waves or hemispheric activity. Continuous impedance readings and raw EEG waves reduce artifactual interpretation and enhance signal fidelity. Extensive experience in Europe has demonstrated utility as a clinical tool for monitoring premature infant brain maturation and injury. In the US, the clinical and research applications have primarily been limited to term infants suffering hypoxic ischemic injury. The device is FDA approved and commercially available.

Methods: This abstract represents the proposed work of two studies utilizing the Cerebral Function Monitor {CFM 6000}, (Olympic Medical, a Natus Company, San Carlos, CA) to measure patterns of brain function among premature infants. The first study will establish feasibility, the second will utilize a within subject design to explore patterns of brain function before and after exposure to opioids administered for persistent pain. Each study anticipates a sample of 15 premature infants (28-33 weeks gestation at birth and 26-32 weeks postmenstrual age, respectively). After implementation of a standardized protocol for skin preparation, hydrogel electrodes will be applied to the biparietal (P3-P4) sites by premature head size template with International 10-20 placement. The same scoring tool will be applied to all data with inter and intra-rater reliability assessed for each subject. The length of recording for the feasibility study is approximately 3 hours, with a longer recording projected for the opioid study up to 24 hours. The setting for both studies is a 36 bed Level III NICU, in a tertiary academic medical center located in the Pacific Northwest. The analytic plan includes descriptive statistics with data management using the most current version of SPSS. A demographic and clinical profile of the sample will be developed with respect to all study variables.

Results: The studies are in progress. At the time of submission, the feasibility study has enrolled the first infant; the second study is currently under IRB review with enrollment projected for late 2009.

Implications: Amplitude integrated EEG could provide the data upon which to build future research of premature infant responses to nursing care. Longer term outcomes could inform optimal treatment of pain and ultimately promote neuroprotection and improved brain function in the developing human.

Burdjalov, V.F., Baumgart, S., & Spitzer, A.R. (2003). Cerebral function monitoring: A new scoring system for the evaluation of brain maturation in neonates. *Pediatrics*, *112*, 855-861.

EVALUATION: OBSTRUCTIVE SLEEP APNEA—A NURSING APPROACH

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Purposes/Aims: To evaluate the effectiveness of an educational program to increase nurses' compliance in completing a protocol for Obstructive Sleep Apnea (OSA) risk for preoperative patients. Effectiveness is determined by a comparison of patient records before and after program implementation.

Rationale/Background: Obstructive sleep apnea, if untreated, can cause devastating health consequences such as stroke, heart attack, and sudden death (Caples et al., 2005). The prevalence of OSA in hospital patients has been reported as 27.5% and approximately 2-26% of hospital patients are at risk for OSA (Chung et al., 2008). OSA poses significant threats to patient safety during hospital stay if not identified and treated properly. According to Chung et al. (2008) & Kaw et al. (2006), adverse surgical outcomes appear to be more frequent in OSA patients.

Theoretical Framework: The study uses Lewin's change theory as a foundation. This theory identifies three (3) stages of change: Unfreezing, Moving, and Refreezing. In this study, the investigators use the "unfreezing" and "moving" stages of the theory. In the "unfreezing" stage, the model identifies a clinical issue that requires a change in practice. Since the educational program aims to increase the completion of an OSA protocol, and this involves a change of practice, the theory provides a conceptual framework for the study.

Methods: This is a quasi-experimental study to evaluate an educational program to increase nurses' compliance in following protocols in screening pre-operative inpatients for OSA. Medical records of orthopedic surgical patients are reviewed retrospectively pre- and post-educational program. A total of 400 medical records are selected randomly and then reviewed. Inclusion criteria are: (1) elective orthopedic surgical patients, (2) patients admitted through a short stay unit, and (3) inpatients requiring orthopedic surgery. Medically unstable patients are excluded. IRB approved.

Results: Preliminary assessment of 1,173/1,275 (92%) nurses who completed the training show very little difference in scores pre- and post-education on knowledge of OSA risk. However, of the 135/200 charts reviewed from the pre-education period, results indicate nurses' charted approximately only 10% of the time on OSA risk variables. The plan is to retrospectively review post-education results on an additional 200 charts.

Implications: Knowledge of OSA risk is not a guarantee of nurses' compliance in OSA assessment. Nursing program implementation may consider the time elements for change in practice to occur. Repeating and reinforcing policy and protocol changes are essential to application of latest evidence-based practice initiatives.

THE RELIABILITY AND VALIDITY OF THE KOREAN VERSION OF THE INDEX OF SELF-REGULATION

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Purpose: To develop and test psychometric characteristics of the Korean version of the Index of Self-Regulation (KISR) in order to measure the level of self-regulation in maintenance of physical activity among Korean immigrant elderly in the US.
Rationale/Background: The theory of self regulations has been widely applied to understanding and promoting the maintenance of physical activity. The reliability and validity of the Index of Self-Regulation for physical activity have been reported for racially diverse populations. However, a standardized Korean version of the scale has yet to be developed.
Methods: The KISR scale was completed by bilingual researchers through person-to-person interviews at baseline (Time 1; n=68) and 3 months following the initial interviews (Time 2; n=30). The construct validity of the scale was assessed, using a convenience sample of 68 community-dwelling older Korean immigrants in the US. Internal consistency, test-retest reliability, concurrent validity, and factor analysis were conducted. Data analyses were performed using SPSS software (version 16).
Results: The internal consistency of the KISR was high at both time points with Cronbach's alphas of .94 and .95, respectively. The test-retest reliability was .67. There was evidence of concurrent validity of the KISR by demonstrating significant correlations with the concepts of self-efficacy (r=.35 at Time 1; r=.47 at Time 2) and self-readiness for exercise (r=.60 at Time 1; r=.55 at Time 2). Factor analysis yielded a two-factor structure (cognitive awareness, 4 items; behavioral implementation, 5 items), explaining 89% of the common variance. All individual items had a factor loading of over .45 and a difference between an item's loading on the primary factor and any other factor was at least .20.
Implications: The KISR was found to be reliable, valid, and culturally applicable to measure the level of self-regulation in maintenance of physical activity among Korean immigrant elderly.

Acknowledgment: This study was funded by John A. Hartford Foundation Claire M. Fagin Fellowship Grant.

ITEM DEVELOPMENT: FROM QUALITATIVE DATA TO VALID SCALE ITEMS

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Purpose: The purpose of this presentation is to describe the process of developing items for an instrument to measure quality of nursing care as perceived by hospitalized patients with advanced illness.

Background: Developing an instrument is a multi-step process requiring careful decision making at each step. Although there are many articles discussing methods and findings of psychometric analysis of new instruments, there are few describing in detail the steps and strategies for generation and selection of items for the instrument. Textbooks for instrument development provide general descriptions of the process, but often fall short of guiding the researcher in applying the general method to a particular instrument.

Method: As part of on-going research to develop an instrument to measure quality of nursing care as perceived by patients with advanced illness, the process of decision making for item generation and selection are presented.

Results: To develop an instrument to measure quality of nursing care for a particular group of patients, the concept of "quality nursing care for hospitalized patients with advanced illness" was developed using the hybrid approach integrating the literature and 16 qualitative interviews. Using the developed concept as a framework and the qualitative data as a source, 188 items were developed for *Quality of Nursing Care Scale – Patients with Advanced Illness (QNCS-PAI)©*. Items were grouped in domains, and similar items were merged and/or eliminated. Seventy five items were selected, which are currently under review by a panel of seven experts for relevance and clarity. Further revision and selection of items will be examined by patients from target population using cognitive interviews.

We will present:

- Examples of how items were generated from qualitative data,
- Item selection process,
- Criteria and rationale for selecting experts to review the items,
- Analysis of expert review results and decision making, and
- Process, data, and analysis of cognitive interviews.

Implications: Generating clear and empirically valid items is critical to developing a valid and reliable instrument. Careful examination and clear understanding of the implications of each decision made in selecting items are indispensible. This analysis will provide concrete examples of a series of decisions and considerations in the process of item development.

This study was supported by NINR grant (F32NR010644-01) and Sigma Theta Tau Beta Psi Chapter Research Award.

DEVELOPMENT OF THE NURSING COMMUNITY APGAR QUESTIONNAIRE

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Purposes/Aims: The purpose of this project was to develop a tool with which to assist rural community hospitals in their nurse recruitment and retention efforts.
Rationale/Conceptual Basis/Background: In rural and frontier areas of the United States, the nursing shortage is particularly severe. There is minimal literature available that specifically addresses the unique recruitment and retention issues faced by rural hospitals. What research has been done suggests that factors such as lifestyle, community environment, professional autonomy, and clinical variability impact rural nurse recruitment and retention. Drs. Baker and Schmitz previously developed the Community Apgar Questionniare (CAQ), which identified factors that influence rural family physician recruitment and retention. The development of a parallel tool for nursing serves to provide a unique interventional package with which rural hospitals will be able to address their workforce needs. Conceptually, the project drew upon Bushy's application of the core nursing concepts of person, environment, health, and nursing to the unique aspects of rural nursing.
Methods: A comprehensive literature review was completed from which a preliminary list of factors was compiled. The list of factors included in the final NCAQ was evaluated for content validity through discussion with current practicing rural nurses and nurse executives as well as consultation with the Rural Connection Board of directors, a statewide group of nursing professionals formed to provide a collegial environment for rural, urban, and academic partners. In addition, students enrolled in a rural nursing elective provided their feedback on the factors, most specifically those related to recruitment.
Results: The Nursing Community Apgar Questionnaire (NCAQ) has been developed, which identifies the most salient factors related to rural nurse recruitment and retention in the categories of geographic, economic, management/decision making, practice environment/scope, and community/practice support. This tool will be utilized to identify factors that rural communities/hospitals can influence to tailor their recruitment and retention efforts in order to maximize their impact.
Implications: In conjunction with the Community Apgar Questionnaire (CAQ), which was developed to address rural physician recruitment and retention, the Nursing Community Apgar Questionnaire (NCAQ) can be utilized by rural communities and hospitals to impact their unique workforce issues. This tool may serve to decrease rural nursing vacancies and improve access to care for rural populations. Future research may explore the similarities and differences between physician and nurse recruitment and retention factors.

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MEASURING CAM HEALTH LITERACY: THE NEXT STEPS

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Purpose/Aims: The overall goal of this team's program of research is to enhance the CAM health literacy (complementary healthcare) of rural older adults so that they can make better-informed healthcare decisions, manage their own self-care, and improve their overall health and well being. The goal of this study is to further the development of a sound instrument to evaluate CAM health literacy. The specific aims are to: (a) refine a set of preliminary scale items and (b) conduct validation assessment of the instrument.

Rationale/Conceptual Basis/Background: CAM health literacy is defined as the essential information about CAM needed to make informed self-management decisions regarding health. DeVellis' guidelines (8 steps) for scale development serve as the foundation for the instrument development process. The team has completed Step 1, determine clearly what is to be measured; Step 2, generate an item pool; and Step 3, determine the format for measurement. Steps 4 and 5 will be conducted in this project.

Methods: Step 4 includes further review of the scale by a panel of experts and focus groups. Following the focus group and panel reviews the team will analyze the data, modify the items as appropriate, and develop an instrument of reasonable length, ideally about 40 items. In Step 5, we will conduct a validation assessment by administering the new instrument to a convenience sample of community dwelling older adults who are attending a local clinic. The target sample size is 50 completed interviews. We have identified a potential clinic site and have begun to establish a working relationship. A battery of instruments will be administered by an Advanced Practice Nurse who has experience in both allopathic and CAM therapies. Concurrent validity will be examined by comparing scores on our scale with scores on the S-TOHFLA, an established measure of general health literacy. Construct validity will be initially assessed using the Marlowe-Crowne Social Desirability Scale. Basic demographic and CAM use information will also be collected. Data will be managed and prepared for analysis by a research team member.

Results: The team will use the validation sample results to make additional revisions to the items in the new scale in preparation for the next step, administration to a large development sample.

Implications: It is anticipated that this instrument can be adapted to assess health literacy in other self care decision-making situations with individuals with chronic health conditions. Data from this proposed study, together with results from the team's prior work will enable the development of an evidence-based clinical intervention to enhance the CAM health literacy of rural older adults.

Funding: MSU Block Grant; ITHS grant pending review; NIH R21 grant pending.

DATA MANAGEMENT TOOLS FOR NURSING RESEARCH: SINGLE-USER AND MULTI-SITE SOLUTIONS

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Introduction: There is little in nursing literature regarding data management in nursing research. A search of research-related literature regarding data management turns up articles discussing quality improvement initiatives, comparisons of paper-based and computer solutions, and difficulties encountered in different settings. Surveys reveal that electronic data is becoming more common, but there is an overall lack of planning regarding managing that data. Multi-site studies present additional logistical challenges. Computerized tools can be used to help manage research data and address logistical challenges. This paper compares single-user and multi-site solutions.
Methods: A usability study was developed and conducted on MS Excel, MS Access, SPSS, and RedCap. The first three tools are widely available and commonly used to manage research data. The fourth tool is an open-source option which allows for multi-site data entry, secure storage, and facilitates export for analysis. The usability study consisted of fabricated study data. Each study was set up and the data were entered on each system. Time to complete each task was measured and difficulty level was rated.
Results: The system most difficult to install and run was RedCap, which required specialized equipment and expertise. The system that took the longest to set up a study in preparation for data entry was MS Access. Data entry times were similar for MS Excel, MS Access, and SPSS. Data entry times took longer using RedCap due to limited customizability in data entry screens and methods. Study administration capabilities are limited in Excel and SPSS. MS Access has the ability to create reports, but requires some expertise. RedCap facilitates report creation and allows for storage of created reports. Exporting data for analysis required extra time in MS Excel and Access since metadata must be recreated. SPSS required no additional effort for analysis since it is a statistical package. RedCap allows for quick export to several statistical packages including SPSS and SAS with all metadata included.
Discussion: A limitation of this usability study is that there was only one evaluator. A strength of the study was the consistency of the data entered and the individual entering the data across the different platforms which allows for a basic comparison of time required to complete tasks. The pros and cons for the different tools is discussed.
Conclusion: For small studies general tools like MS Excel and SPSS may be the quickest and most cost effective solutions. For complex data entry situations, the customizability of MS Access may facilitate data entry, but requires specialized skill. Internet access makes RedCap a preferred solution for multi-site situations. It also offers the most flexibility for exporting data for analysis with different tools.

THE THERAPY RELATED SYMPTOM CHECKLIST FOR CHILDREN IN INPATIENTS: PILOT STUDY

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Study Aims: Examine among pediatric and adolescent oncology inpatients whether there are: (1) Frequent patient reported symptoms on the TRSC-C and severity/concern on each. (2) Age group differences (1-11 versus 12-18 years) in symptoms. (3) Age group differences in total TRSC-C severity/"symptom concern" scores.
Method: Sample: 32 children; 5 inpatient settings; mean age=9.7 years; 56% male, 44% female. Diagnoses: A.L.L, 41%; solid tumors, 15%; nervous system tumors, 21%; other, 23%; mostly chemotherapy; few radiation. Instrument: 34 item TRSC-C checklist; child self-report or parent-report: "0," None;"1," A little bit; "2," Quite a bit; "3," A lot; "4," A whole lot.
Results: (1) 12 of 34 symptoms reported by 50%+ of respondents; 22 symptoms by 33%+. Most frequent: feeling sluggish (81%); nausea (75%); difficulty sleeping (41%). Pain reported by 50%. Severity/concern means on items near or over "quite a bit": hair loss (over), feeling sluggish (over), nausea, vomiting, loss of appetite. [Details in handout] (2) Significant differences in severity/concern by age group (Fisher's exact: greater concern in older): dizzy ($p<.01$); taste change ($p<.01$); sore throat ($p<.02$); skin changes ($p<.02$); loss of appetite ($p<.03$); afraid ($p<.05$). (3) TRSC-C score (summated) by age group: Wilcoxon, $z=-1.056$, $p=.2909$ [ns].
Conclusion: TRSC-C is useful as a comprehensive list of symptoms of concern to patient.
Implications: 22 symptoms per patient may require attention during inpatient pediatric oncology treatments with some symptoms varying by age. Comparison study on outpatients (Ref.2) found 10 of 34 symptoms reported by 50%+ of 90 respondents—evidence of *construct validity* of TRSC-C.
Ongoing Work: Short term: (a) standardization of "child-friendly" TRSC-C; (b) identification of symptom clusters. Longer term: (a) track patient symptoms across treatment with health information technologies (HIT), (b) provide accurate symptom information in medical records, and (c) track symptoms/clusters to assess improvements in outcomes.

RETROSPECTIVE VERSUS TRADITIONAL PRE-TEST ADMINISTRATION

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Purposes/Aims: This paper reports on a comparison of retrospective to traditional pre-test administration for the Interpersonal Communication Assessment Scale (ICAS), the Pre-Professional Clinical Competency Scale (PPCCS), and the Cultural Self Efficacy Scale (CSES) in a cohort of students completing the prelicensure phase of an accelerated master's entry into nursing program.

Background: Formative program evaluation is critical to the successful implementation of a new program. However, due to rapid cycle program development and approval, insufficient lead time was available to select or develop instruments for administration of the pre-test during the first semester. Research with medical students has demonstrated valid results when administering the pre-test retrospectively, in conjunction with the post-test. Thus, for the first two admitted cohorts, pre-tests were administered retrospectively. However, limited research is available describing this technique with nursing students in general and master's entry second career students in particular.

Methods: For our fourth cohort of students (N=24), using a retrospective pre/post survey design combined with a traditional pre/post survey design, the ICAS, PPCCS, and CSES were administered during the first semester and final semester of the pre-licensure phase of the program. For the retrospective administration, students were instructed to rate themselves based on where they were when they started the program.

Results: Paired t-tests revealed no significant differences between the retrospective and traditional pre-test administrations for the ICAS ($t=0.54$, $p=0.59$) and PPCCS ($t=1.3$, $p=0.22$) and CSES ($t=1.3$, $p=0.19$). Furthermore, paired t-tests demonstrated significant gains from pre- to post-test on all measures with both administration methods.

Implications: Results should be interpreted with caution due to the small sample and administration in one cohort of second career master's entry students. Further testing is recommended with larger samples and in other nursing student populations. Preliminary findings suggest that retrospective pre-test administration yields comparable results to traditionally administered pre-tests while decreasing the scheduling burden for students. Furthermore, increased familiarity with terminology may indeed increase the validity of the results.

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NEW PERSPECTIVES IN STROKE RESEARCH

OVERVIEW: NEW PERSPECTIVES IN STROKE RESEARCH

Leslie S. Ritter

MEMORY, HEALTH LITERACY, AND RECALL OF THE WARNING SIGNS OF STROKE AMONG OLDER ADULTS

Christine A. Ganzer, Kathleen Insel

TURMERIC PROTECTS THE BRAIN AFTER STROKE BY BLOCKING INTRAVASCULAR INFLAMMATION

Leslie S. Ritter, J. Funk, P. McDonagh, A. Spera, G. Gorman, J. Beischel

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ENDOTHELIN-1 AND ENDOTHELIN RECEPTOR TAGGING SNPS AND THEIR RELATIONSHIP TO OUTCOMES FOLLOWING ANEURYSMAL SUBARACHNOID HEMORRHAGE

M.J. Gallek, SA Alexander, SM Poloyac, EA Crago, PR Sherwood, MB Horowitz, YP Conley

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SCREENING FOR A TAI CHI EXERCISE INTERVENTION IN STROKE SURVIVORS

Ruth E. Taylor-Piliae, Marilyn Gilbert, Stephanie Snyder

NEW PERSPECTIVES IN STROKE RESEARCH

Overview: New Perspectives in Stroke Research

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Stroke is the third leading cause of death and the leading cause of adult disability in the US and the prevalence of stroke is projected to increase as our society ages. Continued research examining multiple aspects of stroke, including stroke education and the acute and rehabilitation phases of stroke is essential to improve outcomes after stroke, and is the focus of this symposium. The first research presentation will focus on the factors that influence the recall of signs and symptoms of stroke. The acute phase of stroke will be highlighted in the second and third presentations; novel treatment of the intravascular inflammation associated with worse outcomes after ischemic stroke and gene polymorphisms associated with vasospasm and worse outcomes after hemorrhagic stroke will be discussed. The final presentation will address the rehabilitation phase of stroke, focusing on the use of a Tai Chi exercise program for stroke survivors. The results of these research studies conducted by faculty and graduate students at the University of Arizona, College of Nursing, provide new knowledge that can be utilized by multidiscipline health teams to improve poor outcomes from stroke.

Memory, Health Literacy, and Recall of the Warning Signs of Stroke among Older Adults

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Purpose: The purpose of this research study was to investigate the association between working memory capacity, health literacy, and recall of the warning signs of stroke among community dwelling older adults.

Background: Older adults constitute a growing population in the United States. A disproportionate percentage of this population experience chronic illnesses that are risk factors for ischemic stroke. An important consideration in preventing the damaging effects of this condition is recall of the warning signs of stroke. Examining the factors that may influence recall may be critical to understanding why there is a delay in seeking treatment. Research supports that older adults experience capacity limitations in working memory. Additionally older adults may experience low health literacy that may further influence the recall of health information.

Methods: Fifty-six community dwelling older adults (age ≥ 65 years) were recruited for participation in this study. Participants were screened for depression using the Short Form of the Geriatric Depression Scale (GDS) and dementia using the Mini-Mental State Examination (MMSE). Potential participants, who scored >5 on the GDS or <24 on the MMSE, were excluded. Near-sighted vision was assured by checking for vision of at minimum 20/50 on the Rosenbaum vision screen. Demographic data was collected. Working memory was measured using the Working Memory Index: Mental Arithmetic-Digit Span-Letter-Number Sequencing triad from the Wechsler Adult Intelligence Scale-III. Health literacy was assessed using the Short Test of Functional Health Literacy in Adults (STOFHLA). To test recall, subjects read a standard information sheet published by the American Stroke Association listing the five warning signs of stroke and were tested for recall after completing the other measures. A descriptive design was used to examine the relationships among study variables. Univariate, bivariate, and multiple regression analysis were used to examine the relationships among the key variables, working memory capacity, health literacy, and recall.

Results: The mean age of the sample was 80.4 years with a range of 68-99. Participants had a mean educational attainment of 14.2 years with a range of 8 to 22. Recall of the warning signs of stroke was associated with health literacy ($r=.44$, $p<.01$). Working memory was also associated with recall ($r=.38$, $p<.01$). Interestingly, there was no significant interaction between health literacy and working memory on the recall of the warning signs of stroke.

Implications: This study provides evidence for the critical role of health literacy in the recall of the five warning signs of stroke in a sample of community dwelling older adults. Further investigation is needed to better understand the role of working memory and its relationship to recall of health messages in this population.

Turmeric Protects the Brain after Stroke by Blocking Intravascular Inflammation

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Turmeric is a natural product with known protective anti-inflammatory properties, but its effects on neutrophil-endothelial cell interactions after stroke has not been reported. The purpose of this study was to determine if turmeric inhibits neutrophil-endothelial activation and subsequent cell interactions during reperfusion after ischemic stroke. Male Sprague-Dawley rats (275-325g) underwent 2 hours of ischemic stroke and reperfusion via the filament method and were treated with either 300 mg/kg ip turmeric (95% curcumionoids) or vehicle one hour before reperfusion. Neutrophil adhesion to the cerebral microcirculation, neutrophil oxidant production, mRNA expression of inflammatory endothelial proteins, and infarction size and edema were quantified (N=2-3 per group). Turmeric treatment significantly inhibited neutrophil adhesion, neutrophil production of reactive oxygen species, infarction size and edema ($P<0.05$), and reduced endothelial cell E-selectin, GRO/CK, and ICAM-1 mRNA expression. These findings report for the first time that the protective effects of acute turmeric treatment for stroke are due in part to inhibition of neutrophil-endothelial cell interactions. (Arizona Biomedical Research Commission.)

Endothelin-1 and Endothelin Receptor Tagging SNPs and Their Relationship to Outcomes Following Aneurysmal Subarachnoid Hemorrhage

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Introduction: Cerebral Vasospasm (CV) is a major contributor to ischemia and poor outcomes following aneurysmal subarachnoid hemorrhage (aSAH); little is known regarding its etiology. It has been suggested that endothelin-1 (ET-1), a potent vasoconstrictor, is related to the formation of CV. Genetic variations of ET-1, the ET_A receptor, or the ET_B receptor may influence the occurrence of CV and long term outcomes.

Purpose: The purpose of this study was to investigate ET-1, the ET_A receptor, and the ET_B receptor tagging SNPs and their relationship to CV and to long term outcomes.

Methods: Subjects (N=96), were prospectively recruited for an ongoing NIH funded study [100% Caucasian; 76% female (n=73)]. The inclusion criteria were patients age 18-75, with a diagnosis of aneurysmal SAH (Fisher grade ≥2) and access to DNA. Persons with a history of a neurologic disease were excluded. Presence/absence of CV was determined by cerebral angiogram independently read by a neurosurgeon. Genotyping of the tagging SNPs was performed using an ABI Prism® 7000 Sequence Detection System and TaqMan® assays. This is a highly automated, high throughput genotyping method for SNPs. Modified Rankin Score (MRS) was collected at 6 months post aneurysm rupture. These scores were collected by a trained neuropsychological technician. Graphic analysis, descriptive statistics, and logistic regression were used to analyze relationships.

Results: Of the 96 subjects, and 44 developed CV within 14 days. Of the SNPs that were investigated, RS2070699 showed a significant relationship with CV (p=0.012). The odds ratio of the heterozygous genotype compared to the homozygous wild-type genotype was 2.970 with a 95% confidence interval of 0.998 to 8.836. The odds ratio for the homozygous variant genotype compared to the homozygous wild-type genotype was 8.356 with a 95% confidence interval of 2.032 to 34.371.No other SNPs showed significant relationships with CV or MRS.

Conclusion: By investigating all of the tagging SNPs involved with ET-1, the ET_A receptor, and the ET_B receptor the majority of the genetic variation within the ET-1 gene is accounted for in this analysis. The variant allele of RS2070699 is associated with CV. A subject with a heterozygous genotype was 2.97 times more likely to have CV when compared to a subject with a homozygous wild type genotype. While a subject with the homozygous variant genotype was at the highest risk of have CV. These subjects were 8.36 times more likely to have CV when compared to a subject with the homozygous variant genotype. The significant relationship found between this tagging SNP and CV is the first step that may allow clinicians and nurses to screen for SNPs that are associated with the development of CV. This screening will allow clinicians and nurses to focus resources on patients with increased risk of CV and worse outcomes.

NEW PERSPECTIVES IN STROKE RESEARCH

Screening for a Tai Chi Exercise Intervention in Stroke Survivors

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Background: Stroke is the leading cause of serious, long-term disability among adults in the United States. The financial impact of stroke is enormous, estimated at $65.5 billion in 2008. Physical activity is central in comprehensive stroke rehabilitation programs to reduce disability and can be costly when not covered by health insurance. Tai Chi is a low-cost exercise program that is safe for persons with chronic diseases or disabilities. Prior physical activity intervention studies among stroke survivors indicate that only 20-25% of potential subjects will be interested and eligible in participating, due to physical disabilities or cognitive impairments.
Objective: Screening for a 12-week program of Tai Chi in adult stroke survivors, for an experimental 2-group pre-test post-test study.
Methods: Potential subjects recruited from four different outpatient stroke rehabilitation centers were pre-screened by phone. Eligible subjects included men and women, aged 50 years and older, diagnosed with ischemic stroke, and at least 3 months post-stroke. Screening measures to assess study eligibility and safety included: the Modified Rankin Scale (mRS) to assess functional disability, the Short Physical Performance Battery (SPPB) to assess balance, gait speed, and lower body strength, and the Mini-Mental Status Exam (MMSE) to assess cognitive impairment. Subjects with a mRS score of 3 or less, a SPPB score of 3 to 9, and a MMSE score of 18 or greater were eligible for study participation, even if they had hemiparesis or aphasia.
Results: As of October 1, 2009, a total of 77 persons showed interest in the study. Persons pre-screened by phone (n=67) were on average 68 years old (range 47-89 years), 48% women, 94% were at least 3 months post-stroke and willing to be randomized. Reported cardiovascular risk factors were 60% hypertension, 24% diabetes, 8% smokers, and 54% hypercholesterolemia. A total of 49 subjects consented to be screened, and reported mild to moderate disability (mRS mean=2±0.8). On average, subjects had some impairments in physical functioning (SPPB mean=7.1±2.7), but were without cognitive impairments (MMSE mean=27.3±3.2). Following screening, 37 subjects were found eligible for study participation. Reasons for ineligibility included: SPPB <3 (n=2), SPPB >9 (n=8), MMSE <18 (n=1), and no prior stroke (n=1). Approximately 48% of interested persons were found eligible for study participation.
Significance: Tai Chi is a low-tech, low-impact, moderate-intensity exercise that may offer significant physical functioning and health-related quality of life benefits beyond traditional stroke rehabilitation programs. This study is one of the first of its kind to systematically test this possibility. The results from this, and larger projects, have the potential to significantly reduce the negative impact of stroke disabilities.

OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: IMPLICATIONS FOR HEALTH POLICY

OVERVIEW: OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: IMPLICATIONS FOR HEALTH POLICY

Debra Bakerjian

OPTIMIZING CARE TRANSITIONS WITH COMPLEMENTARY AND ALTERNATIVE HEALTHCARE PROVIDERS

Dian Baker

TRANSDISCIPLINARY TEAM APPROACHES TO OPTIMIZE COMMUNITY TRANSITIONS

Samira Jones

OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: ASSISTED LIVING

Tara Sharpp

THE “INS AND OUTS” OF CARE TRANSITIONS IN NURSING HOMES: HEALTH POLICY CHALLENGES

Debra Bakerjian

OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: IMPLICATIONS FOR HEALTH POLICY

Overview: Optimizing Care Transitions Across the Continuum: Implications for Health Policy

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Purpose: The purpose of this presentation is to discuss concepts that would expand upon the current care transitions research of Mary Naylor, PhD, RN and Eric Coleman, MD.

Background: Research has shown that patients who move between care settings (hospital to home to nursing home) frequently experience poor care (Coleman 2003, Naylor 2000). This is particularly evident in vulnerable populations such as frail older adults with complex care needs who may suffer from multiple chronic conditions. The transition from one care setting to another presents multiple opportunities for problems to arise, such as an incomplete list of medication, lack of sufficient social and medical history, lack of information on advance directives, and an incomplete descriptions of the problem related to the transition.

Previous research in this area has focused on older adults with chronic care conditions and has shown significant improvement in outcomes (decreased rehospitalizations, reduced morbidity and mortality) when a registered nurse or advanced practice nurse is assigned as a Transition Care Coordinator. This nurse is typically assigned to coordinate post-hospital care for a period of 6-12 weeks with a focus on improving the patient's symptom management and self care, preventing rehospitalization, and improving the coordination and communication between the patient, family, and caregivers.

Implications: This symposium will discuss critical issues associated with care transitions beyond the traditional nurse model and the older adult with chronic disease. The presenters will explore non-traditional healthcare providers who may need to be considered as part of the care transition team as well as transitional issues that cross ages, cultures, and care settings. Emphasis will be on the policy implications of expanding transitional care to be culturally and ethnically sensitive, include patients of all age groups and transitions between health care settings beyond the acute care hospital.

OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: IMPLICATIONS FOR HEALTH POLICY

Optimizing Care Transitions with Complementary and Alternative Healthcare Providers

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Purpose: To describe the policy implications of including complementary and alternative healthcare providers (CAHP) as part of the transition planning for hospital to community care.
Background: The rates of complementary and alternative medicine usage vary by sex, geographic region, and ethnic/ racial group, with rates as high as 75% for some ethnic groups. Studies demonstrate reduced costs and less rehospitalizations when hospital to community coordinated care transition is utilized. However, inclusion of CAHPs has not been included in prior studies and CAHPS are not typically considered in transition planning. When clients indicate use of CAHPs in the community, transition care should include consideration of CAHPs in the planning process.
Process: This presentation will describe how one CAHP group, the Hmong shaman, were included as part of the healthcare team. In partnership with the Hmong community some US hospitals and Western healthcare providers developed procedures and policies to include Hmong shaman as part of the healthcare team. Using community-based participatory approaches, multiple meetings between representatives of Hmong shamans and hospital personnel occurred to develop new policies. The meetings were motivated by the knowledge that shamans are important sources of community healthcare for the Hmong and that hospital intervention was unlikely to be fully successful without shaman-hospital partnership development. Issues such as ceremonial noise level, incense, and animal sacrifice presented substantial challenges. Significant accommodations, staff education, and new policies were required to successfully integrate shaman into the hospital setting.
Outcomes Achieved: Shamans have been successfully incorporated into the healthcare team. Challenges and concerns continue from some healthcare providers and not all hospitals that began the partnerships have developed policies or allow shaman to provide care. Clients report high level of satisfaction and increased likelihood to follow-up with recommendations from Western healthcare providers. Research study designs are underway.
Conclusions: Many groups in the US rely on community healthcare providers such as shaman, herbalists, and magic healers as significant providers of care for both prevention and acute care concerns. Comprehensive healthcare planning should include an understanding of how CAHPs influence health and healthcare decisions of individuals. Opportunities for outreach to community providers are rich during times of healthcare transition between hospital and the community. Several recommendations can be made to improve understanding and outreach to CAHPs and improve transition planning with clients. Nurses play a leadership role in establishing procedures and policies that include CAHPs as part of the healthcare team. Future research is indicated to determine how CAHPs can support transition care and their impact as part of the healthcare team.

OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: IMPLICATIONS FOR HEALTH POLICY

Transdisciplinary Team Approaches to Optimize Community Transitions

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Purpose/Aims: The purpose of this presentation is to highlight evidence-based practices of translational research that integrates a transdisciplinary team approach for effective health delivery. This presentation will discuss an intervention that utilizes this approach by including nutritionists and engaging community partners for type 2 diabetes prevention and management.

Description of Theory or Concept: Use of the W. Burke and Fryer-Edward's Translational Research Cycle has been an effective tool used to deliver healthcare to patients as they transition into community settings. Through a team approach, health professionals focus on contemporary concepts central to the nursing practice such as: wellness, health promotion, disease prevention, effective communication, ethics, and a holistic approach to nursing care in order to deliver care most advantageous to the patient or client.

Internal Consistency of Theory Developed: This is a theory-based model that introduces other disciplines such as nutrition, dietetics, and public health into the core basic nursing concepts as patients/clients transition from hospital into community networks. It has been used for the last twenty years in the program planning stages of health and has begun to make traction in recent years in the areas of nursing systems change.

Logic Linking Theory or Concept to Nursing Practice: Transdisciplinary approaches of translational research have universal implications because it utilizes innovative technologies to communicate and provide care along a patient's health trajectory into the community. Integration of culturally tailored education programs is also included in order to meet the diverse needs of the new twenty-first century US population. Use of this conceptual-theory and evidence-based practice model for nursing research would assist a transdisciplinary healthcare team in transitioning populations to positive health outcomes.

Conclusions: The US healthcare system is one of the most dynamic systems in the world. However, it is now undergoing a paradigm shift in the way healthcare is delivered to Americans. The health delivery process, including nursing, needs to restructure the provision and delivery of care in order to meet human needs for optimal health.

OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: IMPLICATIONS FOR HEALTH POLICY

Optimizing Care Transitions across the Continuum: Assisted Living

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Purpose/Aims: The purpose of this presentation is to highlight the transitions of residents with dementia in ALFs to and from the acute care setting. This presentation, part of a symposium on optimizing care transitions across the continuum, will discuss an ethnographic research study in two assisted living facilities that provide care exclusively to residents with dementia.
Background: Assisted living facilities (ALFs) are a prominent source of housing for seniors in the United States. It is estimated that over 50% of the residents in ALFs have some form of cognitive impairment. The only requirements for employees in ALFs in California are to have a criminal background check and to receive ten hours of training at the facility. Registered nurses (RNs) or other healthcare personnel are not required to be employed in ALFs in California.
Methods: Participant observation and interviews were conducted with all the employees and family members. Incident data on the number and reason of resident falls, emergency department and hospital admissions were collected over six months. The data were transcribed and analyzed for themes regarding how employees in ALFs provide for residents' transitions to and from acute care.
Results: 40% of the residents were admitted to the hospital or emergency department over six months, many for preventable conditions such as infectious diseases or improper use of medications. Many residents were readmitted to the hospital and employees and family members reported frustration and confusion about the discharge process.
Implications: Despite the multiple functional, medical, and cognitive needs of residents, RNs or other healthcare personnel were not employed in these facilities. The difficulties in transitions from acute care observed in these facilities demonstrate the need for improved supervision and education for the employees. Studies by Mary Naylor and colleagues on using advanced practice nurses in other settings showed improved patient outcomes which warrants further investigation in assisted living.

OPTIMIZING CARE TRANSITIONS ACROSS THE CONTINUUM: IMPLICATIONS FOR HEALTH POLICY

The "Ins and Outs" of Care Transitions in Nursing Homes: Health Policy Challenges

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Purpose: The purpose of this presentation is to apply concepts of the transitional care model as proposed by Naylor (2000) to the nursing home setting and then to identify the policy implications associated with this process. **Background:** Multiple researchers have shown that frail older adults are at high risk for poor outcomes during periods of transition from hospital to home or other settings. Most of this research has addressed the issues from the perspective of the hospital and has not necessarily recognized the needs of the long term care environment. A high percentage of frail older adults are discharged from the hospital for rehabilitation in nursing homes. This population typically has multiple chronic conditions that may be superimposed on an acute event such as a fall or infection and therefore present to the nursing home with complex care needs. Lack of appropriate transfer of information and poor communication between hospital and nursing home clinicians contributes to the potential for significant errors in the care of these patients. **Concept Analysis Outcomes:** The Transitional Care Model as described by Naylor et al (2000) includes eight domains: screening, engaging elders/caregivers, managing symptoms, education and promotion of self management, collaboration, maintaining relationships, care coordination, and assuring continuity. Each of these concepts is examined from the perspective of the nursing home as the "receiver" of the patient and nursing home specific needs are identified and discussed. Antecedents and potential outcomes of the analysis are reviewed. **Application to Practice:** The roles of licensed vocational nurses, registered nurses and advanced practices nurses will be discussed in association with practical applications of the domain specific issues. Implications for policy changes will be discussed. **Conclusions:** Essential structures and processes from the Transitional Care Model are linked to specific structures and processes that nursing homes can develop to optimize the transition process between hospitals and nursing homes. These recommendations are applicable to nurses in nursing homes and can be used to develop further studies in the area with a focus of improving nursing home resident outcomes related to care transitions.

PARENTING & FAMILY HEALTH

CHRONIC SORROW IN CHILDREN IN FOSTER CARE: AN EXTENSION OF ESTABLISHED MIDDLE RANGE THEORY

Max Veltman

PARENT LEARNING NEEDS, EXPECTATIONS, & RECOMMENDATIONS FOR HEALTH CARE HOME

Mary M. Wright

THE BALANCE OF WORK AND FAMILY IN THE NURSE EDUCATOR ROLE

Melissa L.M. Henry, Lori Brown, Julie Deters, Julie Sampson, Peter Chen

CHRONIC SORROW IN CHILDREN IN FOSTER CARE: AN EXTENSION OF ESTABLISHED MIDDLE RANGE THEORY

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Background: There are currently 550,000 children and adolescents placed in foster care in the US on any given day. The numbers continue to increase. Children in foster care have a much higher number of acute and chronic health issues when compared to the general populations. It has been postulated that in addition to many psycho-social stressors placed upon this group, an element of sorrow may be present in many or most of these children. Yet it has been sparsely described in the literature.
Purpose: Chronic Sorrow is a universally experienced phenomenon that has been described by multiple authors from varied disciplines. Eakes, Burke and Hainsworth first identified Chronic Sorrow in parents of children with chronic health issues in 1998. The purpose of this paper is to present a brief overview of some of the mental health issues in the foster care system, review some key components of the theory of chronic sorrow, and describe how the current theory of chronic sorrow could be extended to describe a phenomenon of chronic sorrow in children involved in the foster care system, based on current literature.
Description: The Middle Range Theory of Chronic Sorrow was first described in 1998 in parents of children with chronic medical conditions. Since then, it has been described by multiple authors in caregivers of children and adults with severe medical conditions, in patients experiencing various health concerns, and in persons experiencing bereavement. The major concepts of the theory include a definition of "ongoing disparity resulting from a loss characterized by pervasiveness and permanence," an actual loss (rather real or perceived), specific trigger events that highlight the loss and potentially increased the perceived disparity, and some form of management methods that the patient or family member relies on to deal with this disparity. These can be both internally and/or externally driven. While these elements are all very prevalent in child welfare and foster care, a systematic literature review of the varied disciplines found scant work linking these elements of chronic sorrow with this population. Social work and psychology, in addition to nursing, have some further extension of elements of chronic sorrow in this population and this is conceptual framework is presented.
Conclusion: The identification of Chronic Sorrow in the foster care population could have significant implications for practice and future scholarly endeavors. Specific nursing interventions such as promoting and empathetic presence, specific educational interventions, and management of patient-specific grief issues are all things nurses can work to implement once sorrow is identified in their client(s). The need for a specific scale/questionnaire has also been identified and much work awaits for construction and refinement of such a tool.

PARENT LEARNING NEEDS, EXPECTATIONS, & RECOMMENDATIONS FOR HEALTH CARE HOME

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Purposes/Aims: The purpose of this study is to identify parental learning needs, expectations and recommendations regarding the primary care and coordination of care and services for their child with healthcare needs who receives care under the planned program entitled Health Care Home. This program has also been called 'Medical Home' in much of the literature or healthcare industry publications. A secondary purpose of the study is to identify results that may be encountered or incorporated into nursing care of the chronically ill child and their family.

Rationale/Conceptual Basis/Background: Wagner's (1998) Chronic Care Model (CCM) is the framework for this study. More specifically, Wagner indicates the need for an "Informed, Activated Patient" to interact with a "Prepared Proactive Practice Team" (p.3) in order to achieve clinical and functional outcomes. The focus of this study is on the parents of children with chronic healthcare needs who enter and need to navigate the Health Care Home. There is a gap in knowledge about the parents understanding and involvement in this approach to caring for children.

Methods: A phenomenological approach is used in this study to elicit descriptive information from parents about their knowledge of the healthcare home as well as seeking their self assessment in the role of informed, activated parents. Parent expectations and recommendations are being solicited from parents of 10 families who currently have school age or adolescent children with special healthcare needs. The focus of data collection is related to the healthcare team, the services used, and their interactions with the parents. Data is collected via the interview process with parents electing to participate individually or in groups. Interview questions are categorized using the principles identified by the American Academy of Pediatrics (AAP, 2009), which include (a) family centered partnership; (b) community-based approach; (c) transition to adult health related services; and (c) value as it relates to quality care, family satisfaction, and cost efficiency.

Results: The study is currently in process with anticipated completion in March of 2010.

Implications: Literature and informational materials about the Health Care Home focus on medical care with the nursing role not delineated at this time. While the nurse is a team member in the care of children with special needs, there is a gap related to the potential and actual contributions of nursing in the Health Care Home program. Consequently, the results will provide insight into the needs of parents who are caregivers. Results will also allow for speculation on the potential role of nursing within the Health Care Home.

THE BALANCE OF WORK AND FAMILY IN THE NURSE EDUCATOR ROLE

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Purpose: To explore the relationships of perceived 'fit' between family and educator roles with job satisfaction and burnout in nursing faculty.

Background: The shortage of registered nurses in the US is related to an aging workforce, job stress, and an inadequate number of nurse educators to meet the demands to increase nursing student enrollment. Last year over 50,000 qualified nursing student applicants were turned away from nursing programs primarily due to a lack of nursing faculty. The shortage of nurse educators was estimated to be at least 7.6% during the 2008-2009 academic year (AACN, 2009). The shortage of nursing faculty, however, cannot be completely explained by the presence of high paying employment in the private and clinical sector. Dissatisfaction with the job and work environment is increasingly evident as one reason that educators pursue other jobs (Berlin & Sechrist, 2002). Dissatisfied nurse educators relate issues of work pressure, continual change in the work environment, workplace politics, and inadequate compensation with their current role. Although these factors are important to understand sources of job stress for nursing faculty, they are limited to examining environmental factors and do not explore the dynamic relationship between the nurse educator and their work environment. Because nurse educators often balance work and family commitments, it is hypothesized that the perceived 'fit' between their educator and family roles will be negatively related to job dissatisfaction and burnout they experience in their nurse educator role.

Methods: A stratified, random sample of approximately 1,200 nursing faculty from universities and community colleges throughout the country were approached via email to participate during Spring 2009 semester using web-based Surveymonkey.com® software. General demographic and work-related information (e.g. tenure, title) were collected. How well faculty perceived their overall 'fit' between their work and family roles was assessed by an 11-item Work and Family Conflict Scale (Carlson, Kacmar, & Williams, 2000). Job dissatisfaction was measured using the 3-item scale by Edwards and Rothbard (1999) and burnout was measured using a modified Shirom–Melamed Burnout Questionnaire.

Results: Three hundred nursing faculty responded to the survey. Data analysis will include descriptive statistics and regression analysis to determine the relationships between work and family 'fit' with job dissatisfaction and burnout.

Implications: This study proposes that the balance of work and family commitments may be related to job dissatisfaction and burnout experienced by nurse faculty. By furthering our understanding of the nature of burnout and job dissatisfaction among nurse educators, academic directors and faculty can develop strategies to improve the working environment for nursing faculty and potentially attract more nurses to the educational role.

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PEDIATRIC HEALTHCARE & NURSING PRACTICE

RELATIONAL HEALTH OF TEEN GIRLS IN IN-PATIENT CHEMICAL DEPENDENCY TREATMENT

Roxanne Vandermause, Merry Armstrong, Patrice Griffin-Codd, Yi-Hsiu Liu, Kris Miller, Chris Riebe

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DEVELOPING AND TESTING ADOLESCENT ATTITUDES TOWARD PE ACTIVITIES: A THEORY-BASED MEASURE

Diane L. Thomason

KOLCABA'S COMFORT THEORY: INNOVATIONS FOR PEDIATRIC NURSING

Susan M. Wechter, Jennifer B. Averill

BARRIERS TO OPTIMAL PEDIATRIC PAIN MANAGEMENT

Helen N. Turner

AN EXAMINATION OF PROFESSIONAL NURSES' VALUES AT A FREESTANDING CHILDREN'S HOSPITAL

Cara Gallegos, Susan Newton

BARRIERS TO PEDIATRIC PAIN MANAGEMENT: RESULTS FROM ACROSS THE NATION

Helen N. Turner

INTRAVENOUS IMMUNOGLOBULIN USE IN NEONATAL INTENSIVE CARE UNIT INFANTS

Isabell B. Purdy, Kellie Lim, Vladana Milisavljevic, Whitney Brown, Nikhil Singh, Richard Stiehm

PREDICTORS OF FACTORS THAT INFLUENCE ADOLESCENT CHILDHOOD OBESITY

Myunghan Choi, Bonnie Gance-Cleveland, Fermin Renteria, Wendy Wardbegnoche

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OBESITY PREVENTION INTERVENTION FOR MIDDLE SCHOOL YOUTH

Bonnie Gance-Cleveland, Myunghan Choi, Fermin Renteria, Wendy Wardbegnoche

RELATIONAL HEALTH OF TEEN GIRLS IN IN-PATIENT CHEMICAL DEPENDENCY TREATMENT

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Purposes/Aims: The purpose of this exploration is to determine the essential nature of relational experiences of girls in substance abuse (SU) treatment, as revealed through hermeneutic phenomenological analysis, and to measure and explain specific dimensions and domains of relational health that can be targeted for intervention. Specific aims are to: (1) assess the usefulness of the Relational Health Indices (Liang, et. al., 2002) 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 the 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.
Rationale/Conceptual Basis/Background: Adolescent substance use (SU) endures as a priority concern to communities, particularly the increasing risk of SU in young women. 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. Guided by Relational-Cultural Theory, this multi-method exploratory study broadly analyzes 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.
Methods: This study uses quantitative and qualitative methods to examine questionnaires, demographic and behavioral variables, and storied accounts. The hermeneutic analysis of in-depth interviews provides the necessary complement to the measured dimensions and domains of the RHI, providing an exploration of meaning that cannot be apprehended using existing tools.
Results: Results will inform an expanded study to further explore the relational domains and dimensions of significance and to assess the therapeutic impact of treatment on these indices. This presentation describes the background of this study, the study progress to date, and challenges related to the phenomenon of interest, research design, and trans-methodological approach.
Implications: Implications for nursing practice, education, and research are suggested in this study-in-progress.

DEVELOPING AND TESTING ADOLESCENT ATTITUDES TOWARD PE ACTIVITIES: A THEORY-BASED MEASURE

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Purpose/Aims: The purpose of this study was to develop and test the psychometric properties of a 41-item instrument, the Physical Education Activities Scale (PEAS), which used a visual analog response scale, to measure adolescent perceptions of school PE activities.

Background: Adolescent obesity has been determined to be a national epidemic with decreased physical activity as a major contributing factor. In 2007, 69% of US adolescents did not attend physical education (PE) classes on a daily basis due to psychosocial and environmental factors. The Ecological framework was used to create a conceptual model for adolescent perceptions to participating in school PE activities. The components of this model, the individual, and the microsystem, mesosystem, and macrosystems surrounding the adolescent were central concepts in this study. The microsystem, mesosystem, and macrosystems include influencing factors to adolescent's participation in PE activities. The adolescent interacts with these systems, thereby creating a state of health. The PEAS was designed to measure these key concepts involved in the physical health of high school adolescents in relation to participation in school PE activities.

Methods: Methods of instrument-development and testing were used to create the PEAS. Construct definition and content domains were established, then measurement items were generated and judged. The PEAS was pilot-tested on a sample (n=90) of interurban high school adolescents. Reliability was evaluated by computing Cronbach's alpha. Validity was evaluated with tests for content, face, and construct validity. Construct validity was tested by known-group validity. Final testing was conducted on a sample (n=439) of adolescents from two urban high schools. Reliability of the instrument with this final sample was estimated by computing Cronbach's alpha. Validity of the instrument with this final sample was estimated by using known-group validity, and exploratory factor analysis.

Results: Reliability and validity of the PEAS was established (α=.89). Inter-item correlations among final subscales showed strong relationships. Initial estimates of content and construct validity were established and construct validity was strengthened with final testing.

Implications: Using valid and reliable self-report tools are critical for researchers and clinicians in order to understand determinants to adolescent PE inactivity. Studies show that incorporating views of adolescents improves likelihood of PE program success. By incorporating adolescent views and participation, interventions and studies can make large strides in increasing adolescents' PE-activity participation. Results obtained from this study have the potential to influence physical activity public policy and practices that optimize the well-being of adolescents. By establishing a reliable and valid instrument that measures adolescents' perceptions to school PE activities and assessing how the environment influences PE participation, a better understanding of PE activity determinants was gained. To strengthen reliability and validity of the PEAS, further testing with different adolescent populations has been planned.

KOLCABA'S COMFORT THEORY: INNOVATIONS FOR PEDIATRIC NURSING

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Purpose: The purpose of this paper is to review the Comfort Theory (CT) by Kolcaba (2003) and propose innovations to the theory that are applicable to both pediatric nursing practice and research. A description and historical development of the CT informs the current application of the theory in research, practice, education, and administration. Transformations that encompass the process, context, and outcomes of comfort are posited. An exciting trajectory of comfort research for children, families and nurses is outlined for translation to a variety of practice settings in the healthcare arena.

Description/Definition of Theory: Kolcaba's (2003) CT encompasses a philosophy of care that embraces the holistic comfort needs of patients and families. The targeted outcome of care is the enhancement of comfort. Comfort is defined as relief, ease, and transcendence of discomfort that amplify the capacity of clients to engage in health-seeking behaviors. The four contexts of comfort include physical, psychospiritual, sociocultural and environmental domains. The proposed innovations are an interpretation of comfort as a process, the addition of a developmental domain within the context of comfort, and an exploration of the comforting relationship extended by a caregiver and/or a nurse. An expanded and modified theory is proposed as a means to enrich and deepen holistic comfort specifically designed for children and their families.

Internal Consistency of the Theory: A taxonomic structure that relates the states of comfort and context provides internal consistency of definition and domains of the mid-range theory. The modified theory was infused into this structure linking the nursing interventions to comfort outcomes for pediatric clients and families. The resulting concept map connects the needs of the client to the effectiveness of perceived interventions that lead to health-seeking behaviors. The enriched theory applied to pediatric nursing was discussed with Dr. Kolcaba to validate the internal consistency with the original theory.

Logic Linking Theory to Practice/Research Problem: Current utilization of the CT is demonstrated in research, practice, education, and administration through a review of the literature. This culmination of work over the past 15 years comprises strong groundwork for the adaptability of this pioneer mid-range theory to the care of children and their families. Incorporation of the proposed innovations into the CT extends its value and usefulness to pediatric nursing practice and research. Additionally, the suggested modifications may contribute to the development of specific comfort interventions for children and families.

Conclusion—Utilization of Theory in a Pediatric Research Trajectory: Relevant research questions are identified for a pediatric-focused trajectory that embraces the proposed innovations in the CT. This exciting course brings a new depth and breadth to the holistic comfort of children and families in the healthcare arena. Intervention studies and clinical outcomes projected from this work will improve the quality of life for children as they navigate health challenges and strive to achieve optimum health.

BARRIERS TO OPTIMAL PEDIATRIC PAIN MANAGEMENT

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Purposes/Aims: A survey of direct care registered nurses in a pediatric hospital was done to identify what barriers nurses perceive as interfering with their ability to provide optimal pain management to their patients.

Rationale/Background: Children are identified as a vulnerable population at risk for the under treatment of pain. Poorly treated pain can lead to impaired healing and prolong hospitalization, delayed recovery, exacerbation of illness or injury, and even death. Pediatric hospitals across the country have a long standing commitment to providing optimal pain management to children. However, despite many efforts, quality improvement data indicate deficits still exist in pain assessment, interventions, reassessments, and documentation. Parent satisfaction data also indicate parents often do not feel staff are doing all they can to relieve their child's pain. The Joint Commission and state regulatory surveys have also raised concerns about the consistency of optimal pain management in many hospitals.

Description of the Undertaking including Approach/Methods/Processes: An anonymous electronic survey (*Barriers to Optimal Pain Management*) was distributed to nurses in inpatient, outpatient, and emergency department settings. Descriptive statistics including frequencies, frequency distributions, means, and correlations were conducted. Staff will be resurveyed every 2 years to measure change over time.

Outcomes Achieved/Documented: The barriers RNs rank as being most and least significant were identified. In addition, nurses' perceptions of their own pain management style, their level of hopefulness things can be improved, and the impact of an acute pain service were measured.

Conclusions: Those barriers identified as least significant had to do with concerns about addiction, low priority to pain care by nurses, and pain assessment. The most significant barriers had to do with procedural pain management and physician orders. Results of this survey have been used to implement processes across the healthcare system aimed at decreasing the barriers identified.

AN EXAMINATION OF PROFESSIONAL NURSES' VALUES AT A FREESTANDING CHILDREN'S HOSPITAL

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Background and Significance: The Code for Nurses, developed by the American Nurses' Association (ANA), is a "gold standard" of professional values for Registered Nurses (RNs), encompassing such values as dignity and respect, safeguarding of privacy, responsibility, patient safety, accountability, competence, and collaboration (ANA, 2001; ANA, 2008). Professional values form the basis for nurse attitudes and behavior and are a cornerstone to guiding nurses' clinical practice decisions (Weis & Schank, 2002). Despite recent research that points to the importance of developing and measuring professional nursing values, few researchers have examined the professional nursing values of Registered Nurses in the workforce and none have specifically examined professional values of RNs in the pediatric setting.

Aims and Purposes: The study is a descriptive study of nurses' professional values at a large freestanding children's hospital in the Southwest that addresses the following two questions: (1) What are the professional values of employed Registered Nurses? (2) Are there differences in professional values of Registered Nurses based on demographic variables?

Conceptual Framework: This study is based on theoretical framework outlined in Benner's work (1984). Benner (1984) differentiates among five stages of a nurse's clinical career development: novice, advanced beginner, competent, proficient, and expert. In order for a nurse to move from novice to expert, they must develop skills in the affective domain, as well as cognitive and psychomotor skills (Weis and Schank, 2000). Weis and Schank (2002) assert that incomplete value embodiment may be one reason why nurses progress from novice to expert level at differing rates, and some nurses do not master nursing practice at all.

Methods: *Sample:* A convenience sample of all employed RNs were invited to participate. *Instrument:* The Nurses' Professional Values Scale – Revised (NPVS-R) (2004). NPVS-R is a useful instrument for measuring professional nursing values and enhancing professional socialization. The NPVS-R, a 37-item, norm referenced instrument using a Likert-scale format that was developed by Weis and Schank (2004). The NPVS-R was tested on 632 subjects, including baccalaureate and masters' students and practicing nurses. The demographic questions in the original survey were replaced with additional demographic variables, such as age, gender, race/ethnicity, educational preparation, length of time as Registered Nurse, hours worked, job type, hospital unit/area worked, and so forth. *Data Collection:* The survey, consisting of 11 questions, was administered through a confidential online survey system. The questionnaire was available for four weeks and reminders to complete the survey were sent out bi-weekly. *Data Analysis:* Preliminary data analysis demonstrates that nurses' professional values are significantly different based upon education, age, and clinical area worked.

Discussion: This study is one of the first to provide a description of professional values of Registered Nurses at a large freestanding children's hospital. Implications for future research include performing longitudinal studies to examine whether nursing values change over time, and if so, how do they change. It is also important to examine whether professional development programs can positively impact nurses professional values.

BARRIERS TO PEDIATRIC PAIN MANAGEMENT: RESULTS FROM ACROSS THE NATION

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Purposes/Aims: The purpose of this project was to assess if barriers to pediatric pain management are similar in different areas of the United States. **Rationale/Background:** Pediatric hospitals across the country have had a long standing commitment to providing optimal pain management to children. However, despite many efforts, data indicate that deficits still exist in pain assessment, interventions, reassessments, and documentation. The Joint Commission has also raised concerns about the consistency of optimal pain management across the nation. **Description of the Undertaking including Approach/Methods/Processes:** Pain management leaders in three pediatric hospitals queried nurses to identify how they define optimal pain management; what barriers they perceive as interfering with their ability to provide optimal pain management to their patients. The survey was electronically distributed to nurses in inpatient, outpatient, and emergency department settings. No personal identifying information was collected. Descriptive statistics including frequencies, frequency distributions, means, and correlations were conducted. Comparisons were made between the three hospitals.
Outcomes Achieved/Documented: A total of 708 RNs responded. Data from all three sites were compiled due to the similarities in demographics across the participants. Optimal pain management was defined in terms of patient comfort, patient level of activity and medication management. Barriers were similar across the institutions. The 5 barriers identified as most significant were: (1) a reluctance to get the pain service involved, (2) insufficient time to pre-medicate children before procedures, (3) inadequate/insufficient MD orders, (4) inadequate pre-medication orders prior to procedures, and (5) a perception of pain management being a low priority by medical staff. Barriers seen as being least significant were: (1) the respondent giving pain management a low priority, (2) concerns regarding addiction, (3) the respondent's ability to assess pain, (4) pain management being a low priority by nursing staff, and (5) pain management being a low priority by nursing management. **Conclusions:** Nurses are experiencing barriers in a variety of areas, many of which are outside their control and require organizational change. The similarity in results across the three institutions surveyed offers an opportunity for universal interventions.

INTRAVENOUS IMMUNOGLOBULIN USE IN NEONATAL INTENSIVE CARE UNIT INFANTS

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Purpose: Evidence supports immunotherapeutic benefits of intravenous immunoglobulin (IVIG) for premature and sick infants admitted to the neonatal intensive care unit (NICU). The aim is to investigate IVIG utilization and the associated perinatal factors among this population.
Background: Maternal transport of immunoglobulins to the fetus mainly occurs after 32 weeks gestational age (GA) and endogenous synthesis does not begin until several months after birth. In general, IVIG, containing pooled immunoglobulin G, is mainly used in treatment of immune deficiencies, inflammatory and autoimmune disease, and acute infections. IVIG has multiple functions including facilitating phagocytosis and endocytosis, activating complement, cytotoxicity and inflammatory mediators. Immune-related morbidities may impact infant neurodevelopment. In large part this is secondary to the immature host defense as immunodeficiencies are often exaggerated in biophysiologically stressed and early GA infants. IVIG guidelines for use in neonates and high risk infants are not as well defined as in adults. Therefore, IVIG utilization was evaluated over a 56 month period.
Methods: A retrospective descriptive design was employed to evaluate IVIG use in a historical NICU cohort (n=1976) of infants admitted between January 2004 and June 2008. Data was abstracted from electronic medical records for perinatal diagnoses, complete blood counts and differentials pre and post IVIG and pharmacy records of NICU-IVIG. We identified 104 infants who received IVIG during the first 6 months of life. Analyses included descriptive statistics, cross tabulations, and regression with goodness of fit tests.
Results: A gradual increase was seen in IVIG usage during this period. Most infants that received IVIG had prenatal care (89%). The majority (71%) of them survived to discharge home, 17% died, 11% were lost to follow-up. Two percent had early bacterial sepsis, 15% pneumothorax, and 17% seizures. The majority did not have necrotizing enterocolitis (84%) or low birth weight (84%). Half were inborn. Over half had major birth defects and at least one major surgery (57%) of which 8% were cardiac surgery. Additional interventions consisted of oxygen (78%), resuscitation at delivery (5%), and extracorporeal membrane oxygenation (10%). On average, the first dose was 2.27grams and was given on day of life 34. Nearly 76% received two doses and most (68%) infants were hospitalized longer than a month. Regression analysis (r-squared 0.76) identified associations with total IVIG doses that included late bacterial sepsis and GA ($p < 0.0001$). The most frequent reasons identified for IVIG administration were sepsis, hemolytic disease of the newborn, hypogammaglobulinemia, post-surgical, and neutropenia.
Clinical Implications: First and foremost, clinicians are on the front-line of informing practice and driving policy that involves primary prevention of disease. We speculate that IVIG utilization will increase as further research clarifies the clinical benefits to neonatal immune-related morbidities and mortalities. Lack of clarity for NICU clinical practice may hamper adoption of this intervention. New guidelines based upon updated evidence from national and international clinical trials and comprehensive analyses with NICU patients would be welcomed regardless of whether they are able to cover all the complications of this vulnerable population.

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PREDICTORS OF FACTORS THAT INFLUENCE ADOLESCENT CHILDHOOD OBESITY

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Background: Obesity in children and adolescents has become a national epidemic and the medical cost related to their comorbities is dramatically increasing. Understanding the factors that impact children's risk factors for unhealthy life styles is critical in order to address the current obesity epidemic.
Objective: To predict factors for nutritional intention, nutritional knowledge, physical activity and social support among middle school adolescents by controlling Body Mass Index (BMI) and Self Report Weight (SRW).
Methods: Linear Mixed Model (LMM) analysis was used to predict factors of dependent variables by 3 measurements (pre, post, and follow up) controlling for BMI and SRW. A total of 511 convenient sample (N=231 for pre-test, N=222 for post-test, and N=58 for follow up) was selected for the study. Covariance parameters based on repeated effect of 3 time measurements were calculated for each dependent variable. All data analyses were conducted using SPSS (version 17).
Results: Gender ($F=20.6$, $p<.01$), race ($F=3.5$, $p<.051$), and comorbidity ($F=4.1$, $p<.01$) were significant predictors for nutritional intention. Gender ($F=10.6$, $p<.01$), race ($F=7.4$, $p<.01$), and age ($F=5.0$, $p<.01$) were significant predictors for nutritional knowledge. Age ($F=4.5$, $p<.01$) was the only predictor for physical activity with family and friends. However, gender ($F=30.3$, $p<.01$), race ($F=3.1$, $p<.01$), and comorbidity ($F=4.2$, $p<.01$) were significant predictors for physical activity in past 7 days. Regarding social support, race ($F=3.0$, $p<.05$) was the only predictor for family participation. Race ($F=2.5$, $p<.05$) and age ($F=2.7$, $p<.05$) were significant predictors for friend reward and punishment in social support.
Conclusions: These findings demonstrate female, Caucasian, and older children had higher nutritional knowledge and more involved in physical activity as well as received social support than African American children over the course of intervention.
Implications: Gender specific and culturally specific interventions are needed to address the current childhood obesity epidemic.

OBESITY PREVENTION INTERVENTION FOR MIDDLE SCHOOL YOUTH

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Background: The number of overweight children continues to climb. Overweight youth are more likely to develop diabetes, hypertension, respiratory problems, and obesity as adults at risk of dying 5-20 years sooner than normal weight persons. Research suggests obese children and their parents felt the child's quality of life was similar to pediatric cancer patients. Arkansas' Legislature responded to the obesity epidemic by mandating annual BMIs, limiting access to food/beverage machines; reporting moneys received through food and beverage contracts; convening local advisory committees for nutrition and physical activity; and incorporating nutrition and physical activity goals into annual school plans. Our research team partnered with the community to address the mandate. A nine-week exercise, nutrition, and behavior change curriculum was implemented and evaluated.
Objective: To assess the intervention effect of diet, physical activity, smoking habits and attitudes, and social/behavioral support over time among school children adolescents.
Methods: The community-based participatory method was selected to: identify components of the intervention acceptable to the community, promote sustainable change, improve recruitment for better evaluation, and improve sustainability and spread of the program. A repeated measures design was used to measure effectiveness of the intervention on BMI, activity, nutrition, and social support. *ANOVA* was used to determine the overall effect of each dependent variable by 3 time measurements (pre, post, and 2-year follow up) not controlling gender, ethnicity, or age. A total of 511 convenient sample (N=231 for pre-test, N=222 for post-test, and N=58 for follow up) was selected for the study. Homogeneous subsets were calculated to avoid type I error. Because groups are of unequal sample size, *Welch's variance-weighted ANOVA* was conducted. Post-hoc test using *Scheffe* test was conducted to determine group differences. All data analyses were conducted using SPSS (version 17).
Results: Diet intention (F=9.7, p<.01), diet knowledge (F=8.2, p<.01), physical activity with friends and family (F=7.2, p<.01), and physical activity in the past 7 days (F=17.0, p<.01) were significantly improved overtime. Time spending for TV/video game race (F=8.6, p<.01) and smoking habits (F=5.6, p<.01) were significantly reduced over time. Family reward and punishment (F=14.3, p<.01), friend participation (F=4.3, p<.05), and friend reward punishment (F=7.4, p<.01) were only significant between pre- and post-intervention. However, there were not significant improvements in BMI. Homogeneous test demonstrated that there was no difference in group variances.
Conclusions: These findings suggest the intervention had an impact on behaviors but not BMI in middle school children.

PROFESSIONAL PRACTICE CONCERNS

EVIDENCE-BASED NURSING PRACTICE: MAKING IT WORK AT THE LEVEL OF THE BEDSIDE

Anne Marie Kotzer

COMMUNICATION BETWEEN GRADUATE NURSES AND PHYSICIANS IN THE ICU SETTING

Maura Rinehimer

EFFECT OF MORBIDITY & MORTALITY PEER REVIEW ON NURSE ACCOUNTABILITY & VAP RATES IN THE ICU

Scot W. Nolan, Judy E. Davidson, Joseph F. Burkard

ORTHOTOPIC NEOBLADDER IRRIGATION: COMPETENCY ASSESSMENT THROUGH SIMULATION

Zelne Zamora, Joseph F. Burkard

STAFFING PATTERNS BEFORE AND AFTER MANDATED NURSE-TO-PATIENT RATIOS

Teresa Serratt

A COMPUTERIZED APPROACH TO MANAGING MEDICATION DATA IN CLINICAL NURSING STUDIES

Jia-Wen Guo, Susan L. Beck

EVALUATION OF MODEL OF CARE PROJECT

Carol Dobos, Ellen Hansen

PERIPHERAL INTRAVENOUS THERAPY EVIDENCE-BASED PRACTICE PROJECT
Renae L. Dougal, Catherine Prinzing, Jill H. Anderson, Marilyn Floyd, Nancy Taylor

AN EXPLORATORY SURVEY OF NURSES' PERCEPTION OF END-OF-LIFE DISCUSSIONS OUTSIDE OF THE ICU
Jennifer A. Browne

THE VALUE OF NURSE INVOLVEMENT IN DECISION-MAKING
Janet Houser, Phyllis Graham-Dickerson, Eileen Thomas

EVIDENCE-BASED NURSING PRACTICE: MAKING IT WORK AT THE LEVEL OF THE BEDSIDE

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Background: Clinicians are expected to use all information available to them to make the best possible patient care decisions. This is known as evidence-based practice (EBP) and entails using essential information from three sources: clinical knowledge and experience; the values and preferences of the patient and family; and the known facts about conditions and therapies from peer-reviewed research literature. Numerous articles have been written identifying barriers that prevent nurses from finding the evidence and incorporating it into practice. Some of these include nurses' lack of confidence in their ability to identify sources of evidence and then critically evaluating it for use in their practice.
Purpose: The purpose of this EBP project was to develop a model for the practicing staff nurse to assist them with recognizing ways in which they are using "evidence" to provide quality patient care and to suggest other resources for implementing EBP.
Methods: The Evidence-Based Practice Team of the hospital's Nursing Research Council is divided into three subcommittees: Research, Clinical Expertise, Patient/Family Preferences and Values. The Clinical Expertise Subcommittee took on the project of operationalizing an EBP model, which had been developed earlier by the full Research Council. The Model developed into the acronym, Evidence-Based Nursing P R A C T I C E, with each of the letters informing an aspect of EBP that is integral to the delivery of quality patient care. Most importantly, the Model was relevant for the practicing nurse at the bedside.

Promote the use of policies and procedures
Review relevant information
Ask a librarian for resources
Contact your EBP representative
Team up with interdisciplinary colleagues
Invite patient and family participation
Consult with an identified nurse expert
Evaluate your practice

Outcomes: Laminated bookmarks were created by a graphic artist illustrating the PRACTICE Model shown above and these were mailed to over 1200 nurses. Additionally, large posters depicting the Model were produced with a clear plastic pocket on the front to hold an insert for one of the letters of the acronym. The posters were placed on all inpatient and outpatient units and at all network of care sites. The pocket inserts are changed every 4-6 weeks and each describes in more detail how a particular element of the Model can be used in everyday practice. Additionally, a power point presentation of the new EBP model was developed for educational use by departments.
Implications for Practice: The posters and bookmarks of the new Model are visible and tangible reminders to staff of how to acquire and use evidence in delivering care to patients and families. The components of the Model are easily recognized by the nurses as ways in which they are already using evidence but may not realize it, as well as other sources of evidence and how they can be accessed. This campaign heightened staff awareness of EBP and the Model is seen as a valuable source of relevant information and something that makes EBP real and attainable for nurses at all levels.

COMMUNICATION BETWEEN GRADUATE NURSES AND PHYSICIANS IN THE ICU SETTING

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Purpose: Since the intensive care unit requires nurses and physicians from various specialties to communicate quickly and effectively about critical patient information, this project focused on the experiences of nurses in this area and the potential instrument to be used on the unit.

Background: First year graduate nurses identify feelings of uncertainty, intimidation, and stress when communicating with physicians (Fink, Krugman, Casey, & Goode, 2008). Unfortunately, these negative experiences often lead to new nurses leaving the unit, hospital, or even the field of nursing (Cowin & Hengstberger-Sims, 2006). Residency programs for graduate nurses have started to address these communication concerns to help retain nurses. However, there is currently no standardized instrument or means of preparation for new nurses regarding interdisciplinary communication techniques.

Methods: A two pronged, descriptive approach with a survey and interview procedure was used to collect data. Fifteen nurses, eight physicians from various specialties, and three nurse practitioners (NPs) in the surgical intensive care unit participated in the project. The nurses (mean years of experience=6) completed a survey consisting of situations with a corresponding 5-point Likert scale assessing participant's graduate nurse communication and collegial experiences in the ICU. The physicians from eight specialties and three of the nurse practitioners (NPs) on the unit were interviewed via email to identify the essential information each specialty requires from ICU nurses during bedside report.

Outcomes Documented: Of the 15 nurses who completed the survey (43% response rate), 73% experienced some to very much stress when speaking to physicians as a graduate nurse. Forty-seven percent of nurses only had a vague idea of what physicians want to know during bedside report. The nurses also strongly agreed that an instrument listing the various specialties and the information with which to start the bedside conversation would be helpful for graduate nurses. The data collected from the physicians and NPs were organized into an easy-to-use reference sheet.

Conclusion: Nurses who completed surveys indicated that communication with physicians as a graduate nurse is stressful, inefficient at times, and a source of low self-confidence. Thus, in the future, the proposed instrument containing the most pertinent, specialty-specific information the nurse can address at the beginning of the conversation with a physician should be studied to investigate its effects on a graduate nurse's sense of competence, role mastery, and collegiality with other disciplines. Research should also focus on further outcomes of providing graduate nurses with a standardized instrument to assist in developing communication skills with physicians and thereby improving the working environment and the satisfaction and retention of nurses in the ICU setting.

EFFECT OF MORBIDITY & MORTALITY PEER REVIEW ON NURSE ACCOUNTABILITY & VAP RATES IN THE ICU

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Background: Ventilator associated pneumonia (VAP) is the second most common hospital-acquired infection in the United States and is associated with increased intensive care unit (ICU) and hospital lengths of stay (LOS), general cost of care delivery, and, most of all, increased morbidity and mortality. When considering that the majority of our severely critically ill patients are ventilated for 48 hours or more, this places the risk of VAP into perspective, prompting development of specific interventions to reduce this patient risk and improve outcome. Traditionally, most hospitals utilize inefficient, non-proactive or punitive methods to reduce undesirable outcomes such as compliance audits, occurrence reports, or root cause analysis. Morbidity and mortality peer review, a practice-enhancing methodology, has not traditionally been considered a nursing intervention. Morbidity and mortality peer review have been reported to be an effective tool for reducing the incidence of undesirable patient outcomes.

Aim/Purpose of the Project: This study was designed to evaluate the effects of implementing morbidity and mortality nursing peer review of all VAP cases and to determine whether the use of this process increases nursing accountability and improves compliance with accepted evidence-based VAP prevention bundles; thus reducing the incidence of VAP, as compared to the more traditional methods of quality control.

Design and Methods: The hospital epidemiologist based on Centers for Disease Control (CDC) criterion, identified VAP cases. Once identified, all Registered Nurses (RN) who cared for an identified VAP patient during the time the patient was mechanically ventilated and prior to VAP identification received a special invitation to attend the Morbidity and Mortality Review Conference (MMRC) peer review of the case. The MMRC peer review was also open to all ICU RN staff. Before beginning each MMRC, the facilitator reviewed the process for discussion and reminded participants regarding protected patient information and confidentiality, and that peer review is to identify potential system and process challenges, and not to cast blame on individuals for the development of VAP. Each MMRC case discussion will included case history, relevant hospital course information, diagnostic co-morbidities, specific compliance with VAP bundle elements and indications, as well any contraindications for bundle element implementation. The peer group determined the preventability of VAP development in each case. VAP bundle compliance, VAP incidence, ICU LOS for ventilated patients, ICU ventilator days, cost of program, and participant satisfaction data were collected.

Results and Outcomes: In progress.

Implications and Conclusions: To be determined. It is expected that the MMRC process will improve compliance with the VAP prevention bundle, reduce the incidence of VAP and improve professional accountability among the ICU RNs. This non-punitive MMRC process could then be applied to other nurse-sensitive indicators to increase professional accountability in nurses and improve patient outcomes

ORTHOTOPIC NEOBLADDER IRRIGATION: COMPETENCY ASSESSMENT THROUGH SIMULATION

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Background: Orthotopic neobladder or "new bladder" is a urinary diversion procedure commonly seen with bladder cancer patients. A neobladder is created from intestinal mucosa with the ureters and urethra attached to the opened intestinal mucosa. Orthotopic neobladder has several advantages for the patient such as near normal voiding mechanics, elimination of the need for external appliances and increased quality of life outcomes. Postoperatively, frequent hand irrigation is needed to maintain foley catheter patency by removing the mucus that can plug up the catheter. Research shows that effective hand irrigation can lead to better outcomes of the neobladder patient. On one urology unit, concerns of effective orthotopic neobladder irrigation have arisen based on (1) three of six patients requiring vigorous hand irrigation by the physicians, (2) no standardization of appropriate hand irrigation procedure, and (3) poor documentation by the registered nurses of 30%.

Aims/Purpose of the Project: To use simulation to address competency of (1) standardization of appropriate hand irrigation procedure and (2) consistency of computer nursing documentation, and to evaluate simulation training by reassessing nursing documentation.

Design and Methods: Electronic searches included Academic Search Premier, Medline, CINAHL, and the Cochrane Library using keywords associated with orthotopic neobladder. A combination of using the Iowa model and an evidence-based model was used to set a template for the study. A pre-test of knowledge was given, then the simulation of neobladder hand irrigation was demonstrated by the nurses, and then a post-test was given to assess new knowledge gained from the simulation experience. An evaluation form was given to assess the simulation experience.

Results and Outcomes: Thirty-five registered nurses from the urology unit consented to and participated in the simulation experience. The pre-test score mean=5.27, the post-test score mean=5.90, which held statistical significance at p=.0001. Reassessment of nursing documentation remains in progress at this time.

Conclusions and Implications: The use of simulation to assess nursing competencies was effective in this project. The need for a standardized guideline for the neobladder irrigation needs to be further studied. The need to assess whether the simulation experience is long term will be addressed with the follow-up evaluation of patient charts.

STAFFING PATTERNS BEFORE AND AFTER MANDATED NURSE-TO-PATIENT RATIOS

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Purposes/Aims: This study identifies and describes changes in nurse and "non-nurse" staffing that may have occurred as a result of the enactment of nurse-to-patient ratios between 1999/2000 and 2005/2006 in California's acute care hospitals.
Background: Acute care hospitals have faced increased financial pressures from diminishing reimbursement, the proliferation of new medical technology, and increased patient severity of illness that required a more skilled workforce. In response to these pressures, hospitals reduced nursing staff with expectations that labor costs would decrease and hospital financial performance would improve. However, reports of medical errors and poor patient outcomes brought this strategy under scrutiny and led to the establishment of mandated minimum nurse-to-patient ratios in California. This study is timely as few studies have been conducted after the implementation of the nurse-to-patient ratios in the state of California to examine the statewide changes in nurse and "non-nurse" staffing as a result of this legislation.
Methods: This study utilized a secondary analysis of OSHPD Annual Financial Report data with a pre-post design in which individual hospitals were observed at two time points (1999/2000 and 2005/2006). Descriptive analysis was conducted on all nurse and "non-nurse" staff. A matched paired t-test was performed for all nurse and "non-nurse" staffing categories to determine if there were statistically significant differences in mean productive hours per patient day or unit of service between the 1999/2000 and 2005/2006 values.
Results: The descriptive analysis of mean productive hours (MPHs) for nurse staffing indicated nearly an additional hour of medical/surgical registered nurse time per patient day from 1999/2000 (4.36) to 2005/2006 (5.16). Also, medical/surgical registry nurse time per patient day increased from 1999/2000 (0.30) to 2005/2006 (0.88) by more than one half hour. Little changed in the other medical/surgical nurse categories of LVN, nurse aid, and clerical/administrative staff. MPH for 'non-nurse' staffing indicated an increase in two staffing categories: diagnostic radiology (0.53 to 1.27) and respiratory therapy (0.35 to 0.83). The other categories (clinical laboratory, physical therapy, pharmacy, and total general services) showed little change in mean productive staffing hours (adjusted by patient days or service volume) from 1999/2000 to 2005/2006.
Implications: These findings suggest most hospitals did make upward adjustments to RN staffing in response to mandated nurse-to-patient ratios by increasing use of regular employee RNs and registry nurses. However this adjustment did not decrease use of "non-nurse" staff who were not protected by the legislated nurse-to-patient ratios. Mandated nurse-to-patient ratios may be a necessary step in creating an environment of quality patient care. Further research is needed to provide empirical evidence that these types of policies have the intended effect of improving healthcare in acute care hospitals.

A COMPUTERIZED APPROACH TO MANAGING MEDICATION DATA IN CLINICAL NURSING STUDIES

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Purposes: The purpose of this presentation is to describe and demonstrate the process of developing a database to code and manage information obtained from hospital Medication Administration Records as part of a larger study of the quality of care related to pain management.

Background: Medications are important variables in clinical research and are often left unanalyzed as there are too many drugs, doses, and routes to consider. In pain research, this is particularly important as medication use may be an outcome or a confounding variable. To manage pain medication information in a database is challenging because of the complex data structures of medication administration. A database must have the flexibility to address different research purposes and to change as new drugs or modes of delivery are encountered. Researchers often need to edit or add new coding categories when data do not fit well into existing coding schemes. An ideal system would allow the research staff to build the database as needed without the need for time and money to return to database or software developers.

Methods: This research database was developed in Microsoft Access 2003 and used a simple and intuitive design. Inclusion and exclusion criteria by drug class were established based on drug type and its relevancy to pain. The database has a self-building function that allows research staff to add and categorize new medications as they are coded. Relevant codes in each pull-down menu are created as data are entered. Some pull-down menus, such as generic name menu and brand name menu, having inherited relationships presented as a main menu (generic name menu) and a submenu (brand name menu) in the database. Hence, when the list on the pull-down menu is changed, it can be manipulated without difficulty.

Outcomes: This database allowed researcher staff to set up pull-down menus easily based on their research purpose. The system can effortlessly manage the huge list of possible medications by entering the data, editing, and establishing the list of the pull-down menu simultaneously. A built in calculator is used to convert drug dosage of opioids into morphine equivalents for analysis. Examples of how this approach is applied to analysis in two samples of hospitalized patients with pain will be presented.

Conclusions: Using this concept of a "self-building pull-down menu," researchers can apply this technique to similar datasets containing medications. They can easily modify lists of pull-down menus themselves instead of asking assistance from database developers. This approach makes the use of databases for such types of data management much more efficient. This database provides a model for designing research databases for managing large and complex data such as clinical medication data in a way that is manageable and affordable. The ultimate result will be to improve the quality of clinical research.

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EVALUATION OF MODEL OF CARE PROJECT

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Creating, implementing, and evaluating a new model of patient care delivery is a strategic priority. Currently care is delivered differently in all care areas and nursing care is primarily task oriented with limited communication and coordination between those who provide direct nursing care: the Registered Nurses and the Patient Care Technicians (PCT), and other members of the healthcare team. A team of stakeholders called model of care champions have developed and are implementing the model on 5 medical surgical units. The purpose of the study is to evaluate the effect of the model implementation on staff, patients, and families.

Prior to the model implementation on each medical surgical unit, the Healthcare Environment survey (Chronbach's alpha .94) developed and tested by Dr. John W. Nelson was administered to the RNs and Patient Care Technicians (PCTs). After the new model has been in place for three months, the survey will be administered again. The sample will consist of 320 RNs and 95 PCTs. Patient and Family satisfaction will be evaluated through a structured rounding tool, real-time patient/family satisfaction surveys, and Picker © patient satisfaction scores measured pre- and post-implementation.

Descriptive statistics will be used to describe the nominal and categorical variables pre- and post-implementation. Continuous variables will be analyzed using mean score comparisons (chi square) for each group of RNs and PCTs pre- and post-model implementation. Unit level data (mean scores) will be compared to the same unit over time. Data will be analyzed separately for individuals who took the initial and post survey and compared to the scores of those who did not.

The poster will describe the model, changes implemented, outcomes, and implications.

PERIPHERAL INTRAVENOUS THERAPY EVIDENCE-BASED PRACTICE PROJECT

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Purpose: Our Evidence-Based Practice (EBP) clinical project was to determine if the current peripheral intravenous (IV) therapy practice at this 381 bed non-academic regional medical center in the Pacific Northwest was aligned with EBP standards based on The Infusion Nurses Society (INS) guidelines (2006). There were also concerns if our phlebitis rates met national standards of <5% as recommended by the Centers of Disease Control (CDC).
Background: Two staff nurses from a medical unit brought forth concerns about our current IV practice to the Nursing Practice Standards Council (NPSC). The questions raised were: (1) How long can a peripheral IV site remain in place? (2) How often should IV sites be changed? and (3) How often should IV tubing and dressings be changed? The NPSC asked that observations be done on inpatient IV sites in order to determine what our current rate of phlebitis is compared to the national CDC recommendation of <5%. Over a few weeks, 697 peripheral IV site observations were conducted with the range of results being 5.7% to 21.9%, well above the CDC recommendation.
Description: The methods used were nursing observations of inpatient IV sites for signs and symptoms of phlebitis using the INS scoring tool (2006). Next, the EBP fellowship team searched the literature for current evidence and practice standards. Then the current IV peripheral adult therapy policy was revised and the proposed practice change was to incorporate the phlebitis scoring tool into the electronic medical record. In addition, guidelines for changing IV administration sets (e.g., primary, secondary, primary intermittent, and blood) were included along with IV dressing and site changes. A two month pilot study was conducted on the nursing unit where the clinical questions originated. Prior to the pilot implementation education was provided to the nursing staff during scheduled staff meetings on the specific practice changes, followed by a post-test. The pilot study consisted of both random observations of inpatients with IV sites and auditing the electronic medical record for documentation.
Outcomes: The INS phlebitis scoring tool was adopted and the IV therapy policy was revised after the pilot study was completed. Currently post-pilot IV site observations, chart auditing, and cost analysis of resource utilization related to the practice change are pending.
Conclusions: Improved patient safety and outcomes will be achieved through the use of the INS phlebitis scoring tool. By incorporating this nursing practice change it is our contention that our phlebitis rates will meet CDC recommendations.

AN EXPLORATORY SURVEY OF NURSES' PERCEPTION OF END-OF-LIFE DISCUSSIONS OUTSIDE OF THE ICU

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Purpose: The purpose of this exploratory pilot survey study was to explore nurses' perceptions of end-of-life (EOL) conversations specific to gravely ill patients. As part of a Rapid Response Team (RRT) evaluation survey, EOL questions were included. It had been identified that the RRT system was often initiated and aggressive intervention carried out; only to have the patient's code status changed once the patient reached the ICU. We therefore became interested in asking what the non-ICU nurses comfort level was with EOL discussion and whether these nurses felt more EOL education would be beneficial.
Rationale: Discussions surrounding end-of-life issues can be difficult for patients, healthcare professionals, and families. Even in an atmosphere of poor prognosis and patient suffering the topic is often avoided. Research has shown family members specifically identify communication failure as a primary concern in end-of-life care.
Methods: This exploratory pilot survey was undertaken at a 300 bed acute care hospital in South Texas. The units surveyed include medical-surgical, telemetry, intensive care step-down, obstetrical, oncology, orthopedic, bariatric, and geri-psych inpatient services. Seventy-two nurses, representative of a 24 hour staff census were surveyed. Day and night shift were sampled equally; responses to the survey were anonymous, with demographic identifiers specific to unit, shift and license type only. End-of-life questions were asked using a 1-5 Likert Scale with 1 being strongly disagree to 5 being strongly agree. This project was reviewed and approved by the hospital IRB.
Results: Nurses were asked to respond to EOL queries based on their last experience with the RRT team. Thinking back to their last RRT experience, there was an inverse relationship between the number of years in nursing and the perception that an EOL discussion would have been appropriate. There was also an inverse correlation between the number of years in nursing and the perceived need for EOL education. Nurses with the least experience felt they needed the most education. Interestingly, there was a positive correlation between number of years in nursing and comfort in having the EOL discussions.
Implications: This pilot study does suggest a differing perspective of EOL discussion between nurses of varying experience levels. More research may be indicated to explore differing perceptions of EOL care and discussion in varying groups of nurses. Further research, coupled with an identified need for EOL education, may support the improvement of end-of-life care planning whereby end-of-life triggers coupled with nursing education may affect an earlier discussion of the use of heroic measures.

THE VALUE OF NURSE INVOLVEMENT IN DECISION-MAKING

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Purpose/Aims: The purpose of this study is to generate knowledge about what nurses think about their current level of involvement in decisions about patient care, the work environment, and planning for staffing. The study will describe the existing status of nurse involvement in 10 Colorado hospitals and analyze the data to look for trends and insights to be used in future research. Associations between perceptions of involvement and organizational outcomes will be determined. The focus of this study is on nurses who provide direct care at the unit level and nurses at the hospital level. The study aims are to: (1) determine what involvement in decision-making means to nurses; and (2) describe how direct care nurses want to be involved in decisions regarding patient care, planning for staffing, and the work environment.

Conceptual Basis: The conceptual basis of this research is a systems framework in which the context of nurses' work involves structures, processes and outcomes. Structures can include formal and informal models of involvement. Processes of involvement include the ways that nurses are involved in decisions, as well as the level of autonomy that nurses have in decision-making. Outcomes of decisions made by nurses are related to patient outcomes, work methods, and organizational effectiveness.

Methods: This descriptive qualitative research study is designed to elicit perceptual data about social phenomena. By using a systematic approach to the analysis of information generated directly from informants, in this case, the staff nurse, themes can be generated that describe the meaning of an experience. A theoretical sampling method will be used to identify the sampling frame for the study. The inclusion criteria are: any acute care hospital in the state of Colorado that admits and treats inpatients (as defined as patients that stay more than 24 hours.) A stratified random sample of hospitals will be selected using bed size and geographic region as stratification. Ten hospitals were selected and final sample size will be determined by achievement of saturation. Purposive sampling will be used to identify focus group informants.

Results: Two key themes focused on organizational barriers and the importance and value of nurse involvement in decision-making.

Implications: This research is ground-breaking in that there are no identified national studies underway that focus on the relationship of nurse involvement and a broad range of outcomes. The outcome of this study can affect patient care processes, nurse satisfaction and retention, and the ways in which organizations solicit and use involvement of the practitioners that provide care to patients.

PUBLIC HEALTH POLICY

ACCESS TO CARE: THE EFFECT OF INSURANCE STATUS ON PRENATAL CARE AND BIRTH OUTCOMES

Cristi C. Coursen, Barbara L. Wilson, Richard Butler

BRIDGING BETWEEN POLICY AND OUTCOMES MANAGEMENT: INFORMATICS

Amy Miner Ross

2009 ACHNE RESEARCH PRIORITIES FOR COMMUNITY/ PUBLIC HEALTH NURSING

Cherie Rector, Barbara Polivka, Joan Kub

INFORMING POLICY AND PRACTICE FOR MAGNET HOSPITAL SUSTAINABILITY

Mickey L. Parsons, Patricia A. Cornett

ANALYSIS OF NATIONAL MEDIA COMMENTATORS' STATEMENTS ON H1N1 FLU, MEXICO AND THE US

Brent Hill

ACCESS TO CARE: THE EFFECT OF INSURANCE STATUS ON PRENATAL CARE AND BIRTH OUTCOMES

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Introduction: Health is influenced by the conditions under which individuals live including socioeconomic status and access to healthcare. The provision of equitable access to prenatal care and strategies to optimize birth outcomes are top priorities in maternal child health. Adequate prenatal care has been viewed as one of the cornerstones of improved birth outcomes; however the impact and influence of prenatal visits on birth outcomes is now under debate.

Purpose: Measuring the adequacy of prenatal care in terms of number of prenatal visits and whether the timing of initiation of prenatal care due to insurance status are causal factors in determining the relationship between prenatal care and improved birth outcomes, is the purpose of this study. This research will examine whether there are differences in birth outcomes among women with private insurance, Medicaid insurance, and no insurance in their ability to access prenatal care, initiation of prenatal care, and number of prenatal visits. Findings may illuminate whether good birth outcomes are jeopardized by insurance status alone, or whether it is the adequacy of prenatal care as measured by the number of visits and the timing of initiation of care.

Rationale/Background: Prenatal care has historically been viewed as an essential component of improved birth outcomes and various endogenous relationships such as socioeconomic status have been studied to explain the association between prenatal care utilization and adverse outcomes. Health insurance status, whether private, public, or being uninsured, may affect prenatal care initiation and utilization. Medicaid was originally designed to address health care inequality. However, it does not provide care for all of the poor, and pregnant women may be at disadvantage for receiving adequate prenatal care and good birth outcomes due to their inability to obtain and maintain coverage due to eligibility requirements.

Methods: Access to and utilization of prenatal care will be evaluated along with multiple dimensions of birth outcomes using a secondary analysis of data from Arizona HealthQuery (AZHQ). AZHQ is a community health data system managed through the Center for Health Information and Research (CHiR) at ASU. Methodology will involve multivariate statistical techniques: time and point of entry into prenatal care (Cox duration regression models), number of prenatal visits (count regression models), insurance status (multinominal regression analysis), and birth outcomes (ordinary and logistic regressions to examine gestational age, birth weight, APGAR scores, NICU admission and/or newborn transport). All singleton births in Maricopa County for a ten year period (1997-2007) will be analyzed to examine whether differences in birth outcomes exist among women based on insurance type, and whether the woman's ability to maintain Medicaid coverage during this time period made any significant difference in access and utilization of prenatal care.

Implications: Insurance eligibility for pregnant women in Arizona is not presumptive. This analysis may reveal results that could add precision to health policy-making in order to improve access to prenatal care, and in particular, improve birth outcomes.

BRIDGING BETWEEN POLICY AND OUTCOMES MANAGEMENT: INFORMATICS

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Purpose: The purpose of this project was to create learning activities related to informatics in existing modules about health policy and outcomes management in a leadership and outcomes management course.
Rationale/Background: Oregon Health & Science University School of Nursing and eight associate degree nursing schools in Oregon have implemented a shared competency-based undergraduate program as part of the Oregon Consortium of Nursing Education. American Association of Colleges of Nursing detailed essentials of baccalaureate curriculum that include health policy, systems leadership in outcomes management and quality assessment, and managing information in quality patient care delivery.
Description of the Undertaking: The leadership and outcomes management course had existing theory content modules and learning activities about leadership styles, communication and conflict resolution, health systems analysis, career development, health policy, and outcomes management. Concurrently, to the theory portion of the course, students participated in agency-based interprofessional teams that were involved in continuous quality improvement (CQI). In the theory portion of the course both health policy that drives CQI and the creation of systems, and the methods of CQI are discussed. Central to the CQI process was the use of information systems and interaction with CQI teams where members were information system specialists. In the theory module related to policy, students explored policy statements about the use of personal health records and electronic medical records in the assurance of quality care delivery. In the theory module related to outcomes management, students read position statements about quality initiatives and the use of information systems. In a theory module that bridges the content areas of health policy and outcomes management, students learned about informatics, information systems, electronic health records, personal health records, consumer health information, and health literacy. Students read articles related to the research agenda for nursing informatics and the contribution of nursing to shaping the use of information systems in practice. Students participated in discussions where they were to bring in resources outside of those listed as required reading related to: (1) the interrelationship between nursing informatics, federally mandated outcomes management, consumer health information and health literacy; (2) nursing practice and the electronic health record; (3) client needs and regional health information organizations; (4) the interrelationship between personal health records and healthcare policy/reform; and (5) the limitation of electronic health record adoption for small agencies. All discussions were evaluated for depth of thoughtful discussion and content understanding, use of course materials, required reading and outside resources, and contribution and interaction in pushing the discussion forward.
Outcomes: Students were able to discuss with great depth of understanding the concepts related to informatics in nursing practice, policy mandates for implementation and the ties to outcomes management in quality care delivery.
Conclusions: Learning activities related to informatics were successful in bridging between health policy and outcomes management in a leadership and outcomes management course.

2009 ACHNE RESEARCH PRIORITIES FOR COMMUNITY/ PUBLIC HEALTH NURSING

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Purpose: The purpose of this project was to update community and public health nursing research priorities for the Association of Community Health Nurse Educators (ACHNE).

Background: The Association of Community Health Nurse Educators (ACHNE) developed research priorities for public health nursing in 1992 and in 2000. In 2006 the ACHNE Research Committee was asked to revise the 2000 ACHNE Research Priorities for public health nursing (PHN).

Methods: A review of PHN research abstracts (n=485) from seven selected nursing journals was completed to identify progress in addressing the 2000 Priorities, determine research methods used, health issues and health behaviors addressed, and demographics of study populations. Research priorities from key federal funding agencies and from journal editors were also reviewed.

Results and Conclusions: The most common 2000 topical research priority areas addressed related to health promotion, decreasing disparities, and global health. Less than 20% of the studies dealt with public health nursing workforce. Only 12% of the studies used quasi-experimental or experimental methods. Most studies involved adults or the elderly. A plethora of health issues and health behaviors were studied. The journal editors identified the need for more complex methodological approaches and longitudinal studies. These findings helped to guide the development of the 2009 ACHNE Research Priorities for PHN. The two overarching priorities for PHN research are (1) Population-Focused Outcomes and (2) PHN Workforce. Multi-site studies, clinical trials, community-based participatory research, development and/or analysis of existing large data sets and development of valid and reliable methods to assess PHN outcomes are identified as key to advancing the science.

Nursing Implications: It is imperative that PHN practice be evidence-based. Collaboration among educators, researchers, and practitioners is needed to further the science of population-based nursing practice. The efforts of the entire PHN community are needed to accomplish this research agenda to develop the scientific evidence for population-based nursing practice.

INFORMING POLICY AND PRACTICE FOR MAGNET HOSPITAL SUSTAINABILITY

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Purpose: The purpose of the study is to identify the facilitators and barriers for healthcare organizations to sustain Magnetism.

Rationale/Conceptual Basis/Background: Nursing executives are challenged to lead complex organizational systems to fulfill the multitude of regulatory, customer, and staff expectations and provide excellence in nursing practice and the work environment. Recognition as a Magnet Hospital by the American Nurses Association Credentialing Center is the gold standard for acknowledging excellence in nursing practice and the work environment. Certification and continuing re-certification as a Magnet Hospital demonstrates a health care organizations commitment to building systems that support excellence in nursing practice that are critical for quality patient care despite an environment in which the nursing shortage has emerged as a crisis and is projected to worsen.

Methodology: The research design is qualitative, using open-ended data-generating questions. A national convenience sample of twenty chief nurse executives (CNOs) was selected from the total number of credentialed Magnet Hospitals and they were invited to be interviewed. Data from each interview will be formatted for analysis sentence by sentence. A sample question that elicited sustainability was "Please describe some keys that led to the sustaining of magnetism in your healthcare organization." The data will be analyzed through the use of narrative analysis.

Results: Fifteen Chief Nursing Officers (CNOs) interviews have been completed and five more scheduled. Data analysis is in progress and will be completed by April 2010. A trend identified in the interviews is the commitment and leadership of the highest ranking hospital/system executives: the Chief Executive Officer and Chief Nursing Officer for sustaining Magnetism.

Potential Implications: It is believed that the findings will contribute to nursing and healthcare executives' armamentarium to inform practice and drive policy for organizational development and leadership upon initiation of the Magnet journey and beyond. Knowledge of facilitators and barriers to sustainability will further contribute to the design of evidenced based organizational systems and programs supporting excellence in nursing practice.

This study was partially funded by University Health System and Methodist Healthcare System, San Antonio, TX.

ANALYSIS OF NATIONAL MEDIA COMMENTATORS' STATEMENTS ON H1N1 FLU, MEXICO AND THE US

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Purposes/Aims: The purpose of this preliminary study is to understand the phenomenon of H1N1 disease transmission blame in American national media commentary, specifically as the commentary expresses a perceived threat to Americans posed by Mexicans and illegal immigrants.
Rationale/Conceptual Basis/Background: Pandemics are complex disease processes that cyclically impact humans. Historically, targeted groups of individuals have been blamed for the origin or spread of the disease. Typically, these scapegoat groups are not the primary cause of the disease, or singularly the agents of transmission, yet members of these groups suffer stigma, isolation, and even death when healthcare resources are controlled by policies crafted by dominant social groups. In order to break the cycle of unsubstantiated causative blame, evaluation of public discourse can reduce fear and aggression by substantiating fact and dispelling fiction.
Methods: Critical hermeneutics informed by critical social theory provided a conceptual framework and method to explore blame and disease transmission of H1N1. The ultimate purpose of this method is to identify and examine power structures that perpetuate oppression, and initiate a dialogue to inform action and social change. The Anti-Defamation League (ADL) identified national media personalities, Glenn Beck, Michelle Malakin, Michael Savage, Pat Buchanan, and Neal Boortz as publicly linking H1N1 threat to Americans from Mexicans and illegal immigrants. Six texts of comments by these media personalities published by the ADL were coded and analyzed using critical hermeneutic methods. The examination of the texts applied Habermas' process of interpreting social context and historical setting. Historical US immigration policies and disease transmission social dialogues provided context for the analysis of the statements in a hermeneutic circle through which themes were identified.
Results: Themes identified from media statements were: public health policy as a means for immigration control (not supported by historical or social context); immigration/illegal immigrant potential to overwhelm public health services (not supported by historical or social context); selective isolationism as disease prevention (selectively supported by historical context, not supported by social context); Mexican/Illegal immigrant as disease vector (partially supported by historical and social context); known danger of H1N1 (not supported by historical or social context); costs or repercussions of closing US-Mexico border.
Implications: The critical hermeneutics approach informed by critical social theory effectively uncovered meanings about immigration and H1N1 disease transmission. The social and historical analysis used to thematically analyze the commentators' statements provides the yardstick to measure the veracity of the commentator's statements. When approached from this perspective, the goal of creating dialogue as a catalyst for social change is achieved through a well-informed process.

SIMULATION & INNOVATIONS IN NURSING EDUCATION

VALIDATION OF A CLINICAL JUDGMENT/ COMPETENCY TOOL FOR USE IN SIMULATION/ CLINICAL

Suzan Kardong-Edgren, Shelly Quint, Katie Anne Adamson

EXPERIENTIAL LEARNING IN SIMULATION: IMPACT ON KNOWLEDGE FOR DECISION MAKING

Michael Gates, Mary Beth Parr, Janet Hughen, Diane Hatton

REVIEW OF STUDIES ON SIMULATION LEARNING IN OCCUPATIONAL SETTINGS

Jean Benzel-Lindley, Tim Markantes, Christine Tolson, Donna Byron, Terry Kranz, Jane Kerzan, Tom Courney, Marlene Kropf, Tina Kile,T.J. Land

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THE USE OF SIMULATION IN IMPROVING THE READINESS SKILLS OF AIR FORCE SQUADRON MEDICAL TECHNICIANS IN THE CARE OF PATIENTS WITH CHEST TUBE DRAINAGE SYSTEM

Cleddhy R. Arellano, Ifeoma S. Izuchukwu, Joseph F. Burkard

EFFECTIVENESS OF HIGH-FIDELITY SIMULATION IN NURSING PROGRAMS

Katherine Y. Moore

BEST EDUCATIONAL PRACTICE: PEDIATRIC SIMULATIONS ACROSS A CLINICAL SEMESTER COURSE

Jennifer Hickman, Janet Willhaus

EMOTIONAL CONNECTION AND INTEGRATION: DOMINANT THEMES AMONG UNDERGRADUATE NURSING STUDENTS USING A VITUAL COMMUNITY
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THE NEED FOR NURSING INFORMATICS CONTRIBUTIONS IN INTERNATIONAL ICTD RESEARCH
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VALIDATION OF A CLINICAL JUDGMENT/ COMPETENCY TOOL FOR USE IN SIMULATION/ CLINICAL

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Purpose: The purpose of this study was to further refine an evaluation tool for measuring clinical judgment and competency of undergraduate nursing students in clinical or simulated medical surgical nursing course work.

Background: Measuring student learning and performance in clinical nursing education is complex. Nurse educators and researchers have measured student clinical learning and performance with such things as with knowledge exams, objective, structured clinical examinations (OSCE) and student satisfaction surveys. Recent attempts to evaluate student learning in more meaningful and comprehensive ways have been rejected as too long and/ or cumbersome. The tool used in the present study incorporates the concept of Clinical Judgment into a revised, more user-friendly evaluation tool. The tool is based on the Lasater Clinical Judgment Rubric (LCJR) (Lasater, 2007). This revision of the LCJR attempted to ameliorate some of the previous critiques of the tool: too long and cumbersome and too much negative verbiage.

Methods: This study included 3 phases over 2 years. During the first phase, the investigators evaluated and refined the wording and scoring of the original LCJR with the assistance of a psychometrics consultant and BSN and ADN faculty. The second phase of the study involved two rounds of piloting the tool. During each round, the revised tool was distributed to BSN and ADN faculty across Washington State who used it to evaluate students in introductory medical surgical nursing courses. The investigators used the scores and feedback from each round of this phase to further refine the tool. The third phase of this study is ongoing and involves further psychometric analyses of the tool using filmed, simulated patient care scenarios.

Results: Eighty-one students in medical surgical nursing courses at 6 Washington State undergraduate nursing programs were evaluated using the tool. The most recent refinement of the tool yielded mean score of 19.3 out of 40 with a standard deviation of 4.36 for students in the 2nd quarter of nursing school and a mean score of 27.63 out of 40 with a standard deviation of 5.43 for students in the 4^{th} quarter of nursing school. The reliability coefficient between students' scores and their quarter in nursing school was 0.826. Further refinements and psychometric analyses of the tool are ongoing.

Implications: Psychometrically sound evaluation tools for measuring student performance in real and simulated clinical situations are an essential pre-requisite for establishing best practices for teaching in nursing education. This ongoing effort to develop and refine a reliable and valid evaluation tool will contribute to such work nursing education.

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EXPERIENTIAL LEARNING IN SIMULATION: IMPACT ON KNOWLEDGE FOR DECISION MAKING

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Purpose: This study will examine the following question: Does experiential learning in a simulation laboratory enhance the student's ability to apply theoretical nursing knowledge to make appropriate decisions in clinical case scenarios?

Background: The use of simulation for clinical learning in the health sciences has increased in the past decade with the California Board of Registered Nursing accepting up to 25% of student clinical learning in simulation laboratories as part of nursing education requirements. Further, a Cochrane Search using the terms simulation and nursing education resulted in 20 documents, the majority of which examined computer virtual reality simulation rather than the hi-fidelity simulation utilized by a majority of schools of nursing. Further, reports of simulation in the nursing literature often focus on descriptions of the teaching/learning process and usually rely solely on students' self-reports and instructor perceptions of the identified positive benefits from the simulation experiences (Morton & Rauen, 2004). However, little research has documented the efficacy of these learning experiences, particularly on student outcomes such as student knowledge and the ability to apply what is learned in a simulation laboratory to clinical practice.

Methods: The research team has recruited approximately 200 nursing students during the current and past semesters of the Medical-Surgical course to participate in this IRB approved study. As a regularly scheduled part of this course, students have two scheduled experiences in the School of Nursing simulation lab. During each scheduled simulation session (the first occurring during the 5th or 6th week of the semester and the second occurring at the 10th or 11th week of the semester) students are randomly assigned to one of two different simulations scenarios. Each of the simulation scenarios covers health problems commonly encountered in medical-surgical nursing practice and parallels current course content. Following each simulation session, students are invited to take a 20-question in-class quiz that does not count towards their final grade that focuses on content covered during both simulation scenarios. In addition, after the students have completed their second simulation, they will be asked to complete an online survey that includes the METI Simulation Effectiveness Scale, demographic questions, and performance on past course exams.

The data analysis will include a comparison of the quiz scores between the two groups using analysis of variance. In addition, the potential relationships among student responses on the online survey and their quiz score will be explored using correlations and ordinary least squares regression.

Results: Data collection and data analyses will be completed this fall.

Potential Significance: This study will contribute to the emerging knowledge about the effectiveness of simulation learning in nursing education by focusing on student outcomes. Further, in response to the growing shortage of clinical placement sites, the results of this study may help to inform educational policies as to whether the use of high fidelity simulation in our nursing programs can or should be extended further as a substitute for traditional clinical experiences.

REVIEW OF STUDIES ON SIMULATION LEARNING IN OCCUPATIONAL SETTINGS

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Background: The radical alteration to the health care delivery system in the past twenty years has driven a change in how health care providers are educated. The development of some form of computerized Clinical Simulation Center has become a standard part of the educational curricula in many nursing programs. Several large corporate health care systems now also ascribe to the key concepts of these simulation centers: nursing mastery though early acquisition of skills and protection of patients from unskilled practitioners.
Objectives: This review aims to present available evidence on the utilization and effectiveness of computerized simulation of nursing situations and skills within occupational settings.
Search Strategy: An extensive search of keywords contained in the title and abstract, and in relevant MeSH headings and descriptor terms was preformed on the following databases: Joanna Briggs, PubMed, Cochrane Library, ERIC, OVID, MEDLINE, and CINAHL.
Selection Criteria: RTC and lesser weighted research studies centered around nursing instruction via computer simulation in occupational setting were sought first. Inclusion was expanded to those studies on nursing skills acquisition though computer simulations in academic settings.
Data Collection and Analysis: Study design and quantity were tabulated and relative risks, odds ratios, mean differences, and associated 95% confidence intervals were calculated from the total number of individual studies containing count data where possible.
Results: Searches identified care protocols, RTC studies and other studies with two technology design interventions predominating: employment of software programs via PCs or simulation learning through manipulation of computerized mannequins.

THE USE OF SIMULATION IN IMPROVING THE READINESS SKILLS OF AIRFORCE SQUADRON MEDICAL TECHNICIANS IN THE CARE OF PATIENTS WITH CHEST TUBE DRAINAGE SYSTEM

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Background: Using simulation to improve skills has been evolving in the healthcare setting. It recreates a secure and protected environment for the delivery of safe care. The lessons learned from actual combat operations can be integrated during simulation in order for the participants to benefit from the opportunity of applying and improve those readiness skills in the management of patients with chest tube drainage systems. It also reconstructs a hospital environment similar to a Contingency Aeromedical Staging Facility (CASF) where members of the healthcare team with an array of skills must collectively work for the provision of care. Our Air Force Unit has a competency rating of 74% and is struggling to improve our medical technicians' readiness skills. One way to improve their skills is to utilize simulation in a controlled environment.
Purpose of the Project/Aim: The purpose of this evidenced-based project is to determine if simulation will improve the readiness skills (RSV) of medical technicians caring for patients with chest tube drainage systems.
Design and Methods: Electronic searches included PubMed, Medline and CINAHL using keywords that are related to simulation, improving skills, combat medical technicians. The Rossworm and Larabee Model and Popham Evaluation Model will be used as a guide for the study. Participants in the study are the medical technicians of 452nd Aeromedical Staging Squadron (452D ASTS) who are not deployed or just returned from recent deployment. Methodology will include: (1) Determining the exclusion criteria, (2) Pre-test and Post-test will be administered before and after the simulation, (3) Simulation experience, (4) Demonstration and return demonstration will be done with skills check verification to assess if there is an improvement in the skills, (5) Interpretation of Data, and (6) A feedback course evaluation will be given at the end to evaluate the simulation experience.
Results/Outcomes: The expected outcome will be an increased competency rating of combat medical technician's readiness skills from 74% to at least 90% or above.
Conclusions/Implications: The use of simulation in educating and training our combat medical technicians will be the foundation in evaluating their competence. It will become the mainstay of improving their readiness skills because it provides a realistic opportunity for the application of skills similar or close to an aggressive and hostile environment.

EFFECTIVENESS OF HIGH-FIDELITY SIMULATION IN NURSING PROGRAMS

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Background: A technological boom coupled with a decrease in clinical site availability has propelled educators toward increasing the use of high-fidelity simulation within undergraduate nursing programs. There is evidence to suggest that high-fidelity simulators can be used in lieu of clinical patients as students learn basic and advanced nursing skills. However, there is a lack of applicable research on its overall effectiveness. The enormous expense of high-fidelity simulators and the necessity of student competence prior to entering the clinical setting indicate the substantial need for more attention to this topic.

Objective: In order to be an effective clinician a nursing student must demonstrate proficiency in performing nursing skills, critically thinking and communicating therapeutically while maintaining a safe environment for patients. In addition, students must have confidence in their abilities before they can successfully function in the nursing role. The objective of this systematic review is to synthesize current research regarding the effectiveness of high-fidelity simulation on undergraduate nursing students' ability to practice nursing safely, develop psychomotor and critical thinking skills, interact therapeutically with patients, gain personal confidence and connect learned behaviors to the clinical setting.

Search methodology: A search for peer-reviewed research articles and meta-analyses was performed utilizing the search databases CINAHL, ERIC and Healthsource. The search timeframe was between 2004 and 2009 and keywords for searches included "simulation", "nursing" and "undergraduate". Research that centered on licensed, experienced health professionals was excluded as this systematic review focuses on the learning outcomes of students only. Ultimately, ten articles were chosen to clearly represent the most current research on the effectiveness of high-fidelity simulation in nursing programs.

Results: The current evidence suggests that there is a connection between learning through high-fidelity simulation and developing safety awareness, gaining psychomotor and critical thinking skills, and communicating therapeutically. There is no notable link indicating that high-fidelity simulation promotes increased student confidence. There is some indication that learning and practicing in a simulated environment could enable a smooth transition into the clinical setting; however, there are no studies actually linking simulation-based competence with performance in the clinical setting.

Implications: Because of the positive correlation between simulation and improved learning outcomes in the areas of safety, skills and communication, is imperative that nursing curriculums integrate high-fidelity simulation in an appropriate and effective manner. However, this systematic review clearly reveals a gap in the current body of nursing research, specifically, the application of learned behavior from high-fidelity simulation to the clinical setting. Given this shortfall, more research is necessary so that State Boards of Nursing can confidently allow nursing programs to substitute clinical hours with simulation time.

BEST EDUCATIONAL PRACTICE: PEDIATRIC SIMULATIONS ACROSS A CLINICAL SEMESTER COURSE

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Purposes/Aims: This presentation highlights three different techniques for utilizing simulation in the pediatric nursing education setting.

Rationale/Background: The need for pediatric clinical placement in undergraduate nursing education continues to grow although supply of placement locations and patients is diminishing. In both rural and urban locations, there are not enough pediatric patients to provide adequate clinical placements for students. Undergraduate students observe pediatric care without an opportunity to practice it in many locations. Educators can turn to simulations to provide a comprehensive approach to covering course objectives.

Brief description of the undertaking, including the approach, methods, or process used: In the fall of 2009, three simulation opportunities were included in a section of the undergraduate pediatric clinical course. The first day of class was a guided simulation day. Students rotated among three patient care scenarios with patients of different age/development needs as well as varying care needs. Students prioritized and conducted care with the guidance of the clinical instructor. At mid-term students returned to the simulation lab to offer care for the same patients and were observed by the instructor with input afterward during individual debriefings. The mid-term scenarios provided the instructor with an opportunity to further determine student learning needs for the remainder of the semester. A final simulation activity is planned at the end of the term to demonstrate care of a dying child. The end of the semester scenario allows students to practice therapeutic communication techniques as well as assessment and caring skills with both patient and family. A university counselor will be invited to participate in the debriefing process for the final scenario.

Outcomes Achieved/Documented: The simulation approach to teaching and learning allowed the clinical instructor to cover objectives which can only currently be addressed in the clinical setting on a irregular basis. A mid-term formative evaluation provided time for student remediation whereas a final summative evaluation at semester's end would allow little flexibility. The final simulation provided exposure to skills which students are seldom allowed to practice in the clinical setting.

Conclusions, Emphasizing Implications for Clinical or Educational Practices, and Recommendations for Research or Future Undertakings: Use of simulation techniques to augment pediatric clinical teaching results in a richer, more consistent learning environment than is currently available at many nursing education programs in the United States. Current simulation research and practice relies heavily on theories borrowed from education and psychology. As more instructors adopt simulation as an educational practice, the potential for grounded nursing theory develops.

EMOTIONAL CONNECTION AND INTEGRATION: DOMINANT THEMES AMONG UNDERGRADUATE NURSING STUDENTS USING A VITUAL COMMUNITY

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Purpose: The use of virtual communities in nursing education is an emerging pedagogy that has generated substantial interest. The purpose of this presentation is to report qualitative themes that emerged from a cohort of students who used a virtual community over 3 academic semesters.

Background: In 2006, the University of New Mexico launched a virtual community known as *The Neighborhood* with hopes of facilitating of student-centered learning by providing context to nursing concepts through longitudinal lived experiences of characters. Faculty researchers were interested in gaining an understanding of what and how students learn from virtual communities. The aim of this study was to evaluate written student comments to assess for qualitative themes from students as a result of their exposure to this teaching application.

Methods: This study involved a convenience sample of 40 undergraduate nursing students followed for three semesters as they used a virtual community. At the end of each semester, students completed a survey related to their experiences using the virtual community. Each survey included the same four open ended questions:

- Which character stories do you enjoy the *most* and why?
- Which character stories do you like the *least* and why?
- What did you find to be the most beneficial aspects of *The Neighborhood*?
- What did you find to be the least beneficial aspects of *The Neighborhood*?

Using the qualitative method of content analysis, student responses generated by the survey questions were grouped and analyzed to identify major themes from the data using well-documented content analysis procedures. Data from the open ended questions were initially broken down into phrases. The phrases were further coded into broad categories. These categories were later modified as data analysis continued and were grouped to best represent themes that emerged from the data. Exemplars that best represented the concepts for each theme were added when they provided further clarification.

Outcomes: Analysis of the questionnaire data revealed two primary themes: Students experienced an *emotional connection* to specific characters or families; and *integration* of characters and events into learning activities was perceived by students as beneficial.

Conclusions: Findings from this study suggest significant potential for virtual communities to change the practice of teaching and learning. Educational researchers have shown that emotion and integration enhance learning. Faculty often struggle to find student centered teaching strategies that effectively promote learning. It is possible that virtual communities can provide mechanisms for faculty to improve teaching through an application that promotes emotional connections and integration by design.

THE NEED FOR NURSING INFORMATICS CONTRIBUTIONS IN INTERNATIONAL ICTD RESEARCH

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Purpose: The rapidly advancing field of information and communication technologies development (ICTD) entails the use of information and communication technology (ICT) in developing regions for the advancement of human conditions within the scope of socioeconomics and wellness. The aim of this poster is to demonstrate the preparedness of the nursing informatics community to contribute greater involvement in ICTD research.

Rationale: The United Nations has adopted the Millennium Development Goals, an assemblage of eight goals with 21 targets to be reached by the year 2015 toward improving the quality of life of inhabitants of impoverished nations, including key components aimed at reducing child mortality rates and disease epidemics. ICTD research is a vital element toward achieving Millennium Development Goals. However, despite being inherently well suited to the development of solutions in this field of research, nursing informatics contributions toward ICTD research are significantly lacking.

Approach: Projects in ICTD may particularly benefit from methodologies and evaluation frameworks commonly utilized in nursing informatics through an enhanced translation of patient, provider, and community needs into ICT solutions. Many ICTD projects rely on field development and testing to achieve the best fit and use for the environment in which an application or device will be deployed. The frequent utilization of qualitative methods in nursing science that highlight the use of focus groups, ethnographic reviews, and socio-cultural factor identification to arrive at desired solutions may greatly enhance processes of system development that must identify and consider highly unique and often times challenging human and environmental factors in the field.

Outcomes/Recommendations for Implementation: Several suggested applications of nursing informatics in ICTD research are proposed. For example, participatory action research (PAR) conducted as a qualitative, collaborative process between researchers and individuals affected by research interventions may successfully improve the creation of end-to-end technology solutions. Additionally, applications of problem-based learning (PBL) techniques increasingly used in nursing informatics education are suggested to greater prepare researchers to respond to the need to develop flexible and unique solutions for the ICD needs of a given community. Evaluation frameworks frequently relied on in nursing informatics research such as social network analyses and development evaluation matrices are discussed.

Conclusion: The potential application of nursing informatics to research in eHealth, mHealth, and other facets of ICTD is presented to demonstrate the preparedness of the nursing informatics community for greater involvement in ICTD research. The intersection between clinical practice and technical adroitness of nursing informatics lends a unique and valuable perspective to ICTD. The resolution within the nursing discipline toward community and personal wellness and the reduction of health disparities may offer a significant contribution in the achievement of the Millennium Development Goals.

PROMOTING STUDENT SUCCESS IN ONLINE COURSES

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Purpose/Aims: This purpose of this study is to identify specific faculty behaviors that help students be successful in online courses.
Rationale/Background: Online courses have become a popular method for delivering course content, as they provide the flexible learning environment students who work part-time or full-time require. As students do not have direct contact with course faculty, it is incumbent upon faculty to understand how to best promote learning. While recent studies indicated faculty support and availability were key student motivators and critical to successful online learning outcomes, specific behaviors that constitute support and availability have not been identified.
Methods: This study used content analysis to identify students' perceptions of faculty behaviors that helped them succeed in the online environment. This method is useful when existing theory is limited, allowing categories to emerge from descriptions rather than using preconceived categories. Undergraduate and graduate students, who had taken one or more courses at this university in which 100% of the instruction was online, and who identified themselves as being successful in the course, were recruited from departments having online courses. After informed consent was obtained, students were interviewed either individually or in a focus group. Researchers read interviews to obtain a sense of the whole, coded interviews, and met to reach consensus on codes, then develop categories and definitions for each category.
Results: While data collection is complete, data analysis results are pending. Preliminary analysis shows that students want to know faculty are committed to their success, and value strong course organization and strong faculty presence. These categories and others will be fully developed in the data analysis.
Implications: Identifying key faculty behaviors supporting effective learning in the online environment will enable faculty to design courses and assignments that enhance online learning.

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SOCIAL SUPPORT ACROSS GENERATIONS: ADVANCING THE HEALTH OF LATINAS

OVERVIEW: SOCIAL SUPPORT ACROSS GENERATIONS: ADVANCING THE HEALTH OF LATINAS

Colleen Keller, Julie Fleury, Adriana Perez

USING THE CHARRETTE TO ENHANCE COMMUNITY ACADEMIC PARTNERSHIPS

Colleen Keller, Julie Fleury, Adriana Perez, Allison Nagle

SOCIAL CONTEXTUAL RESOURCES FOR PHYSICAL ACTIVITY IN OLDER LATINAS

Adriana Perez, Colleen Keller, Julie Fleury

SOCIAL SUPPORT ACROSS GENERATIONS: YOUNGER AND OLDER LATINA RESOURCES

Colleen Keller, Julie Fleury, Kathy Records, Adriana Perez

MUJERES EN ACCION: INTERVENTION DESIGN

Julie Fleury, Colleen Keller, Adriana Perez

SOCIAL SUPPORT ACROSS GENERATIONS: ADVANCING THE HEALTH OF LATINAS

Overview: Social Support across Generations: Advancing the Health of Latinas

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Latinas are particularly prone to declines in physical activity and associated co-morbid conditions; approaches that address developmental and contextual changes across the lifespan suggest that a number of factors may converge at passage points that contribute to this problem. Transitional periods bring a number of changes that may trigger and maintain decreased physical activity and it is most likely the interaction among multiple factors that determines propensity for excess energy intake, sedentary behavior, and risk of developing obesity.

This symposium presents the results of programmatic efforts toward specifying the design of culturally-embedded social support interventions to increase physical activity across generations among Latinas. The presentations are designed to address knowledge development through their focus on programmatic research and systematic review and synthesis of empirical literature, to explain: (1) integration of community and academic programs that target public health needs, (2) social and contextual resources for older Latinas in a theory-based intervention, (3) operationalization of critical inputs of a social support intervention in older and younger Latinas, and (4) the use of treatment/evaluation theory in the design of a culturally-embedded intervention for older Latinas. As a whole, the symposium is intended to foster dialog specific to the design of culturally-relevant interventions and to outline innovative approaches for knowledge development specific to health promotion among Latinas.

Knowledge guiding translational research in physical activity requires exploration of the causal, contributing, and contextual factors associated with health promoting behaviors. Research regarding the causal, contributing, and contextual factors associated with physical activity behavior may be particularly relevant for Latinas, many of whom are inactive, at high risk for chronic illness, and face language, cultural, and social barriers to health promotion efforts. To meet the public health needs of vulnerable communities, clear and active partnerships between academic and community settings are needed. Dr. Fleury presents the integration of community and academic programs that target public health needs.

Divergent theoretical models and approaches have been used to guide intervention design for health promotion. However, few have explained the cultural, social and contextual resources of Latinas. Dr Perez describes the testing of a culturally relevant theory to describe a moderate intensity physical activity in older Latinas. Dr. Keller describes the corresponding approach to operationalizing the culturally relevant differences in operationaliziing social support critical inputs across older and younger Latinas to in an intervention to promote walking in Latinas. Dr. Fleury describes the design of a physical activity among Hispanic women, *Mujeres en Accion por Su Salud* [Women in Action for Their Health]. These efforts are central to advancing the science of culturally-relevant, acceptable, and effective interventions for health promotion among Hispanic women.

SOCIAL SUPPORT ACROSS GENERATIONS: ADVANCING THE HEALTH OF LATINAS

Using the Charrette to Enhance Community Academic Partnerships

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Purpose: Obesity and its concomitant conditions, including diabetes, hypertension, and coronary heart disease, disproportionately effect Hispanics, making it a significant health concern. This concern is reflected across all age groups, supporting an intergenerational focus. This paper describes a community-academic partnership, using a Charrette model, to develop socially and culturally relevant programs fostering intergenerational capacity for health promotion related to obesity. A Charrette is a participatory action model originally developed in architecture and commonly used in urban planning, which involves the gathering of a diverse team over a specific time frame to address an identified need within a community.
Rationale: The community-academic partnership described is within Central City South (CCS, a vibrant, urban, ethnically diverse community where health and environmental inequities have been concentrated over time. Creative solutions that take into account the history and the existing cultural knowledge of residents, and that identify effective socially-based strengths provide a basis for supporting positive health and environmental change at the community level.
Methods: Components of a Charette include: definition of issues to be resolved; analysis of the problem and alternative approaches to solutions; assignment of small groups to clarify issues; development of proposals to respond to issues; development of alternative solutions; presentation and analysis of final proposal(s); and consensus and final resolution of the approach to be taken. The use of innovative strategies, such as photo novella, allows community members to share their experiences and identify issues and concerns, as well as strengths and resources, based on their own perspective. Through integrating collaborative research, student training and community liaison into the project, we support community efforts to create sustainable health and environmental solutions, but also develop, test and disseminate better ways to operationalize culture and community-building in problem-driven social science research and intervention design.
Results: Community residents have identified obesity as one of their most pressing concerns. Specific obesity-related needs identified by the residents include the need for: (a) health education, (b) physical activity programs, and (c) recreational activities to promote health and well being. The community-academic partnership reflects a process which includes: (a) strong and relevant learning experiences for students and community members; (b) opportunities to design and test new models for capacity-building within a community; (c) opportunities to address intergenerational capacity for health promotion related to obesity in the CCS neighborhood; (d) neighborhood connections to community leaders, policy makers, and academic resources; (e) student, faculty, and community engagement; and (f) enhanced resources to address health promotion related to obesity across generations and related health concerns in a meaningful way.
Implications: The Charrette provides an important and relevant mechanism for community-academic partnerships to develop socially and culturally relevant programs fostering intergenerational capacity for health promotion related to obesity. The process described fosters a unique interface between community members, an urban university faculty and students in a partnership for health promotion related to specific community identified health issues.

SOCIAL SUPPORT ACROSS GENERATIONS: ADVANCING THE HEALTH OF LATINAS

Social Contextual Resources for Physical Activity in Older Latinas

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Purpose: The purpose of this paper is to describe a theory-driven approach to developing a culturally relevant intervention, *Intervención de Motivación Para Actividad Fisica [Motivational Intervention for Physical Activity],* grounded in formative research and partnerships with community members, by building, strengthening, and maintaining social networks that support behavior change among older Hispanic women.
Rationale: Social and contextual resources have been shown to be relevant factors that promote health across studies focusing on older Hispanic women and are supported by formative focus group data that indicate these factors are significant to creating a supportive personal and ecological environment to promote regular physical activity in this population. Awareness of supportive individual and community resources for physical activity may have a significant influence on the performance of health behaviors. A lack of capacity to recognize or create resources for physical activity can limit motivation and goal directed behavior to engage in regular physical activity.
Methods: A descriptive, qualitative design was used to guide formative research, which included a series of community-based focus groups in order to provide a systematic description of cultural meaning, social and contextual strengths, and resources related to physical activity, to inform and guide intervention design and implementation. Insights gained from thematic analysis were integrated throughout intervention and materials development processes.
Results: Because family, friends, and a group setting were identified as important in promoting physical activity, *Intervención de Motivación Para Actividad Fisica* was open to family members, *comadres, vecinas,* and a new walking support system created through groups of 6 to 10 women at sites closest to their neighborhood. Each member had an opportunity to share personal stories about each other and they exchanged contact information to get together during other days of the week. Strategies that focused on family interaction and activities to continue walking on other days of the week included: joining children/grandchildren for activity at the park, neighborhood, and home and using short walks to spend time with their *comadre, vecina,* or *hermana*. Women acknowledged age as a factor in remembering to do things, including physical activity, or having too much on their mind and recommended ways to overcome these factors by writing things down, using calendars for the refrigerator door, and using "dichos" as a culturally relevant way to remind themselves of health as a priority on a regular basis. For contextual resources, women emphasized the importance of their neighborhood and community as resources for physical activity and spoke of their need to feel safe and connected with others who are physically active. They helped to identify places for group and individual walking, including: nearby parks, Mountain Park Health Center, large stores such as Walmart, and malls where there would be many people, families, and plenty of lighting for safety.
Implications: This paper describes a theory-driven approach to that may help guide clinicians in developing feasible intervention strategies that attend to individual and community supports, cultural and contextual resources, and strengths to promote regular physical activity in older Hispanic women.

Funding:NIH/NINR Grant #F31NR010049-01A1 and a John A. Hartford Foundation Building Academic Geriatric Nursing Careers (BAGNC) Scholarship

SOCIAL SUPPORT ACROSS GENERATIONS: ADVANCING THE HEALTH OF LATINAS

Social Support across Generations: Younger and Older Latina Resources

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Purpose: Clinical application of research findings that impact quality care for vulnerable populations is dependent upon the effectiveness of interventions that are applied in clinical settings and these interventions need to be assessed for their specificity to persons who would most benefit from the intervention, the appropriateness of the settings, and the intervention's intended effects. In treatment theory, the critical inputs specify the nature and dose of the intervention necessary to produce the expected effects. The purpose of this report is to discuss the utility of a theoretical model, social support, and the explication of differing critical inputs across generations of Latinas, to improve walking in clinical research studies.
Rationale: Few examinations of social support have addressed the cultural specificity or cultural relevance of the framework in diverse, particularly Latina, groups. In much of the research that has targeted social support, there is no evaluation if the support intervention actually changed perception of support, network size or provision of support.
Methods: To elicit the operationalization of the critical inputs of social support for older and younger Latinas in the development of a walking intervention, visual methods were used to explore the mechanisms including the social and culturally specific context of dietary intake and physical activity in older Latinas. The operationalization of the critical inputs for younger Latinas was elicited through individual interviews, expert review of investigators in Latina health, and critical analysis of intervention components by a Latina Community Health Advisory Board, *Prosumer Mujeres*.
Results: Key issues in operationalizing the critical inputs of social support across generations of Latinas were found. Instrumental support differed in the types of tangible support offered and received such as infant/child advice and support tools for younger Latinas compared to more "self' supportive advice and tools desired by older Latinas. Emotional support for younger Latinas included family support from those who could provide significant instrumental support, while older Latinas favored peer support and involvement.
Implications: Differential operationalization of critical inputs of a theory-based intervention can contribute to increased cultural relevance of community-based interventions in hard-to-reach diverse subgroups.

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SOCIAL SUPPORT ACROSS GENERATIONS: ADVANCING THE HEALTH OF LATINAS

Mujeres en Accion: Intervention Design

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Purpose: The purpose of this presentation is to describe a randomized controlled study to evaluate the effects of a social support intervention to promote moderate intensity physical activity in Hispanic women. The intervention *Mujeres en Accion* is guided by Social Support Theory, to explicitly inform the intervention and to address maintenance. Thus, the trial should help illuminate the theoretical mechanisms responsible for behavioral change.
Rationale: Healthy People objectives pertaining to adults include increasing the number of adults who participate in physical activity. However, studies that have included Hispanic women indicate that 74% of Hispanic women report no leisure time physical activity. Physical activity both prevents and helps to treat many established CHD risk factors, including obesity and its associated risks. Despite the substantial public health burden of sedentary lifestyle among Hispanic women, there have been few interventions designed specifically to foster physical activity among these women.
Methods: The study design has one between-subjects treatment factor (Intervention vs. Attention Control group), and one within-subjects time factor (baseline, 6 months, and 12 months). The *Mujeres en Accion* intervention group receives the 12-week culturally derived social support intervention, while Attention Control women will receive weekly newsletters focusing on adult health and safety issues. Primary outcome measures are physical activity behavior change and cardiovascular risk factors. Hypothesized mediating variables include perceived social support and awareness of environmental resources.
Results: Explication of study design and methods will help to translate research into practice by directing attention to important social support strategies and mechanisms for enhancing physical activity imitation and maintenance in Hispanic women. Specifically, the study tests how long-term physical activity maintenance may be improved through the use of existing family and community resources, and group and *Promotora* support.
Implications: Methods for the design and testing of *Mujeres en Accion* provide a model relevant to advancing the science of culturally-relevant, acceptable, and effective interventions for health promotion among Hispanic women.

Funding: NIH/NINR Grant #1R21NR010126-01A1

SYMPTOMS & SYMPTOM MANAGEMENT

MANAGEMENT OF CHEMOTHERAPY INDUCED PERIPHERAL NEUROPATHIES WITH DAILY VITAMIN-E

Blaine Harrington, Kathy James

DISCOVERING HOLISM WITHIN THE REVISED SYMPTOM MANAGEMENT MODEL

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EXHAUSTION AND IMMUNOPATHOGENESIS POST-CORONARY ARTERY BYPASS GRAFT SURGERY

Pamela S. Miller, Lynn V. Doering, Lorraine S. Evangelista, Joyce Newman Giger, Teresita Corvera-Tindel, Otoniel Martinez-Maza

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PREVALENT SYMPTOMS IN PATIENTS WITH END-STAGE LIVER DISEASE AT THE END OF LIFE

Lissi Hansen

T2DM WITH STAGE 3 CKD SELF-MANAGEMENT: HEALTH STATUS, CHANGE STAGE, AND SOCIAL SUPPORT

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A QUALITY INITIATIVE TO REDUCE ANTIHYPERTENSIVE MEDICATION ERRORS

Thomas J. Hendrix, Maureen O'Malley, Gail Holtzman

GENDER AND ETHNIC DISPARITIES IN HEART ATTACK AND STROKE SYMPTOMATOLOGY KNOWLEDGE

Therese Rizzo

MANAGEMENT OF CHEMOTHERAPY INDUCED PERIPHERAL NEUROPATHIES WITH DAILY VITAMIN-E

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Background: Chemotherapy-induced peripheral neuropathy (CIPN) continues to be a significant debilitating symptom resulting from chemotherapy, specifically with platinum based agents. Recent advances in chemotherapy treatment for malignant diseases have prolonged survival rates in cancer patients; unfortunately the nervous system has been affected in the process causing chemotherapy-induced neurotoxicity. CIPN is an important consequence of cancer treatment because of its impact on quality of life and the patient's ability to function if a neuropathy develops. CIPN can be a dose limiting side effect of many chemotherapeutic agents, including platinum drugs and Taxanes. Accumulating data suggest that vitamin E may be neuroprotective in preventing CIPN. There is recent evidence from several small pilot studies that the use of vitamin E may help prevent or reduce the side effects of CIPN. To date, there has not been a large, randomized clinical trial to evaluate the efficacy of vitamin E as prevention for CIPN.

Aim: (1) To review the literature on CIPN practices; (2) to describe the etiology and risk factors of CIPN and chemotherapy as well as develop a clinical practice guideline for vitamin E supplementation for all patients receiving platinum based chemotherapy agents; (3) to identify areas for further research and implications for practice to decrease the incidence of CIPN.

Methods: Electronic searches in MEDLINE, Cochrane, JNCCN, Oncology Nurses Society, and American Cancer Society collaboration were conducted using key words specific to CIPN. The inclusion criteria were patients receiving platinum agents as first line never treated in the past and with no history of diabetes or peripheral neuropathies. This study will be a single-center randomized, open label controlled trial. Thirty patients scheduled to receive six to twelve cycles of platinum-based regimens will give written informed consent before participation in the study.

Results: Evidence shows that CIPN may be decreased with the supplementation of vitamin-E 600mg daily with platinum based agents. With vitamin-E there has been a decrease in neurotoxicity as evidenced by recent pilot studies.

Conclusion and Implications: Methodologically randomized controlled trials are suggested to examine the efficacy of vitamin-E in reducing the severity and occurrence of CIPN among adult oncology patients receiving platinum based chemotherapy agents. More research is needed to determine the efficacy of vitamin-E in preventing neurotoxicity. Data regarding CIPN specific interventions are limited.

Keywords: CIPN, Vitamin-E in prevention of CIPN, Platinum based agents in CIPN, Cisplatin, peripheral neuropathy, and vitamin-E neuroprotection.

DISCOVERING HOLISM WITHIN THE REVISED SYMPTOM MANAGEMENT MODEL

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Purpose: The purpose of this poster presentation is to illustrate the attributes of holism within the Symptom Management Model for use in both nursing practice and research.

Description of Theory: The initial Symptom Management Model, published in 1994, viewed the dimensions of symptom experience, symptom management strategies, and symptom status outcomes in isolation. The revised model has been expanded to include the domains of nursing science (person, environment, and health/illness) surrounding the three dimensions. The addition of nursing domains as contextual variables influencing all three dimensions demonstrates a holistic approach that is not initially apparent. Holism involves identifying the interrelationships between bio-psycho-social-spiritual dimensions of the person, recognizing each person as a whole in mutual process with the environment. The revised Symptom Management Model, while focusing on symptoms or symptom clusters, is now more dynamic in scope than the original model. The expanded model assumptions now include combining the gold standard for the study of symptoms, client self-report, with interventions instituted prior to symptoms (prevention-based) and management strategies targeted at the individual, group, family, or work environment. These assumptions, along with the added dimensions of nursing science, create a more holistic approach to symptom research and practice.

Concept Analysis Approach: The concept analysis utilized for description and critical reflection of the revised Symptom Management Model for this poster is based on the Chinn & Kramer's framework. The description of concepts will form a deeper understanding of the purpose of the model, its structure, and the nature of the relationships, definitions, and assumptions. The three dimensions along with the integration of the domains of nursing science will be evaluated.

Linking the Theory to Nursing Practice and Research: The revised Symptom Management Model is now considered a middle-range theory and offers an overall conceptualization to guide selection and evaluation of management strategies. It has a comprehensive and holistic approach. The model has been used to integrate approaches to symptom management in research, education, and practice. It combines the science of symptomology with the wholeness of the nursing/client experience.

Conclusion: This model is highly generalizable and universal as symptoms are involved in every aspect of nursing practice. It can be utilized as a theoretical model to direct holistic nursing research or can be practiced at the bedside as a symptom evaluation tool.

Revised Symptom Management Model

EXHAUSTION AND IMMUNOPATHOGENESIS POST-CORONARY ARTERY BYPASS GRAFT SURGERY

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Background: Vital exhaustion (VE), characterized by fatigue, irritability, and demoralization, is an independent risk factor for coronary artery disease (CAD) and future cardiac events. The associations among inflammatory biomarkers, cumulative seropositivity to infectious pathogens (pathogen burden [PB]) and atherosclerosis augment risk of CAD progression, plaque destabilization, and thrombotic sequelae after revascularization. Biological mechanisms linking VE with CAD remain unclear.
Purpose: To examine the relationships among PB of herpesviruses, immuno-inflammation and VE in adults after coronary artery bypass graft (CABG) surgery.
Methods: In a prospective, cross-sectional design, serum levels of the inflammatory cytokine interleukin (IL)-6, anti-inflammatory cytokine IL-l0, endothelial inflammatory protein sICAM-1, and IgG antibodies to Herpes Simplex Virus (HSV)-1, HSV-2, Cytomegalovirus and Epstein Barr Virus were determined by ELISA in subjects one to two months after CABG surgery. Pathogen burden was defined by cumulative seropositivity: low (0 – 1), moderate (2 – 3), and high (4). Using Maastricht Interview scores, subjects were categorized as exhausted (≥7) or non-exhausted (<7). Exclusion criteria were: current smoking, depression (assessed by the Patient Health Questionnaire-2), malignancy, autoimmune disease, or infection.
Results: Of the total sample (n=42; 90.5% male, age 67.5 ± 12.6 years, 66.7% Caucasian, 3.12 ± 1.3 grafts), 40.5% were exhausted. Considering covariates, a moderate, positive correlation was observed between IL-6 and sICAM-1 ($r=0.449$; $p<0.05$). No significant relationships were observed between IL-6, IL-10, IL-6: IL-10 ratio, or sICAM-1 concentrations and PB. Non-exhausted subjects tended to present with low serum IL-10 concentrations (<0.781 pg/mL; $p = 0.06$). Exhausted subjects tended to have less IgG seropositivity to HSV-2 ($p=0.08$). Comparisons of PB levels with exhaustion status revealed that non-exhausted subjects had higher frequencies of both high PB (6 [25%] vs. 0 [0%], $p=0.03$) and moderate PB (16 [66.7%] vs. 15 [93.8%], $p=0.04$). In multivariate analyses, increases in sICAM-1 (OR=111.99, 95% CI 1.26 - 9926.59, $p=0.04$) and presence of moderate PB (OR = 54.35, 95% CI 2.31 - 1277.95, $p = 0.01$) were independent correlates of exhaustion status.
Implications: Vital exhaustion is associated with increased exposure to herpes viruses and advanced PB. Moderate PB and sICAM-1 are independent predictors of VE in post-CABG subjects, which suggest that inflammation may mediate the relationship of VE to cardiac events. In the post-CABG population, low levels of anti-inflammatory IL-10 supports the role of atherogenic pro-inflammation. Further study is needed to elucidate these relationships.

Funded by the American Academy of Nurse Practitioners Foundation and Sigma Theta Tau International Gamma Tau Chapter-at-Large.

PREVALENT SYMPTOMS IN PATIENTS WITH END-STAGE LIVER DISEASE AT THE END OF LIFE

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Purpose: The purpose of this poster is to present prevalent symptoms in patients with end-stage liver disease (ESLD) at the end of life from patients' and their family members' perspective.

Background: An estimated 5.5 million Americans have chronic liver disease or cirrhosis. Chronic liver disease leads to ESLD, which is a life-limiting illness. ESLD is the 12th leading cause of death in the United States, accounting for more than 27,000 deaths annually. Research on patients with ESLD has focused on disease management, treatment of complications, and specific symptoms such as depression, sleep disturbances, fatigue, confusion, and pruritus. No studies have specifically focused on the multiple symptoms patients with ESLD may experience at the end of life and the trajectory of these symptoms. This gap in knowledge is a significant barrier to developing interventions that may improve symptom management at the end of life for patients with ESLD. Because family members' close involvement in the care and management of patients' symptoms at the end of life, the inclusion of their perspective is critical.

Methods: The Memorial Symptom Assessment Scale (MSAS) is one of several standardized instruments administered in a study using a prospective, longitudinal descriptive design. The instruments are administered once a month for 6 months to a sample of 20 patients and 20 family members. The MSAS assesses characteristics associated with 32 physical (e.g., pain, nausea, feeling bloated) and psychological (e.g., worrying, feeling irritable and/or sad) symptoms potentially experienced by the patient during the past week. Separately the patient and his/her family member are asked whether or not the patient experienced each of the listed symptoms (e.g. pain) during the past week. If the patient experienced a particular symptom, then they are asked to select how often the patient experienced it, how severe it was, and how much it bothered him/her.

Results: Results from 6 months data will be included in the Poster Presentation, April 14 -17, 2010. Descriptive statistics will be reported for the two groups (patients and family members). From the MSAS, the global symptom distress index (GDI), the physical symptom distress (PHYS) and psychological distress (PSYCH) will be reported.

Implications: Gaining knowledge about the prevalent symptoms experienced by patients with ESLD and the trajectory of these symptoms is crucial for designing interventions that optimize quality of life in patients with ESLD at the end of life, and their family members.

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T2DM WITH STAGE 3 CKD SELF-MANAGEMENT: HEALTH STATUS, CHANGE STAGE, AND SOCIAL SUPPORT

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Background: Type 2 Diabetes Mellitus (T2DM) can lead to kidney dysfunction and failure. The T2DM patient with moderate CKD experiences a lifelong process of overcoming psycho-behavioral barriers to optimal self-management while adapting to increasing disease burden. There remains limited information about what other factors contribute to allaying progression to kidney failure.
Aims: To describe: variation over time in T2DM and stage 3 CKD patients' (1) diabetes related distress and health-related quality of life, (2) stage of change, and (3) social support.
Methods: Patients 18 to 85 years (*N*=54) were recruited from ambulatory care clinics in western Colorado to participate in a descriptive survey research study. Surveys were completed at study entry and 6 months later. Data were obtained from a sociodemographic profile, Problem Areas in Diabetes (PAID) scale, Kidney Disease Quality of Life-Short Form (KDQOL), Stage of Change in Adopting Behaviors classification, and Chronic Illness Resources Survey (CIRS). Hemoglobin $A1_c$ (HgA1c) was retrieved from the medical record. Descriptive analysis was conducted using SPSS v. 18 with 43 subjects at entry and 39 at 6 months. Profile plots were used to assess study variables at each time point, change scores were computed, and their relationships to continuous or categorical covariates (such as demographics) were examined.
Results: Subjects were treatment-experienced and included 31 men and 12 women. The mean age was 66.6 (*SD*=9.3; *Mdn*=69.0; 40-82 years) with 12 minority and 30 non-minority subjects. The mean education was 14.1 years (*SD*=2.4; 9-20 years). *Health Status:* The PAID subscales with the highest means were food-related [*M*=12.7 (*SE*=2.7)] and emotion-related [*M*=17.4 (*SE*=2.6)] distress. Treatment, social support, and emotion-related distress had positive mean change scores at 6 months and food-related distress had the smallest mean change. The KDQOL symptom/problem list decreased from entry [*M*=83.87 (*SD*=11.25)] to 6 months later [*M*=82.64 (*SD*=13.73)], but kidney disease effects and kidney disease burden had positive mean changes indicating better quality of life. *Stage of Change* for medication had little variation from entry to 6 months with most subjects in the maintenance stage. There was variability in diet stage of change, but the majority of participants were in maintenance at both time points. Stage of change for physical activity indicated that 55% were in maintenance at 6 months, with a wide range of other levels of readiness. *Social Support* primarily came from healthcare professionals, media, and personal actions. At 6 months, participants reported increases in support from personal action, community, and organizations, but a decrease in dietary support.
Implications: Patients with T2DM with stage 3 CKD experienced food-related distress and coped with more kidney-related symptoms over time. Subjects reported greater readiness for change in medication and diet than in exercise. Subjects reported the most support from healthcare professional, media, and personal actions, with increases in community or organizational support over time.

Funding Support: Sigma Theta Tau International, Alpha Kappa Chapter at-Large, 2006.

A QUALITY INITIATIVE TO REDUCE ANTIHYPERTENSIVE MEDICATION ERRORS

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This project utilized interviews and retrospective audits to identify a flaw in the documentation process for inpatient antihypertensive medications. Antihypertensive medications were being documented in two different places and their administration or lack of administration would change depending on blood pressure readings. An audit revealed five errors involving antihypertensive medications over the preceding month. Following this assessment, we changed the process so that all antihypertensive medications were documented in one place; the routine medication sheet. We created two entry lines. The first was for the routine medication times and the second was for the prn medications with the times corresponding to the vital sign schedule on the floor. After implementation of this new process, a retrospective audit revealed zero errors, thus far, in the first month.

GENDER AND ETHNIC DISPARITIES IN HEART ATTACK AND STROKE SYMPTOMATOLOGY KNOWLEDGE

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Introduction: Cardiovascular disease (CVD) is the leading cause of death in the United States and has been every year since 1900 except 1918. Stroke is the third leading cause of death in the United States. Approximately 80,000,000 Americans have at least one form of cardiovascular disease CVD. Of the 80,000,000 with CVD, approximately 7,900,000 are due to heart attack and approximately 6,500,000 are due to stroke. African American and Hispanic women experience a disproportionate burden of these diseases compared with Caucasian women, yet they are more likely to delay seeking treatment for acute symptoms. Studies show that greater socioeconomic status is positively related to greater awareness of and knowledge about symptoms of heart disease and stroke. Although socioeconomic status often correlates to greater levels of education, it is reasonable to assume that more education should positively relate to greater knowledge about symptoms of heart attack and stroke. The current study examined the contribution of income and educational level to women's predicted knowledge regarding symptoms of heart attack and stroke as a function of race.

Method: Data from 2001 to 2007 were sampled from the National Center for Chronic Disease Prevention and Health Promotion Behavioral Risk Factor Surveillance System (BRFSS) that examined symptomatology knowledge among women of varying ages, education levels, income, previous comorbid diagnoses, and preexisting conditions. Knowledge scores were computed for each respondent from 13 questions related to warning signs of heart attack and stroke and what to do if symptoms arise. Regression analysis compared the contribution of education and income to symptomatology knowledge by race.

Results: Caucasian women had the highest symptomatology knowledge score and the lowest variability (N=9.98, SD=2.16). In contrast, Hispanic women had the lowest symptomatology knowledge score and the highest variability (N=8.40, SD=2.69). Importantly, education provided the greatest contribution to knowledge symptomatology across all races, irrespective of income status.

Discussion/Conclusion: Although knowledge scores clearly differed by race, education is also a critical element in understanding women's knowledge of heart attack and stroke symptomatology. These findings suggest that interventions designed at increasing knowledge are likely to benefit women of all race classification.

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.

ARIZONA STATE UNIVERSITY

Phoenix, AZ

EVIDENCE REVIEW OF COPING INTERVENTIONS FOR PARENTS OF CHILDREN WITH CANCER

Gloanna Peek

SIGN CHI DO EXERCISE EFFECTS ON ADAPTATION TO AGING

Carol E. Rogers, Colleen Keller, Barbara Ainsworth, Linda Larkey

INTERDISCIPLINARY VS. UNI-DISCIPLINARY TEAMS: EFFECT ON PATIENT OUTCOMES

J.A. Eve Krahe

COMMUNITY BASED OBESITY PREVENTION IN NATIVE AMERICAN YOUTH

Jewel Bishop, Bonnie Gance-Cleveland

FACTORS THAT INFLUENCE USE OF THE ELECTRONIC HEALTH RECORD IN HOSPITALS

Cathy Lalley

USING PROBLEM-BASED LEARNING TO IMPROVE NURSING STUDENTS' CRITICAL THINKING

Kenneth Oja

A COGNITIVE BEHAVIORAL INTERVENTION IN ADOLESCENTS WITH CHRONIC HEADACHES

Carolyn Hickman

DIABETES CONTROL IN ADOLESCENTS WITH TYPE 1 DIABETES MELLITUS

Linda Paul

BANNER BAYWOOD MEDICAL CENTER
MESA, AZ

THE "WAY WE HAVE ALWAYS DONE IT:" NOT BEST PRACTICE FOR PERITONEAL DIALYSIS PATIENTS
Melanie Glaze

TEAM SAFE PROGRAM: IMPROVING THE CULTURE OF SAFETY ONE EMPLOYEE AT A TIME
Laura Paldino

A SHARED LEADERSHIP APPROACH FOR IMPACTING PATIENT SAFETY
Chris Trudgen

A MULTIDISCIPLINARY APPROACH TO REDUCE ASPIRATION PNEUMONIA IN STROKE PATIENTS
Lauri Speirs, Anne Mitchell

A NEW GRAD RN CROSS-FACILITY ORIENTATION EXCHANGE PROGRAM
Mary Ellen Walker, Lisa Wayman, Kathleen Werner

MEANINGFUL RECOGNITION FOR NURSES: USE OF STUDENTS TO GAIN UNDERSTANDING
Kathleen T. Werner, Rebekah Brooks, Jennifer Winters

BANNER ESTRELLA MEDICAL CENTER
Phoenix, AZ

POSITIVE PATIENT IDENTIFICATION "90 DAYS TO 90%" CAMPAIGN
Doristeen Harraway

BANNER GOOD SAMARITAN MEDICAL CENTER
Phoenix, AZ

A MULTIDISCIPLINARY APPROACH TO IMPROVE POST OPERATIVE COMMUNICATION AND RECOVERY IN THE CARDIAC SURGERY PATIENT POPULATION
Jackie Keuth, Dana Lauer

MEETING THE CERTIFICATION CHALLENGE
Susan Phillips, Denice Gibson

PIONEERING BEST PRACTICES THROUGH INNOVATION: eICU MULTIDISCIPLINARY NIGHT ROUNDING
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* Spotlight on Best Practices Posters

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The Western Institute of Nursing proudly recognized outstanding Western nurses with the following awards and honors in 2010.

DISTINGUISHED RESEARCH LECTURESHIP AWARD

The Distinguished Research Lectureship recognizes a senior researcher whose research efforts have made significant and sustained contributions to nursing. The 2010 award recipient was:

Ginette A. Pepper, PhD, RN, FAAN**,** Director, Hartford Center of Geriatric Nursing Excellence, Professor & Helen Bamberger Colby Endowed Chair, Associate Dean for Research & PhD Programs, College of Nursing, University of Utah, Salt Lake City, UT.

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 2010, the award was given to:

Katie Anne Adamson, MN, RN, Graduate Teaching Assistant, College of Nursing, Washington State University, Spokane, WA.

PATSY A. PERRY AWARD FOR BIOLOGICAL NURSING RESEARCH

The Biological Nursing Research Award was created by former WIN Chair, Patsy A. Perry, Arizona, to recognize and support individuals in the Western region who are conducting biological nursing research. In 2010, the award was given to:

Ann Elizabeth Lowe, GNP, PhD, Graduate of Doctoral Program, School of Nursing, University of California Los Angeles, Los Angeles, CA.

JOHN A. HARTFORD FOUNDATION/WESTERN INSTITUTE OF NURSING REGIONAL GERIATRIC NURSING RESEARCH AWARD

The Western Institute of Nursing and the John A. Hartford Foundation sponsors annual awards to a senior and a new nurse researcher to recognize outstanding nurse researchers and to foster and showcase geriatric nursing research. Recipients of the award in 2010 were:

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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 2010 Award recipient was:

Kathryn Records, PhD, RN, Associate Professor, College of Nursing & Health Innovation, Arizona State University, Phoenix, AZ.

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 2010 awards were made to:

Laura Ann Curr Beamer, DNP, APCNP, APCNS, First Nation, Moose Cree, Moose Factory, Ontario, Canada; PhD Student, College of Nursing, University of Utah, Salt Lake City, UT; and Doctoral Nurse Fellow, Division of Clinical Cancer Genetics, City of Hope National Medical Center, Duarte, CA.

David Hodgins, RN, MSN, Doctoral Student, College of Nursing & Health Innovation, Arizona State University, Phoenix, AZ; Director of Nursing, Dzlith-Na-O-Dith-Hle Indian Health Service Clinic, Bloomfield, NM

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Abbreviations

aEEG = amplitude integrated encephalography
AHRQ = Agency for Healthcare Research and Quality
AI/AN = Am Indian/Alaska Native
ALL = acute lymphoblastic leukemia
Am = American
ARD = Asbestos-related disease
ARRA = American Recovery & Reinvestment Act
CA = California
CAM = complementary and alternative medicine
CBPR = community-based participatory research
CIS = clinical information systems
DNP = Doctor of Nursing Practice
EBP = evidence-based practice
ED = Emergency Department
El Joven Noble (Gendered Social Bond Theory-driven intervention)
fMRI = functional magnetic resonance imaging
GER = Gastroesophageal reflux
HPV = human papillomavirus
IBS = irritable bowel syndrome
LPN = licensed practical nurse
MESA = Mechanisms for Enhancing Scholarly Achievement
Mex = Mexican
MN = Minnesota
NEXus = Nursing Education eXchange
NM = New Mexico
NICU = neonatal intensive care unit
OCNE = Oregon Consortium of Nursing Education
OHSU = Oregon Health & Sciences University
PHN = public health nurse
PTI = *Public Trust Initiative*
QI = Quality Improvement
RA = rheumatoid arthritis
RCT = randomized clinical trial
SEM = Structural Equation Modeling
TEAMS = Teen Eating and Activity Mentoring in Schools
WIN = Western Institute of Nursing

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