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FOREWORD

The Power of Networks

For a number of years, the National Institutes of Health have been encouraging and funding interdisciplinary research. The Clinical and Translational Science Awards (CTSAs) are intended to engage interdisciplinary teams to improve the conduct of biomedical research in the US, speed laboratory discoveries to patient treatment, engage communities in clinical research efforts, and train the next generation of clinical and translational researchers.

Some CTSA projects across the country include nurse researchers, but others do not. Some of the barriers revolve around a lack of understanding about what nurse researchers could contribute, and some revolve around the need for nursing faculty to take advantage of the opportunities available within CTSAs.

The Planning Committee for the 2009 Communicating Nursing Research Conference recognized the implications and potential funding of this relatively new mechanism. There is a clear understanding that the visibility of nursing science can be increased through current and future projects. The keynote presentation will focus on the CTSAs and on interdisciplinary research.

All of the plenary sessions were selected to highlight the many and diverse networks nurses are, and need to be, involved in to move the science of nursing forward. The presentations on partnering with consumers, partnering with our patients, achieving innovations in nursing education and practice through various partnerships and networking, and conducting symptom cluster research are further examples of networking within and outside the discipline of nursing.

The 2009 Annual Communicating Nursing Research conference theme is "Networks in Nursing Science: Creating our Future." Through better understanding of the power of networks, we can more constructively work together and collaborate to create a unique future for nursing science and, ultimately, nursing practice and education. It is well within our own capability, vision, and determination to create our own future.

Paula McNeil, RN, MS
Executive Director
March 2009

PREFACE

The 42nd Annual Communicating Nursing Research Conference/23nd Annual WIN Assembly, "Networks in Nursing Science: Creating our Future," was held April 23-25, 2009 at the Salt Lake City Hilton Hotel, Salt Lake City, Utah. Following is a description of the contents of these proceedings.

The plenary sessions all focused on various networks in nursing science. The **keynote** speech was made by **Margaret Heitkemper,** PhD, RN, FAAN, Professor and Soule Endowed Chair in Nursing, School of Nursing; and **Mary L. "Nora" Disis,** MD, Associate Professor, School of Medicine, both of the University of Washington, Seattle, WA. Three State of the Science presentations were made by: **Susan D. Horn**, PhD, Senior Scientist, Institute of Clinical Outcomes Research, Salt Lake City, UT; **Deborah Koniak-Griffin**, Professor and Moseley Endowed Chair, School of Nursing, University of California Los Angeles, Los Angeles, CA; and **Christine Miaskowski**, RN, PhD, FAAN, Professor and Associate Dean for Academic Affairs, University of California San Francisco, San Francisco, CA and **Paula Meek**, RN, PhD, FAAN, Professor and Senior Scholar, University of Colorado Denver, College of Nursing, Denver, CO.

Three award papers were presented:

- **Distinguished Research Lectureship Award: Elaine Adams Thompson,** PhD, RN, Professor, School of Nursing, University of Washington, Seattle, WA;
- **Carol A. Lindeman Award for a New Researcher: Gwen Latendresse,** CNM, PhD, Assistant Professor, College of Nursing, University of Utah, Salt Lake City, UT; and
- **Pat A. Perry Biological Nursing Research Award: Michael Schlicher,** PhD, RN, CNS, Nursing Research Service, Brooke Army Medical Center, Ft. Sam Houston, TX.

The **Western Academy of Nurses** panel focused on networks in innovation in education and practice. Panelists included: **Terry Badger**, PhD, RN, FAAN, Professor and Division Director, College of Nursing, University of Arizona, Tucson, AZ; **Susan Beck**, PhD, APRN, FAAN, Professor & Endowed Chair, College of Nursing, University of Utah, Salt Lake City, UT; Major General **Patricia D. Horoho**, RN, MS, Chief of the Army Nurse Corps, Commander, Madigan Army Medical Center, Tacoma, WA; and **Joanne Rains Warner**, DNS, RN, Dean and Professor, School of Nursing, University of Portland, Portland, OR.

The Proceedings include the abstracts of symposium, podium, and poster presentations. One hundred seventy-eight papers were presented in podium sessions on a wide variety of topics, including completed research, theoretical papers, and projects. Seventy-seven papers were presented in fifteen symposia, and one hundred and one papers were organized in twenty-three other concurrent sessions. One hundred eighty-two posters were exhibited in four poster sessions, and represented research, completed or in progress, and projects. In addition, a total of one hundred five 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 nine WIN members during the 2009 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 2009 committee identified speakers and topics to address research issues building knowledge for practice. The committee has worked hard to create a stimulating program. We make special recognition of, and extend our gratitude to: Marie Driever – Chair, WA; Marie Lobo – Vice Chair, NM; Judith Berg, AZ; Lauren Clark, UT; Tina DeLapp, AK; Margaret Heitkemper, WA; Martha Lentz, WA; Lori Loan, WA; Barbara Mandleco, UT; Patricia Pearce, UT; 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 name and subject indexes for the proceedings;
- 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 2009 conference.

The 42nd Annual Communicating Nursing Research Conference/23rd Annual WIN Assembly provided an opportunity to focus on the networks nurse researchers, educators, practitioners, and interdisciplinary colleagues make in creating our own future.

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

Marie Driever, PhD, RN, Chair
WIN Program Committee

Abstract of the Keynote Presentation

CTSAs: AN INTERDISCIPLINARY APPROACH TO IMPROVING PATIENT CARE T1 TRANSLATION IN AN ACADEMIC ENVIRONMENT: BREAST CANCER VACCINE DEVELOPMENT

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CTSAs: AN INTERDISCIPLINARY APPROACH TO IMPROVING PATIENT CARE T1 TRANSLATION IN AN ACADEMIC ENVIRONMENT: BREAST CANCER VACCINE DEVELOPMENT

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The Clinical and Translational Science Awards (CTSAs) initiative is led by the National Center of Research Resources, National Institutes of Health. A consortium of 38 academic health centers in 23 states (of which 8 are located in 5 western states) shares a common vision and is working together to:

- Improve the way biomedical research is conducted across the country,
- Reduce the time it takes for laboratory discoveries to become treatments for patients,
- Engage communities in clinical research efforts, and
- Train the next generation of clinical and translational researchers.

The consortium seeks to transform how clinical and translational research is conducted in order to get new treatments more efficiently and quickly to patients. The CTSAs are multi-disciplinary, so what does this mean for nursing and for nursing predoctoral education? Margaret Heitkemper, University of Washington School of Nursing, will provide a brief overview of the CTSAs and the implications for nursing.

In 2007 Knafl and Grey completed a survey of the newly funded CTSAs. They found that nursing faculty at institutions with CTSA plus a School of Nursing were actively engaged in, and indeed had substantial roles in, the CTSA initiatives at their institutions. As a group they felt they were both contributing to, and benefiting from, the CTSA centers at their universities. Seven out of nine interviewed indicated that they held leadership roles (e.g., committee chair, co-director of a core, member of an executive committee) in their CTSA. At that time, it was felt that CTSAs afforded new opportunities for nursing scientists in terms of resources as well as enhancing avenues for interdisciplinary collaboration. They also noted that it was important that nursing faculty be active in seeking participation and collaboration. The authors concluded that the CTSAs represent an important venue for increasing the visibility of nursing science. The provision of predoctoral student support, small grant monies, training awards, and equipment use are visible routes for faculty to see the benefits of collaborating within existing CTSAs.

As a follow up to this survey, Knafl and Heitkemper did a survey of CTSA Directors in the fall of 2008 to learn about their perceptions of nursing faculty participation in CTSA program activities at their universities. Of the 38 CTSAs currently funded, the majority are in agencies with Schools of Nursing. In some respects, the results of that survey were remarkably similar to the 2007 survey. That is, Schools of Nursing with a focus on interdisciplinary research were viewed as actively

participating in CTSA activities. However, barriers to participation of nursing school faculty were also identified by the medical school respondents. These included: a lack of understanding of nursing research, a lack of appreciation of what nursing faculty could contribute to CTSA, an inability to think of a nurse as principal investigator, the perceived teaching load of school of nursing faculty, and a failure of nursing faculty to take advantage of CTSA opportunities.

In inviting Dr. Nora Disis, to speak with us today, we asked her to address from the perspective of a CTSA Director the question of how best to connect nursing science with the mission and goals of the CTSA initiative. Dr. Disis is Director of the Center for Translational Medicine in Women's Health, University of Washington, Seattle, WA. She will discuss the operation of a CTSA within the framework of her research, breast cancer vaccine development, and how the CTSA will reduce the time for laboratory discovery to become patient treatments. An abstract of her work follows.

Breast cancer relapse after optimal therapy is a major hurdle that must be overcome to improve survival in breast cancer patients. Vaccines have been successful in infectious disease prevention but have shown little clinical effect in cancer therapy where immunization has been used as a treatment for advanced stage refractory disease. Vaccines targeting HER-2/neu (HER2) may prevent relapse in patients with HER2 overexpressing tumors, an especially high risk population. HER2 is a tumor antigen in patients with breast cancer, that is, patients whose tumors overexpress HER2 have detectable levels of immunity directed against the protein. As most cancer antigens, including HER2, are not mutated, novel methods of immunization must be developed to overcome self tolerance.

Vaccine approaches focused on eliciting an antigen specific $CD4^+$ T helper (Th)1 immunity may uniquely overcome mechanisms of cancer induced immune suppression. Th cells are central to the development of immune responses for protection against infections and possibly malignancy by activating antigen-specific effector cells and recruiting cells of the innate immune system such as macrophages, eosinophils, and mast cells. Moreover, antigen primed Th cells can directly activate tumor antigen-specific cytotoxic T cells (CTL). In addition to direct contact, Th can activate CTL through cytokines such as IL-2 which stimulate the growth and expansion of effector T cells. Th1 can also induce the production of opsonizing antibodies that enhance the uptake of tumor cells into APC. These activated APC can then directly present tumor antigens and promote expansion of tumor-specific CTL. As a direct result of activating APC, antigen specific Th1 have been implicated as the initiators of epitope or determinant spreading. Epitope spreading is linked with the progression of several autoimmune disorders such as systemic lupus erythematosis, insulin dependent diabetes mellitus, and multiple sclerosis. Epitope spreading may not only be associated with the progression of these diseases but also with the tissue destruction observed with pathologic progression. Th1 cells influencing the tumor microenvironment may allow such tissue destruction in the tumor bed. The ability to elicit epitope spreading broadens the immune response to many potential antigens in the tumor and presumably would result in more efficient tumor cell kill due to heterogeneic tumor targeting by T cells.

HER2 specific vaccines have been developed and are designed to stimulate Th1 tumor specific immunity. Evaluated in clinical trials, the vaccines are immunogenic, generate immunity that persists years after the end of active immunization, and epitope spreading is elicited. If therapeutic immunity is to be effective, trials should be performed in minimal residual disease states. Commercialization of vaccines is difficult when the length of time to maturity of a study designed to assess overall survival is several years. Academic environments are important to the further development of

novel translational concepts, generation of reagents with low marketability due to applications to rare populations, and for evaluating new methods of drug development and clinical testing. The Clinical and Translational Science Award (CTSA) mechanism will allow for more rapid therapeutic development and assessment than has been previously possible in the academic setting due to enhances resources which facilitate the T1 process. As a national CTSA consortium is developed, resources for T1 research will be more widely available across multiple institutions.

Credits:

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References

http://www.ncrr.nih.gov/clinical_research_resources/clinical_and_translational_science_awards/

http://www.ctsaweb.org/

Knafl, K, Grey, M.: Clinical Translational Science Awards: Opportunities and Challenges for Nurse Scientists. *Nurse Outlook* 56(30):132-137.

Murillo, H. & Reece, E. (2007). Solutions and Strategies from Medical and Nursing School Leadership for the Challenges Facing the Clinical Research Enterprise. *AcadMed*, 82, 625-632.

State of the Science Abstract

PBE vs. EBP: WHAT IS IN OUR FUTURE?

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PBE VS. EBP: WHAT IS IN OUR FUTURE?

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Practice-based evidence (PBE) research methodology uses detailed documentation of clinical practice to examine relationships among patient characteristics (including severity of illness) alone and combined with treatment information and outcomes. Quantitative and qualitative outcomes data are obtained from both existing measures, e.g. length of stay and the Functional Independence Measure (FIM),[1, 2] and patient-reported outcomes through post-discharge interviews, e.g. functional, social, health, utilization, and quality of life outcomes.

PBE is a form of "participatory action research,"[3-6] an approach that is critically dependent on participation of clinicians engaged in the care-providing process. In two recent applications of PBE methodology in long-term care and inpatient rehabilitation post- stroke, front-line clinicians identified and defined important components of their work and developed point-of-care documentation systems to capture these variables, which during analysis are related to outcomes data.

Rigorous observational cohort studies, such as PBE, are gaining acceptance because of their utility to study complex medical care and longitudinal patient outcomes, as well as their fiscal efficiency and ability to explore many questions with a single data set. Statistical control provides internal validity (rather than strict enrollment criteria and randomization); inclusion of all patients and potential confounders that could alter treatment provides high external validity.[7] In contrast to randomized controlled trials (RCTs), there is no limit to the number of interventions that can be studied.

We compare PBE with RCTs, observational outcomes research, and guideline development. We then present examples of findings from PBE studies in preventing pressure ulcers in frail elderly nursing home residents and post-stroke rehabilitation. Also we examine the effect of registered nurse staffing time per resident per day on pressure ulcer development, hospitalizations, urinary tract infections, weight loss, and activities of daily living for residents in nursing homes.

References

1. Fielder R, Granger C. Functional Independence Measure: A measurement of disability and medical rehabilitation. *Functional Evaluation of Stroke Patients*. Tokyo: Springer-Verlag; 1996:75-92.
2. Fielder R, Granger C, Russell C. UDS(MR)SM: follow-up data on patients discharged in 1994-1996. Uniform Data System for Medical Rehabilitation. *Am J Phys Med Rehabil.* 2000;79(2):184-192.
3. Horn S, Gassaway J. Practice-based evidence study design for comparative effectiveness research. *Medical Care.* 2007;45(10 October, Supplement 2):S50-S57.
4. Horn S. Real-world efficacy: alternative evidence-based study designs as measures of comparative effectiveness. *Drug Discov & Dev.* 2007;10(5):30-32.
5. Horn S, Bender S, Bergstrom N, et al. Description of the National Pressure Ulcer Long-Term Care Study (NPULS). *J. American Geriatrics Society.* 2002;50:1816-1825.
6. Gassaway J, Horn S, DeJong G, Smout R, Clark C, James R. Applying the clinical practice improvement approach to stroke rehabilitation: Methods used and baseline results. *Arch Phys Med Rehabil.* 2005;86(12 Supplement 2):S16-S33.
7. Horn S, DeJong G, Smout R, Gassaway J, James R, Conroy B. Stroke rehabilitation patients, practice, and outcomes: Is earlier and more aggressive therapy better? *Arch Phys Med Rehabil.* 2005;86(12 Supplement 2):S101-S114.

State of the Science Paper

PARTNERING WITH CONSUMERS TO DESIGN HEALTH PROMOTION RESEARCH

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PARTNERING WITH CONSUMERS TO DESIGN HEALTH PROMOTION RESEARCH

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The continuing challenge of disparities in health status and health risk factors, particularly among vulnerable populations (VPs), supports the need for closer examination of how we are conducting clinical practice and research. Addressing health disparities requires implementation of studies that examine social and environmental determinants of health, strategies for health promotion, modalities of treatment, and access to services. Conducting these types of studies with underserved communities may be particularly difficult due to resource constraints, lack of understanding about cultural beliefs and knowledge by the researcher, varying perceptions of needs, and historical suspicion and distrust in research and health care in some populations (Freimuth et al., 2001; Institute of Medicine, 2003; Jones & Wells, 2007). Diverse communities have not always benefited equitably from their participation in research. Institutions and researchers may fail to value community knowledge, or may portray communities in a negative manner in research and fiscal reports (Anderson, Calvillo, & Fongwa, 2007). Actively engaging consumers in research is advocated by the Institute of Medicine (IOM) and the leadership of the National Institutes of Health (NIH) as a strategy to address health disparities more effectively and to increase the relevance of studies to communities, as well as to promote culturally competent care that meets the needs of the populations being served (IOM, 2000; Zerhouni, 2005). Involvement of communities as equal partners in research can enhance the sustainability of interventions and prevention programs and ensure that the lessons of research are transferred back to the community (USDHHS, 2000).

Community-based participatory research (CBPR) is defined as a collaborative research approach "designed to ensure and establish structures for participation by communities affected by the issue being studied, representatives of organizations, and researchers in all aspects of the research process to improve health and well-being through taking action, including social change" (Viswanathan et al., 2004, p. 3). A number of terms are often used interchangeably with CBPR; e.g., participatory research (PR), participatory action research, community-partnered (participatory) research, cooperative inquiry, collaborative research, community-academic or collaborative partnerships, and feminist research. Despite minor differences in definitions, all of these terms describe an approach explicitly committed to conducting research that will benefit the consumers/community either through direct intervention or by using results to inform action for social change (Israel, Schultz, Parker, & Becker, 1998).

Nursing science is just evolving in the area of consumer participation. We are in our infancy in comparison to other fields such as anthropology. Nonetheless, there is an emerging field of literature and an increasing number of nurse scientists receiving funding for CBPR studies. Providing an overview of the state of the science with regard to CBPR conducted by nurses and their interdisciplinary colleagues is a complex and challenging task. In approaching the topic, I decided to focus attention largely on health promotion and prevention research applying CBPR at the primary and second-

ary levels within community settings for two reasons: most work has been done in this area, and the focus best matches national health priorities as well as my own expertise. Case examples of studies by nurse scientists were selected to illustrate key points or CBPR processes and based on scientific merit as evidenced by federal or state funding that supports inclusion of large samples within the US and internationally. My exclusion of reports on service projects applying community-based participatory approaches, small pilot studies, and doctoral dissertations is not intended to devalue these important contributions to nursing scholarship, and I regret if the work of some CBPR researchers has been inadvertently excluded. I will begin with a brief overview of CBPR, followed by historical and theoretical foundations. The main body of my presentation will focus on the state of the science within nursing based upon available data. I will conclude my remarks with a summary and recommendations for moving the field ahead.

Overview

CBPR represents an orientation to research that may apply qualitative, quantitative, or mixed methods (Minkler, 2005) and is suitable for all three levels of population-based practice identified in public health nursing models, as the focus may be on individuals/ families, communities, or systems (Smith & Bazini-Barakat, 2003). CBPR is an applied approach that enables consumers to engage actively in all aspects of research with the purpose of positively influencing community health, health care systems, programs, and public policies (NIH, Office of Behavioral and Social Sciences Research, 2008).

Although many believe there is a spectrum of involvement of participants, true CBPR begins with a research topic of importance to the community. Its goal is to combine knowledge and action for social change to improve community health and eliminate health disparities (Community Health Scholars Program, 2002; Israel et al., 1998). Roles assumed by the partners in CBPR depend upon the objectives of the project, skills of the researcher and community partners, how much participation the community wants, the extent to which it is organized, and the level of its existing resources (Horowitz & Nocella, 2008).

Conducting CBPR requires a major paradigm shift from the traditional research promoted in academia that is motivated and driven by the investigator's interests and conducted under the scientific team's control. Traditional research often involves what many call a "hit and run" approach by scientists: identifying a problem, finding a community in which to conduct a study, and then leaving the community when the study is completed. CBPR is characterized by three interrelated elements: systematic inquiry, participation, and action (Minkler, 2005). Although these elements also are components of traditional research, the processes involved differs between the two approaches. CBPR requires a true partnership founded on mutual trust and respect and involves joint team effort towards achievement of common goals, democratic decision making, and sharing of power and ownership of the research outcomes between community members and the research team (Anderson, 2007). CBPR builds upon the strengths and resources inherent in the community. Community members have an active voice rather than an advisory role. The approach is "community-based" rather than "community-placed." A co-learning process occurs in CBPR through which lay and professional ways of knowing both are valued and examined for what they can contribute (Minkler, 2004). The researcher is a facilitator of change and serves as a resource for the community. Advancing science is not the sole purpose for doing CBPR; knowledge development and strengthening of community resources (human and material) are other very important goals (Israel, Eng, Schulz, & Parker, 2005).

There are many important reasons for using the CBPR approach in nursing research. The complexity of many urban health problems often makes them ill suited for traditional research approaches and models of care (Minkler, 2005). Social justice is promoted if the health, social conditions, and resources of the people being studied are improved and existing resiliencies supported. Successful CBPR projects build knowledge and technical skills, thus assisting with self-empowerment of consumers by removing barriers and promoting environments within which communities can increase their capacity and identify and solve their own problems (Israel et al., 1998). Such programs have the potential for sustainability without grant support. Researchers may benefit from an effective collaboration that builds upon the expertise of partners to improve research quality by using culturally sensitive methods to address important health concerns of the community (Minkler, 2005). A trusting collaborative relationship with a community also may support development of a long-term program of meaningful research.

Historical and Theoretical Perspective

CBPR has its historical grounding in anthropology and public health nursing practice. Anthropologists apply an emic perspective, partnering with individuals and communities to achieve better understanding of cultural dynamics influencing belief systems and behavior, and have traditionally recognized the strengths and interests of the community. Lillian Wald, a community and political activist and the founder of public health nursing, envisioned the Henry Street Settlement established in the early 1900s as an opportunity to "unite people through their human and spiritual interests" (Jewish Women's Archive, n.d.). As a result, the Settlement continually expanded to meet and address the needs of its community. Recognizing the importance of social and environmental determinants of health, Wald partnered with community members to promote health and improve conditions for women, immigrants, and other underserved populations, as well as to help establish major organizations such as the US Children's Bureau (later to become the Bureau of Maternal-Child Health) (Jenkins, 2006). Involving individuals and the community as active partners in community health promotion and disease prevention continues to be a core component of nursing education curricula.

A major international milestone of the 20th century in the field of public health was the Declaration of Alma-Ata in 1978 (Declaration of Alma-Ata, 1978; Fendall, 1978). The Declaration, supported by the World Health Organization-UNICEF, clearly emphasizes the importance of requiring and promoting maximum community and individual self-reliance and participation in the planning, organization, operation, and control of primary health care in order to protect and promote the health of all the people of the world. It has broadened the medical model and stirred efforts to organize communities and community health workers to mobilize on behalf of their own health. Thirty years later, a call to action has been put forth in *The Lancet* to revitalize and return to the Alma-Ata (Lawn et al., 2008), which epitomizes basic principles of CBPR such as equity and social justice.

The roots for participation of communities in research can be traced to Kurt Lewin (1946), who coined the term "action research." He encouraged other psychologists to work collaboratively with community leaders to analyze and improve societal problems, thus legitimizing community members' experiential knowledge, acknowledging the role of values in research, and empowering community members (Coombe, 1997). Critical science in nursing, particularly CBPR, is often connected philosophically and methodologically with the work of Paolo Freire, a Brazilian educator who authored *Pedagogy of the Oppressed* (1970). Freire followed the Marxist tradition, believing that people must emancipate themselves and overcome the false consciousness caused by oppression. He

called for involvement in the community as a source of social change and proposed that meaningful learning can only be achieved by dialogue, increasing critical consciousness, and linking collective analysis with collective action (Fontana, 2004). For further examination of the theories informing critical nursing science and their relation to participatory research, I refer you to the article by Joyce Fontana published in *Advances in Nursing Science* (Fontana, 2004).

A recent example of a philosophical and theoretical approach developed by a nurse scientist to guide the interaction among community partners, research participants, patients, nurses, and researchers is the "Partnership Model" developed by Nancy Anderson. In this model, the community-nurse partnership is placed at the microlevel of interactions within the context of the macrolevel socioeconomic, cultural, political, and physical environment (Anderson, 2005). The distinct worldviews, knowledge, and values possessed by individual community members, research participants, nurse clinicians, and researchers are shaped by their families and unique neighborhood and community networks. Collaborative interactions are influenced by the distinctive values, beliefs, and knowledge that each group possesses. The model recognizes the importance of assessment of strengths and respect for varied belief systems as crucial elements of the partnership leading to mutual respect and trusting relationships, where power is shared and different knowledge bases are valued and applied to create joint project decisions and outcomes (Anderson et al., 2007).

State of the Science

The approach used to evaluate the current state of the science included queries of the Computer Retrieval of Information on Scientific Projects (CRISP) database to identify the number and type of federally funded CBPR studies, computerized searches in PubMed and CINAHL, and personal contacts with investigators. Queries of the CRISP database for research grants active in 2009 resulted in 173 listings under the search term *community-based participatory research* and 121 citations for *CBPR*. After eliminating duplications, 191 research grants were identified. In contrast, the same search terms, showed no listings in the CRISP database for 1999. Dr. Paul Cotton, Program Director at the National Institute of Nursing Research (NINR), speaking at the 2008 meeting of the American Public Health Association, reported that 118 awards were active for CBPR studies in 2007, including 38 CBPR studies in the NINR portfolio. Obviously, nurses conducting CBPR studies are funded by several other institutes of NIH.

Table 1 displays the number of CBPR studies identified in CRISP in seven areas of research. The greatest number of CBPR studies focus on cancer, followed by heart disease, diabetes, HIV/AIDS, drug abuse, maternal child health, and hypertension. A more in-depth discussion of some of these currently funded studies will be presented after reviewing the published literature on CBPR projects.

Table 1
Selected Areas of Focus for CBPR Grants Identified in CRISP (January 2009)

Area of Focus	Heart Disease/ Cardiovascular	Diabetes	Hypertension	Cancer	Maternal Child Health*	HIV/ AIDS	Drug/ Substance Use
Number of Studies	34	33	12	92	16	27	20

Note: Findings of query using the terms *community-based participatory research* or *CBPR* within specified categories. Grants may be classified in ≥1 category. *Additional terms: *maternal*, *pregnancy*, and *mother*.

A computerized keyword search of PubMed citations involved several steps. Initially, the search terms *community-based participatory research* or *CBPR* were used, resulting in a voluminous number of citations. The search was further limited by combining four different key words (see Table 2). For 1998-2008, a total of 106 citations were identified using the key words *community-based participatory research* and *nurse* or *nursing* without other restrictions. When the search was limited to *CBPR* studies authored by nurses within the past 2 years and accessible online, only 14 papers were found. For the combination of terms *CBPR* and *nurse* or *nursing*, 12 studies were identified, of which 3 were published by nurses in or since 2007 and cited in the previous search of PubMed. Most articles identified in the searches described CBPR methods and processes and presented guidelines for developing and maintaining successful partnerships. Some described CBPR projects without presenting outcomes. Several of the cited research studies were authored by scientists in other disciplines (e.g., medicine, public health). Because the number of CBPR studies published by nurses since 2007 was so small, a separate search on CINAHL was conducted, resulting in the identification of two additional papers. The limited number of studies with data-based outcomes published by nurses indicates that CBPR is still an emerging research approach within nursing science. Nursing as a discipline has struggled for recognition as a scholarly field for many years; hence, it is understandable that training and funding priorities have emphasized traditional research approaches until recent times.

Table 2
Articles Cited in PubMed for Selected Search Terms and Parameters

Search Terms	1998-2008 Total #	2007-present	
		Total #	# authored by a nurse
Community-based participatory research	74	26	13
+ nursing Community-based participatory research + nurse	32	12	7[a]
CBPR + nursing	10	3	2[b]
CBPR + nurse	2	1	1[b]

Note: Limited to articles available for review online; excludes publications focused on theoretical perspectives and processes or student and service projects.
[a] Only one of these studies was not previously identified. [b]All of these studies were previously identified.

Table 3 provides descriptive data on the 16 CBPR studies published by nurses during the past 2 years, as identified in the PubMed and CINAHL searches. As expected, these studies largely fall into the area of primary prevention, although some research focuses on secondary prevention, and one investigation examines factors influencing access, use, and perception of mental health services by a Latino population at individual, organization, and community levels (Shattell, Hamilton, Starr, Jenkins, & Hinderliter, 2008). All of the studies directly or indirectly address health disparities and are community-based in the US or other countries (Africa, Japan). Notably absent from the reports were CBPR studies involving partnerships between community members and health care professionals within hospital settings. The target population of CBPR studies in the US is composed predominantly of ethnic/racial minorities, most often adults and children of African American/African and Mexican American/Mexican descent. The sample size across studies tends to be small with the exception of those

supported by federal or state funding. Nearly two-thirds of the investigations are exploratory in nature and employ qualitative methods such as focus groups, interviews, and participant observations for data collection.

Findings from these studies provide a foundation for the design of interventions that are culturally tailored and supported by the community. In addition, the reports may enhance understanding about the strengths inherent within communities, perceptions of health services, and the risks faced by VPs because of a variety of social and contextual issues. Most of the intervention studies included only one group, generally because the partnerships focused on designing and pilot testing new programs, and funding was limited. Only two reports described randomized clinical trials. These studies were supported by government funds (Dick, Clarke, van Zyl, Cur, & Daniels, 2007; Kim et al., 2008).

Table 3
CBPR Studies Published by Nurse Researchers Cited in Pub Med and CINAHL, 2007-present

Area of Focus	No. of Studies	Target Population	No. of Studies	Type of Study	No. of Studies
Primary Prevention					
Environmental Health	3	African/African American	4	Descriptive Interviews,	11
Maternal Child Health	3	Mexican/Mexican		Focus Groups,	
Weight Management	1	American	2	Observation	
Violence (family, IPV,		Native American		Quantitative	
elder abuse)	3	Asian (Japanese, Korean)	2		
Cancer	1	Pacific Islanders	2	Intervention	
Diabetes	1	Caucasian			5
Secondary Prevention		Aboriginal	1		
Hypertension	1	Mixed	1		
TB	1		1		
Dementia	1		3		
Health Services	1				

Since 2007 a number of areas have been investigated in exploratory/descriptive studies, including perspectives about pregnancy prevention among American Indian youth (Garwick, Rhodes, Peterson-Hickey, & Hellerstedt, 2009), rural children's risk factors for Type 2 diabetes (Adams & Lammon, 2007), perceptions about violence of children and/or adults (Affonso, Shibuya, & Frueh, 2007; Magnussen, Shoultz, Hansen, Sapolu, & Samifua, 2008), methods to disseminate information about regional cancer disparities in Appalachian communities (Hutson, Dorgan, Phillips, & Behringer, 2007), exposure to sunlight among African albino youth (Lund, 2008), and Latino farmworker participants' conceptualization of empowerment in a CBPR occupational and environmental health project (Postma, 2008). The limited number of intervention studies published in the past 2 years includes the work of Miyong Kim, Eun-Young Kim, and colleagues, a CBPR research team based at Johns Hopkins University School of Nursing. In their clinical trial, the effects of a mailed versus an in-class culturally tailored education intervention were compared among hypertensive Korean Americans (Kim et al., 2008). The academic researchers solicited community involvement in all processes that informed the development of the research, the intervention strategies, and the evaluation. In particular, the CBPR approach helped in crafting of intervention messages to address the cultural upbringing and contextual factors in the lifestyle of Koreans.

In another 5-year CBPR program, Patricia Holkup, Emily Salois, and Clarann Weinert from Montana State University, and Toni Tripp-Reimer from the University of Iowa, partnered with community members on a Montana reservation to develop and pilot test a family centered, community-based elder intervention known as the Family Care Conference (FCC) (Holkup, Salois, Tripp-Reimer, & Weinert, 2007). This intervention is facilitated by Native American women who understand the community's cultural norms and are trusted on the reservation. The FCC model involves inviting family members, community members selected by the family, a spiritual leader (if desired), and relevant health and social service providers to attend a meeting in which individuals share their concerns about the welfare of the elders. Several developmental grants are enabling the research team to gather important background information for extending the FCC model to two tribes, including identifying key community leaders, structures, networks, and strengths of the reservation, and evaluating the cultural appropriateness of the FCC model.

In addition to the previously cited findings from the computerized searches and literature review, data on CBPR were obtained from two sources. A comprehensive review and assessment of 185 articles formed the basis for an evidence report on health-related CBPR prepared for the Agency for Healthcare Research and Quality (Viswanathan et al., 2004). Great variability was found in the study designs, substantive concerns, and scope of community involvement in CBPR studies. Most were nonexperimental in design, and few included any type of intervention. Quality ratings showed stronger research scores for experimental than for other studies, although nonexperimental studies also showed modest effects on health outcomes. Quality ratings for community participation were strongest for recruitment/retention and intervention design, followed by development and pilot testing of measures. The main mechanism for sharing research decision making was a steering committee or advisory board, but these formal structures generally did not develop research questions or proposals. The second review, conducted by Janna Lesser and Manuel Oscós-Sánchez (2007), was of multidisciplinary community-academic research partnerships with VPs. They identified only 25 studies between 1999 and 2005, classifying these by the form of partnership. In order of frequency reported in the literature, they described four types of community-academic partnerships: 1) a partnership-controlled form in which academic researchers partnered with a CBO, (2) an academic researcher-controlled form, (3) a partnership-controlled form in which academic researchers partnered directly with members of the community and (4) a community-controlled form.

One of the few federally funded nursing studies implementing a community-controlled model is being conducted by Patricia Kelly & Janna Lesser (5R01NR008565-04)**.** This CBPR project, *Familias En Acción*: Educating & Changing Communities, involves 400 youth within 14 schools in San Antonio, Texas. The partners are united in a Community Collaborative Council (CCC) comprised of community members; representatives from local CBOs; and teachers, administrators, and social workers from the school district. In discussing the decision making process, the CCC chose to make decisions by consensus vote. The academic partners agreed to have a voice, but no vote. This action of "stepping back" contributed to creating a positive environment of respectful trust for community knowledge. Commitment to the funding agency included conducting a violence prevention research study with elementary school children, but the curriculum was selected based on a comparative review of programs by the CCC. Members of the CCC have successfully addressed a variety of challenges; for example, when the original plan for intervention facilitation by schoolteachers required modification, they decided to be trained in the curriculum themselves and to

conduct the program. Community members also reviewed, pilot tested, provided valuable feedback on instruments, and collected data. Preliminary findings and participant responses have resulted in the school district's pledging to sustain the implementation of the curriculum in all of the elementary schools (personal communication, Dr. Janna Lesser, 1/17/09). Through their continued collaborative work involving weekly meetings, Drs. Lesser and Oscós-Sánchez and their Council partners designed a new study that builds upon their work in violence prevention and was recently awarded an R01 grant (1R01HD057842-01).

The work of another nurse scientist similarly demonstrates the importance of building trusting relationships and social networks, and how one CBPR project may provide a foundation for the next. Dr. Adeline Nyamathi and her colleagues in India have conducted a series of CBPR studies (Nyamathi, Thomas, Greengold, & Swaminathan, in press; Nyamathi et al., 2008; Thomas, Nyamathi, & Swaminathan, 2008). Planning and implementation have been facilitated through established relationships with the Minister of State, health professionals, key stakeholders, and community members. Community forums provided the opportunity for professional leaders, political officials, and community members to voice their ideas about a proposed project prior to funding. A new federal grant supports phased research activities using mixed methods to design an intervention program for women living with HIV (WLH) and to determine its acceptability as well as to refine and field test data collection measures (R03HD052145). In the final phase, a small randomized clinical pilot study will be conducted to assess outcomes of WLH who participate in the intervention program delivered by HIV-trained village health promoters. The activities of this CBPR project will be conducted under the direction of a Community Advisory Board.

Several other CBPR studies conducted by nurse scientists, in the US and globally, involve community health workers, sometimes referred to as lay heath advisors/workers, or *promotores/as*. A few examples include work conducted by teams led by Jennifer Foster (Foster & Heath, 2007) and Chris McQuiston, as well as our UCLA team. In the Dominican Republic, Foster and colleagues are examining the influence of cultural knowledge, attitudes, beliefs, and behaviors of pregnant and parous women on accessing obstetric health care (1 R21NR010201-01A). A team of community health workers and maternity health professionals, oriented and trained in CBPR, developed the research question, are collecting and analyzing data, and will disseminate findings. This study is expected to advance the scientific area of CBPR by comparative analysis of how community health workers and professional health providers interpret data. The work of Chris McQuiston and colleagues with Latinos in North Carolina demonstrates how the experiential learning of community members as research participants may provide culturally grounded insights that researchers may apply in grant writing (McQuiston, Parrado, Martinez, & Uribe, 2005). In their CBPR, the collaborative inquiry process was applied as an empowerment philosophy. The methodology of Freire and an ecological framework were used to develop a culturally-specific lay health advisor program to prevent HIV among immigrant Mexicans (McQuiston, Choi-Hevel, & Clawson, 2001; McQuiston & Flaskerud, 2003). Lay health advisors also were involved in a collaborative outreach project conducted by the UCLA Center for Vulnerable Populations Research. The three- phase project applied principles of CBPR, beginning with development of a partnership and formation of a community advisory board comprised of representatives from CBOs, community residents, health officials from the Los Angeles Health Department, and academic researchers (Kim, Flaskerud, Koniak-Griffin, & Dixon, 2005). In Phase 1, a community needs assessment was conducted to identify a target community and health disparities problem, and the cur-

riculum for the intervention was selected. Experiences during this phase demonstrate the importance of identifying a community with stable structure before developing a partnership. In Phase 2, community members were recruited and trained to function as lay health advisors (LHAs). In the process of training, these LHAs provided valuable feedback used in modifying the intervention to increase cultural relevance and also helped in evaluation of the research measures. A lifestyle behavior education program to prevent cardiovascular disease was conducted and evaluated by the LHAs in the third phase of the project. Findings show that LHAs can implement and evaluate a 3-session health promotion program that positively influences lifestyle behaviors at a grassroots level within their community (Kim, Koniak-Griffin, Flaskerud, & Guarnero, 2004). They also can successfully recruit and retain very hard-to-reach immigrant Latino populations who are often reluctant to participate in research.

Academic partnerships with community health organizations may provide the structure for addressing complex health and psychosocial issues faced by culturally diverse and hard-to-reach populations (Shoultz et al., 2006). Faculty at the University of Hawai'i at Manoa School of Nursing and Dental Hygiene are involved in a number of clinical and research projects representing this type of partnership. For example, the Quentin Burdick Rural Health Interdisciplinary Training Program, directed by Dr. Jan Shoultz, links six neighbor island community or health centers across the state of Hawai'i, nine health science departments, and the School of Nursing and Dental Hygiene. The project, initiated through a USDHHS grant (2000-2006, #D36HP16002), is now funded by the State Legislature. The partnership supports efforts of community members and students in nursing and other interdisciplinary health fields to design and carry out culturally appropriate health promotion and disease prevention for vulnerable residents.

The issue of intimate partner violence (IPV) is being addressed by Drs. Shoultz and Magnussen, school faculty who are partnering with three community health centers on the island of Oahu. The partners have conducted a series of studies, providing important data to assist in service planning and provision at the community agencies (Magnussen et al., 2004). Leadership for this team is shared based upon the stage of the research. The entire team works together on the research design; however, the academic researchers assume primary responsibility for the literature review, monitoring of methodological issues, and written dissemination. The clinical investigators manage the research logistics at each site and contribute to the written dissemination. Data analysis and oral dissemination are done jointly by the research team (Shoultz et al., 2006). Drs. Magnussen and Shoultz and the partnering CBPR team recently were awarded an R15 grant for a CBPR study to examine cultural perceptions, responses and needs regarding IPV, and factors influencing disclosure. Comparisons will be made across three cultural groups and findings used to develop culturally appropriate IPV screening and interventions.

The Partnership for Improving Lifestyle Interventions (PILI) *'Ohana* is another co-equal CBPR community-academic partnership that involves five different community partners in a federally funded study addressing obesity disparities in Native Hawai'ians and other Pacific Peoples (Nacapoy et al., 2008). A doctoral student (Donna-Marie Palakiko) and a faculty member (Dr. Anne Leake) at the University of Hawai'i School of Nursing, Manoa, hold key leadership positions on the research team.

In the next few years, findings of several *other* ongoing NIH-funded CBPR investigations by nurses are anticipated. These include a study involving a coalition with a county policy and planning commission, a public health department, CBOs, and two universities in Oregon to promote environmental changes in the school and

rural community that will impact physical activity and food choices of children (Nancy Findholt, 5R21NR010197-02); a CBPR intervention study focusing on self-management of diabetes among Chinese immigrants (Catherine Chelsa, 1RO1NR010693-01**);** a partnership with the National Black Nurses Association, several CBOs, and the University of Illinois at Chicago School of Nursing to develop and pilot test an educational mammography adherence intervention for African American women (Eva Smith, 5R21CA119962-02); an evaluation of a risk reduction intervention with Native Hawai'ian mothers (Joan Dodgson, 1R21NR010218-01); a collaboration with African American community members to design and pilot test an intervention to support caregivers (Mary Meeker, 1R21NR010199-01); and a multi-level approach to examining community-partnered response to intimate violence (Nancy Glass, 5R01NR008771-04). Our understanding about the processes involved in CBPR will be enhanced through ongoing work of Kynna Wright, documenting facilitators and barriers to CBPR and measures of success (1R03HD059584-01), and Jeannette Andrews' study of partnership readiness for CBPR (1R03NR011238-01).

Summary, Implications, and Recommendations

The previously described growing body of literature and federally funded studies being conducted by nurse scientists and their interdisciplinary colleagues is encouraging, as it demonstrates CBPR being finally recognized as a logical and scholarly approach for conducting scientific exploratory studies and clinical trials. More importantly, findings of studies are enhancing understanding of the unique needs of VPs and providing a foundation for the development of culturally relevant interventions to reduce health disparities. The small number of experimental studies limits our ability to evaluate fully the effectiveness of CBPR in improving health outcomes and reducing environmental and personal risk factors. Unsurprisingly, CBPR studies have been, and continue to be, primarily conducted in community settings and exploratory in nature. The number of scientific studies involving true partnerships with consumers remains small in comparison to those characterized by use of "traditional" research methods. Few examples exist where communities have the opportunity to define and implement their own research agenda in partnership with communities (Lesser & Oscós-Sánchez, 2007). Hospital-based studies conducted in partnership with consumers also are needed. Advancement of CBPR will require further accumulation of findings from these types of studies and randomized trials comparing CBPR with non-CBPR approaches (Viswanathan et al., 2004).

If CBPR is to reach its full potential as a research approach uniquely suited for the most challenging health care issues at a global level, full support is required from the "community of scholars," located in universities and neighborhoods (Viswanathan et al., 2004). Colleagues, particularly those involved in promotional reviews, must demonstrate an understanding of the approach and of the challenges faced by CBPR teams that may impact the time required to complete studies and disseminate scholarship. Similarly, grant reviewers must allow adequate time and resources to perform the phased research necessitated by this approach. Government funding allocations for CBPR need to be increased and should be directly available to both academic and community partners to ensure economic equity.

The good news is that the time is ripe for advancing CBPR as a substantive area of study and as an applied approach in nursing research. The literature confirms that many nurses recognize the importance of listening to the voices of consumers and are using participatory approaches in implementing community health care. Through collaborations with nurse researchers, these clinicians and their community partners can

develop relevant evaluation methods to examine health outcomes that are *both* acceptable to the community and have scientific credibility. The infrastructure for this type of exchange may be developed and maintained through community-academic partnerships such as the previously cited examples at the University of Hawai'i, Manoa, School of Nursing and Dental Hygiene. NIH support for CBPR studies has increased, and it is to be hoped that this trend will continue as President Obama is strongly committed to eliminating health disparities, addressing the needs of people from diverse backgrounds, and advancing science. The availability of phased NIH funding opportunities reflects an understanding of what the CBPR approach entails and is demonstrated by the CBPR Initiative launched in 2007 by the National Center on Minority Health and Health Disparities (NCMHD, n.d.). The initiative provides opportunities to secure grant funding for planning, intervention, and dissemination. Twenty states have secured funding under this mechanism. Other ongoing funding opportunities are available through NIH for partnership work with consumers at all levels of research, some general, others targeting specific populations or conditions.

Further evidence of the growing field of CBPR is the number of opportunities available for dissemination of scholarship in this focused area. Examples include two relatively new multidisciplinary scholarly journals dedicated to the topic, as well as calls for CBPR articles in special issues of journals. *Progress in Community Health Partnership: Research, Education, and Action* is a journal solely dedicated to CBPR and promoting further collaboration and stature of CBPR as a means of eliminating health disparities and health outcomes. Manuscripts are assigned a community reviewer in the peer review process to ensure that results and conclusions are relevant for research and nonresearch audiences. The *Journal of Community Engagement and Scholarship* similarly disseminates scholarly works from all academic disciplines and their community partners with the goal of integrating teaching, research, and community engagement. *Partnership Matters* is a CBPR newsletter published by the University of Washington, available online, that disseminates information about CBPR resources, research, and funding opportunities (University of Washington, n.d.). A CBPR listserv, originally housed at the same university, is now under the management of the Medical College of Wisconsin (cbpr@u.washington.edu). Continued commitment to CBPR dissemination efforts will facilitate comparisons of processes and outcomes across studies and enhance the visibility of the approach. In applying principles of CBPR, dissemination efforts should involve shared authorship with community partners and in multiple venues, including presentations at community forums, town hall meetings, and health fairs.

As the opportunities for funding and dissemination of CBPR studies expand, so must our commitment to educating nurses on how to work effectively with communities. The Commission on Collegiate Nursing Education (CCNE) identifies consideration of the needs and expectations of the community of interest as key elements for consideration in evaluating the curriculum, teaching-learning processes and program quality of baccalaureate, master's, and DNP programs (CCNE, n.d.). The "community of interest" includes clients and the community/public. The nursing curriculum must contain content on culture and provide learning opportunities for development of cultural competence if students are to be adequately prepared to work with communities of consumers in addressing health disparities. Anderson and colleagues propose that we borrow models from successful community-based participatory nursing research and apply research approaches and relationships with communities to education (Anderson et al., 2007). They believe that communities can teach nursing students and nurse educators how to achieve health in a culturally competent manner. As Lauren Clark

notes, application of this alternate model of using CBPR nursing research to inform and expand nursing education opportunities sets a new and different standard for nurse researchers and nurse educators; we remain challenged by the fact that communities are not unitary or static, and populations may exist across communities (Clark, 2007). These and other challenges necessitate specialized preparation for conducting CBPR. Courses focusing on CBPR are available in some doctoral nursing programs and schools of public health as well as through T-32 fellowships and training programs. For example, at UCLA we have a T-32 training program in Health Disparities and conduct a CVPR Summer Institute sponsored by the Center for Vulnerable Populations. Other Schools of Nursing offer CBPR training through their Health Disparities Centers. An NIH-sponsored "CBPR Technical Assistance Workshop: Leap into the Community" is available in videocast and podcast (NIH, Office of Behavioral and Social Sciences Research, 2008, February 29). This conference provides very valuable information, including how to write CVPR proposals and criteria for evaluation of studies. The "nuts and bolts" involved in effectively planning, implementing, and evaluating CBPR studies is discussed in several articles and textbooks referenced in the conference proceedings.

Nurse researchers conducting CBPR studies can assist their colleagues develop skills in applying the approach through a number of actions such as forming CBPR interest groups, assigning mentors to new CBPR researchers, and inviting them to join CBPR teams. In schools with Nursing Centers of Excellence that have established community collaborations, faculty should be introduced to activities within the partnering communities. Community advisory boards of schools of nursing may facilitate introductions of faculty to community groups and stakeholders.

In closing, I would like to acknowledge that many researchers may not prefer to integrate CBPR approaches into studies. CBPR involves a lengthy start-up period and requires good listening skills for getting to know the community. Young faculty may appropriately worry about ticking of the "tenure clock." The threat of potential withdrawal of partners exists if trust is not established and maintained over time and power shared throughout the research process. Other concerns may relate to clashes that may occur between partners if they differ in beliefs about research design and methods. Nevertheless, CBPR is one of the most promising approaches for addressing persistent health disparities, power imbalances, and social inequities.

References

Adams, M. H., & Lammon, C. A. B. (2007). The presence of family history and the development of type 2 diabetes mellitus risk factors in rural children. *Journal of School Nursing, 23,* 259-267.

Affonso, D. D., Shibuya, J. Y. & Frueh, C. (2007). Talk-story: Perspectives of children, parents, and community leaders on community violence in rural Hawai'i. *Public Health Nursing, 24,* 400-408.

Anderson, N. L. R. (2005). Developing theoretical approaches to inspire effective patient/provider relationships. Proceedings for the Society for Applied Anthropology annual meeting, April 2005. Santa Fe, NM.

Anderson, N. L. R. (2007, August). Unpublished presentation to Summer Institute, Center for Vulnerable Populations Research, UCLA School of Nursing.

Anderson, N. L. R., Calvillo, E. R., & Fongwa, M. N. (2007). Community-based approaches to strengthen cultural competency in nursing education and practice. *Journal of Transcultural Nursing, 18,* 49S-59S.

Clark, L. (2007). Commentary on "Community-based approaches to strengthen cultural competence in nursing education and practice." *Journal of Transcultural Nursing, 18,* 60S-63S.

Commission on Collegiate Nursing Education (2003). Accreditation standards. http://www.aacn.nche.edu/Accreditation/index.htm. Retrieved February 5, 2008.

Community Health Scholars Program (2002). *Stories of impact*. Ann Arbor, MI: University of Michigan, School of Public Health.

Coombe, C. M. (1997). Using empowerment evaluation in community organizing and community-based health initiatives. In M. Minkler (Ed.), *Community organizing and community building for health* (pp. 291-307). New Brunswick, NJ: Rutgers University Press.

Declaration of Alma-Ata, International Conference on Primary Health Care, Alma-Ata, USSR, September 6-12, 1978. http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf. Retrieved January 21, 2008.

Dick, J., Clarke, M., van Zyl, H., & Daniels, K. (2007). Primary health care nurses implement and evaluate a community outreach approach to health care in the South African agricultural sector. *International Nursing Review, 54,* 383-390.

Fendall, N. R. (1978). Declaration of Alma-Ata. *Lancet, 312*(8103), 1308.

Fontana, J. S. (2004). A methodology for critical science in nursing. *Advances in Nursing Science, 27*, 93-101.

Foster, J. & Heath, A. (2007). Midwifery and the development of nursing capacity in the Dominican Republic: Caring, clinical competence, and case management. *Journal of Midwifery and Women's Health, 52,* 499-504.

Freimuth, V. S., Quinn, S. C., Thomas, S. B., Cole, G., Zook, E., & Duncan, T. (2001). African Americans' views on research and the Tuskegee Syphilis Study. *Social Science and Medicine, 52,* 797-808.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seabury Press.

Garwick, A. W., Rhodes, K. L., Peterson-Hickey, M., & Hellerstedt, W. L. (2008). Native teen voices: Adolescent pregnancy prevention recommendations. *Journal of Adolescent Health, 42,* 81-88.

Holkup, P. A., Salois, E. M., Tripp-Reimer, T., & Weinert, C. (2007). Drawing on wisdom from the past: An elder abuse intervention with tribal communities. *Gerontologist, 47,* 248-254.

Horowitz, K. J., & Nocella, K. (2008, February 29). Fostering Academic-Community Collaboration for Relevant Research. http://grants.nih.gov/grants/training/esaig/

ppts/session_five/nocella_horowitz.pdf Retrieved January 29, 2009.
Hutson, S. P., Dorgan, K. A., Phillips, A. N., & Behringer, B. (2007). The mountains hold things in: The use of community research review work groups in address cancer disparities in Appalachia. *Oncology Nursing Forum, 34,* 1133-1139.
Institute of Medicine. (2000). *Promoting health: Intervention strategies from social and behavioral research.* Washington, DC: National Academy Press.
Institute of Medicine (2003). *Unequal treatment: Confronting racial and ethnic disparities in health care.* Washington, DC: National Academies Press.
Israel, B. A., Eng, E., Schulz, A. J., & Parker (eds). (2005). Methods in community-based participatory research for health. San Francisco: Wiley.
Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*, 19, 173–202.
Jenkins, M. L. (2006). Nursing centers and autonomy of nursing work. In L. C. Andrist, P. K. Nicholas, & K. A. Wolf (Eds.), *A history of nursing ideas.* Sudbury, MA: Jones & Bartlett.
Jewish Women's Archive (n.d.). "JWA - Lillian Wald - Legacy." http://jwa.org/exhibits/wov/wald/lw22.html. Retrieved January 19, 2009.
Jones, L., & Wells, K. (2007). Strategies for academic and clinician engagement in community-participatory partnered research. *Journal of the American Medical Association, 297,* 407-410.
Kim, S., Flaskerud, J. H., Koniak-Griffin, D., & Dixon, E. L. (2005). Using community-partnered participatory research to address health disparities in a Latino community. *Journal of Professional Nursing, 21*, 199-209.
Kim, M. T., Kim, E-Y., Han, H-R., Jeong, S., Lee, J. E., Park, H. J., Kim, K., & Hill, M. N. (2008). *Journal of Clinical Hypertension, 10*, 176-184.
Kim, S., Koniak-Griffin, D., Flaskerud, J. H., & Guarnero, P. A. (2004). The impact of lay health advisors on cardiovascular health promotion: Using a community-based participatory approach. *Journal of Cardiovascular Nursing, 13,* 192-199.
Lawn, J. E., Rohde, J., Rifkin, S., Were, M., Paul, V. K., & Chopra, M. (2008). Alma-Ata 30 years on: Revolutionary, relevant, and time to revitalize. *Lancet, 372,* 917-927.
Lesser, J. & Oscós-Sánchez, M. A. (2007). Community-academic research partnerships with vulnerable populations. *Annual Review of Nursing Research, 25,* 317-337.
Lewin, K. (1946). Action research and minority problems. In G. Lewin (Ed.), *Resolving social conflicts* (pp. 201-216). NY: Harper & Row.
Lund, P. M. & Taylor, J. S. (2008). Lack of adequate sun protection for children with oculocutaneous albinism in South Africa. *BMC Public Health, 8,* 225-233.
Magnussen, L., Shoultz, J., Hanson, K., Sapolu, M., & Samifua, M. (2008). Intimate partner violence: Perceptions of Samoan women. *Journal of Community Health, 33,* 389-394.
Magnussen, L., Shoultz, J., Oneha, M., Hla, M., Brees-Saunders, Z., Akamine, M., et al. (2004). Intimate partner violence: A retrospective review of records in primary care settings. *Journal of the American Academy of Nurse Practitioners, 16,* 502 – 512.
McQuiston, C., Choi-Hevel, S., & Clawson, M. (2001). *Protegiendo Nuestra Comunidad:* Empowerment participatory education for HIV prevention. *Journal of Transcultural Nursing, 12,* 275-283.
McQuiston, C. & Flaskerud, J. (2003). "If they don't ask about condoms, I just tell them": A descriptive case study of Latino lay health advisers' helping activities. *Health Education & Behavior, 30,* 79-96.
McQuiston, C., Parrado, E.A., Martinez, A. P., & Uribe, L. (2005). Community-based participatory research with Latino community members; *horizonte Latino*.

Journal of Professional Nursing, 21, 210-215.
Minkler, M. (2004). Ethical challenges for the "outside" researcher in community based participatory research. *Health Education and Behavior, 31,* 684–701.
Minkler, M. (2005). Community-based research partnerships: Challenges and opportunities. *Journal of Urban Health: Bulletin of the New York Academy of Medicine,82(Suppl 2),* ii3-ii12.
Nacapoy, A. H., Kaholokula, J. K., West, M. R., Dillard, A.Y., Leake, A., Kekauoha, P., et al. (2008). Partnerships to address obesity disparities in Hawai'i: The PILI 'Ohana project. *Hawai'i Medical Journal, 67,* 237-241.
National Center on Minority Health and Health Disparities (n.d.). Available: http://ncmhd.nih.gov/our_programs/communityParticipationResearch.asp. Retrieved February 6, 2008.
National Institutes of Health, Office of Behavioral and Social Sciences Research (2008, February 29). Community-Based Participatory Research Technical Assistance Workshop: Leap Into the Community. http://videocast.nih.gov/Podcasts.asp?c=0&s=91. Retrieved January 29, 2009.
Nyamathi, A., Thomas, B., Greengold, B., & Swaminathan, S. (in press). Perceptions and health care needs of HIV positive mothers in India. *Progress in Community Health Partnerships.*
Nyamathi, A., Vatsa, M., Khakha, D. C., McNeese-Smith, D., Leake, B., & Fahey, J. L. (2008). HIV knowledge improvement among nurses in India: Using a train-the-trainer program. *Journal of the Association for Nurses in AIDS Care*, 19, 443-449.
Postma, J. (2008). Elucidating empowerment in *El Proyecto Bienestar* (The Well-Being Project). *Journal of Advanced Nursing, 62,* 441-450.
Shattell, M. M., Hamilton, D., Starr, S. S., Jenkins, C. J., & Hinderliter, N. A. (2008). Mental health service needs of a Latino population: A community based participatory research project. *Issues in Mental Health Nursing, 29,* 351-370.
Shoultz, J., Oneha, M. F., Magnussen, L., Hla, M. M. Brees-Saunders, Z., Dela Cruz, M., et al. (2006). Finding solutions to challenges faced in community-based participatory research between academic and community organizations. *Journal of Interprofessional Care, 20*, 133-144.
Smith, K., & Bazini-Barakat, N. (2003). A public health nursing model: Melding public health principles with the nursing process. *Public Health Nursing, 20*, 42-48.
Thomas, B., Nyamathi, A., & Swaminathan, S. (2008, Oct. 22, E-pub ahead of print). Impact of HIV/AIDS on mothers in southern India: A qualitative study. *AIDS and Behavior*.
University of Washington (n.d.). *Partnership Matters.* http://depts.washington.edu/ccph/pdf_files/ PM_ 022208.pdf. Retrieved February 5, 2008.
US Department of Health and Human Services (2000a). Healthy People 2010, Chapter 7: Educational and Community-based Programs. http://www.healthypeople.gov/document/HTML/Volume1/07Ed.htm#_Toc490550850. Retrieved January 21, 2009.
Viswanathan, M., Ammerman, A., Eng, E., Gartlehner, G., Lohr, K. N., Griffith, D., et al. (2004). *Community-based participatory research: Assessing the evidence.* Evidence Report/Technology Assessment No. 99 (Prepared by RTI-University of North Carolina Evidence-based Practice Center under Contract No. 290-02-0016). AHRQ Publication 04-E022-2. Rockville, MD: Agency for Healthcare Research and Quality.
Zerhouni, E. A. (2005). Translational and clinical science—time for a new vision. *New England Journal of Medicine, 353,* 1621-1623.

State of the Science Paper

OPPORTUNITIES AND CHALLENGES IN SYMPTOM CLUSTERS RESEARCH

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A fundamental nursing responsibility involves symptom assessment and management. Nurse researchers must understand symptoms from the perspective of how they are experienced, relationships with associated factors, and how to intervene. This task presents not only great opportunities for understanding and intervention, but tremendous research design and methodological challenges. Central to nurse researchers' ability to take advantage of the opportunities and conquer the challenges, is symptom cluster research. This paper will address several of these opportunities and challenges to highlight strategies and techniques that should be addressed when investigating symptom clusters.

Foundational definitions, methodological approaches (including methods of measurement and data analysis) as well as patient populations ideal for symptom cluster investigation will be reviewed. Final comments will be directed towards future directions for symptom cluster research and potential insights that could be gained.

Foundational Definitions

To begin this paper, it is important to start with key foundational definitions. Stimuli, sensations, perceptions, symptoms, and responses are inextricably linked. Some stimulus will give rise to a sensation that will result in the individual's awareness of the sensations, or the stimulus may progress to a perception. Symptoms are innately connected to the sensations experienced, and as such, are inseparably linked to an individual image of their state of health or illness (Leventhal, Meyer, & Nerenz, 1980). A simple definition of a symptom is a perception of a sensation(s) which is labeled as *abnormal or dangerous. The resulting meaning attached to the symptom leads to behaviors to further assess or alleviate the symptom (Teel, Meek, Watson, & MacNamara, 1997). Thus a symptom is subjective in nature. The importance of symptoms is underscored by the fact that symptoms represent the major reason individuals seek health care.*

Key components to understanding any symptom are origins, qualities, and time course. Determining the origins of a symptom whether naturally occurring or treatment induced, are critical to understanding the stimulus, sensation, perceptions, and mechanisms. Treatment induced symptoms may be associated with additional sensations and mechanisms since the effects of the treatment, may not be associated with the actual condition. Conversely, naturally occurring symptoms that arise from a given condition could be aggravated by treatment. It is common for qualities of a symptom, the duration, severity, location, frequency and temporality, to be altered by treatment. After all, the purpose of the treatment is to alter (preferably reduce) the symptoms. The time course of the symptom, whether acute or chronic, will further complicate the symptom presentation. These issues are compounded when multiple symptoms are the focus of an investigation.

Multiple symptoms must arise from perceived differences in sensations and seemingly more than one sensation. As such, the perception of multiple symptoms can give rise to a pattern of symptoms that can be an asset to understanding the stimulus,

sensation, perception, and mechanisms of occurrence. These patterns can provide a unique opportunity to understand symptoms, than examination of an individual symptom. Identification of the pattern occurring with multiple symptoms associated with specific conditions (or disease processes), is the core of symptom cluster research.

The majority of research on symptoms has occurred in relation to prevalence, characteristics, and management of a single symptom. This type of reductionistic research approach is appropriate when the focus is to capture the epidemiology, impact and specific characteristics of a symptom or if the goal is to determine effective interventions. However, a common clinical reality is that patients experience multiple symptoms simultaneously. Studies in oncology demonstrate that multiple symptoms are a significant problem for patients and have deleterious effects on patient outcomes (Kim et al. 2008).

The first definition of symptom clusters was proposed by Dodd and colleagues in 2001. The definition stated that "three or more concurrent symptoms that are related to each other… are not required to share the same etiology" (pg 465) constitute a symptom cluster. Further, refinement of the definition by Kim and colleagues occurred in 2005, clarifying some important characteristics of a symptom cluster. They defined symptom clusters as follows:

> "A symptom cluster consists of 2 or more symptoms that are related to each other and that occur together. Symptom clusters are composed of **stable groups** *of symptoms, are* **relatively independent** *of other clusters, and may reveal specific underlying dimensions of symptoms.* **Relationships among symptoms within a cluster should be stronger than relationships among symptoms across different clusters**. *Symptoms in a cluster may or may not share a common etiology." (pg 270).*

As expected, this definition has clarified some aspects of symptom cluster research but also raises questions. This definition was derived from studies with oncology patients, with predominantly treatment induced symptoms. So how does this definition apply to symptoms that are "naturally" occurring versus treatment induced? Does the definition apply to symptoms with diverse quality presentations? For example, with intense, constant pain, do other symptoms (i.e. sleep & fatigue) maintain their original characteristics? Does this definition apply to other patient populations? There is a need for a more systematic approach to the development of a definition of a symptom cluster. A more systematic approach will help answer these questions and advance our understanding of how best to assess and treat symptoms that present in clusters.

Opportunities and Challenges Associated with Methodological Approaches

In dealing with symptom clusters, there are two main aims and several analysis strategies that need to be addressed by an investigator. Miaskowski and colleagues (2007) proposed two conceptual approaches to symptom cluster research in oncology patients, which also serve the main aims of most symptom cluster research. The first aim is identification of specific symptom clusters associated with a condition or disease. The second aim is identification of subgroups of patients, based on their experience with a specific symptom cluster. This aim focuses on looking for individuals that present differently and thus may respond differently to interventions. Also it can help identify high risk patients and those at low risk thus helping to tailor interventions and more accurately monitor outcomes.

Identification of Symptom Clusters

Identification of symptom clusters is highly related to the particular symptom inventory or the assessment tool used. This can present major confusion, as the use of

different assessment instruments, can potentially result in different results. In addition, the scaling used in a tool can influence not only reports of occurrence, but can influence the choice and application of the statistical technique. The statistical technique used also influences the number and types of symptom clusters identified.

Identification of a particular symptom cluster needs to meet some key specifications as outlined in the literature (Kim, et al. 2005; Miaskowski, et al. 2007). The specifications that have been proposed are:

- Recognize *a priori, the rationale for a symptom cluster*
- Symptoms share a significant percentage of common variance
- Symptoms share a common mechanism
- Symptoms have synergistic effects on patient outcomes

These specifications are a combination of conceptual and analytical criteria that fit with the definition. These specifications should create clear links between proposed symptom clusters and simple co-occurring symptoms that may not be related in important ways. However, clarity as to how these specifications would be applied is lacking and questions remain. For example, what is the minimal number of symptoms needed and what is the strength of the relationship between and among of symptoms within a cluster? Do symptoms within a cluster need to share a common biologic mechanism or pathway? By appropriately applying these specifications to the identification of particular symptom clusters, some of these questions could be answered.

An additional factor is naming the cluster. The name of the symptom clusters must be based on both the specific symptoms within the cluster as well as on a conceptual framework. For example, pain, sleep disturbance, and fatigue may be identified as a sickness behavior symptom cluster, based on the symptoms. If you look at the physiologic mechanism associated with a symptom such as postoperative pain, the physiologic mechanisms triggered by surgical pain, anesthesia, and activity restriction may be defined as a surgical side effect cluster. Further, depending on the pattern of symptoms within this cluster, there is the potential to label this cluster according to a particular surgical treatment-related cluster. As with most naming nomenclature, it is critical to describe in detail the specific symptoms (origins, qualities, and time course) and the conceptual bases for the naming.

Identification of Patient Subgroups Based on Experience with a Specific Symptom Cluster

Another approach to symptom cluster research is the identification of patient subgroups based on their experience with a specific symptom cluster (e.g., fatigue, pain, sleep disturbance, and depression). Appropriate statistical procedures should be used to identify the subgroups of patients. The name assigned to the patient subgroups, should be focused on the specific symptoms within the cluster and on some conceptual framework linked to the physiologic mechanisms or treatment-related factors. Determinations of how patient subgroups differ on demographic, clinical and outcomes characteristics can also help in the naming process. The subgroups identified then can be used in further analysis to help clarify treatment strategies and potentially improve outcomes.

Opportunities and Challenges

Given the limited research in this area, the opportunities for symptom cluster research are numerous. Methods of measurement and for analysis are important challenges that must be addressed if we are to better understand symptom clusters. The specifics of these issues will be addressed in the remainder of this paper using examples from the literature as illustrations.

Symptom Clusters Research Opportunities and Challenges: Evidence from Oncology

Identification of symptom clusters. Over twenty studies have evaluated symptom clusters

in oncology patients and the findings suggest the existence of three symptom clusters that occur with treatment related symptoms. These clusters are:

- "General symptom cluster" or "sickness behavior symptom cluster" = pain, fatigue, sleep disturbance, drowsiness
- "Gastro-intestinal symptom cluster" = nausea, vomiting
- "Emotional or mood-related symptom cluster" = sadness, distress, feeling irritable

One of the limitations (and also one of the challenges) in examining this literature, is the variety of instruments used to evaluate symptom clusters. Across these twenty studies, either the M. D. Anderson Symptom Inventory (13 symptoms), Symptom Distress Scale (13 symptoms), Edmonton Symptom Assessment Scale (9 symptoms), and/or the Memorial Symptom Assessment Scale (32 symptoms) were used to define the clusters. Only five symptoms are common across these four tools; pain, fatigue, nausea, lack of appetite, shortness of breath. Furthermore, each tool evaluates the dimension of the symptom differently. Some evaluate the intensity/severity while others the distress associated with the symptoms. Measurement is a major limitation to identification of stable symptom clusters across studies, but this challenge presents itself with an opportunity to refine measurement strategies to identify symptom clusters.

Another limitation (challenge) is the heterogeneity of the patient samples across these twenty studies. The heterogeneity extends to different diagnoses, stages of disease, and cancer treatments, again making the stability and independence of the symptom clusters unclear. At this point, it is uncertain how heterogeneous or homogeneous samples should be and hence, presents us with an opportunity. A variety of analytic procedures were used to create the symptom clusters which also presents a challenge. Factor analysis, cluster analysis, multidimensional scaling, and structural equation modeling all have strengths and weakness in explicating symptom clusters. But again the opportunity for clarification is there and guidelines about how and when each analysis strategy could be used need to be developed.

Evaluation of Patients Symptom Cluster Subgroups. Two studies (Miaskowski, et al. 2006; Pud, et al. 2008) have evaluated for subgroups of oncology patients based on their experiences with the symptom cluster of pain, fatigue, sleep disturbance, and depression. Both investigations used the same methodological approaches and analysis procedures. A heterogeneous sample of oncology outpatients completed the same symptom instruments; Brief Pain Inventory, Center for Epidemiologic Studies – Depression Scale, General Sleep Disturbance Scale, and the Lee Fatigue Scale. Hierarchical cluster analysis was used to identify the number of patient subgroups. The findings from the two studies were identical, identifying four subgroups of patients.

The patient groups were:

- All low subgroup — patients who reported low levels of all four symptoms
- All high subgroup — patients who reported high levels of all four symptoms
- High fatigue and low pain subgroup
- Low fatigue and high pain subgroup

Patients in the all high subgroup had the lowest quality of life scores, which is consistent with the symptom intensity and quality of life literature.

There are some limitations of these studies that should be mentioned. Cluster analysis is an exploratory technique so the findings may be specific to the patient populations studied and the instruments used to evaluate the symptoms. Names and characteristics of the subgroups may not generalize to other samples as the samples were primarily well educated, middle-aged patients. However the findings warrant replication to help evaluate whether these patient subgroups are consistent in other samples.

Symptom Clusters Research Opportunities and Challenge: Evidence from Other Clinical Areas

Besides oncology, other clinical areas have examined symptom clusters both to identify clusters and to evaluate patient symptom cluster subgroups. In psychiatry several studies have explored symptom clusters associated with schizophrenia in an effort to better characterize the associated symptom pattern (ref). In respiratory physiology, qualities of breathing such as tightness, effort to breath, breathing distress, suffocating, insufficient inspiration to name a few have been use to help research target underlying mechanisms (Simon et al. 1989, 1990).

Identification of Symptom Clusters. Lindgren and colleagues in a recent (2008) prospective study of cardiac symptoms in elderly patients with ischemic heart disease used cluster analysis to define symptom clusters. A relatively large somewhat homogenous sample (n=247) of elderly individuals were given a non-standardized symptom tool that asked about pain, shortness of breath, fatigue, palpitations, sleep, nausea, vomiting. These individuals were asked to rate these symptoms from 0 to 10 with 10 being the worst possible. Using hierarchical cluster analysis three symptom clusters were formed.

- Classic Acute Coronary Syndrome - (Pain-Fatigue)
- Weary – (Fatigue-Sleep)
- Diffuse Symptoms (Fatigue-shortness of breath)

The result of this study are similar to those of the oncology group in that there is a disease specific "general symptom cluster" that was found.

Evaluation of Patients' Symptom Cluster Subgroups. Ryan and colleagues (2007) conducted a secondary data analysis using nine studies (n=1069) to define acute myocardial infarction subgroups. Although different measures and scaling were carried out in this study, the investigators meticulously classified and recoded the measure to allow for analysis across studies. Twelve symptoms were identified that could be examined using cluster analysis techniques. Five patient symptom clusters subgroups were formed:

- Discomfort
- Discomfort and weakness
- Discomfort and nausea, vomiting, shortness of breath, sweating, fatigue, weakness
- No chest but other discomfort and abdominal pain, indigestion
- Low symptoms

All subgroups had a high probability of discomfort (chest, shoulder, arm, or hand) with the exception of the low symptom cluster. This investigation highlights both the challenge and the opportunity seized. This group of investigators met the challenges of measurement head on and address the issues by careful recoding and classification across symptoms.

Again cluster analysis is an exploratory technique and thus presents several problems related generalizability. Names and characteristics of the subgroups may not generalize to other populations. Heterogeneity versus homogeneity within a sample remains an ongoing issue as does the use of different measures and non-standardized measures such as in the studies reviewed above.

Methods of Measurement

The method of measuring symptoms is a very important issue and is truly related to the old adage, "garbage in garbage out." Use of instruments that measure multiple symptoms must examine the number of symptoms assessed and the quality(ies) of the symptom assessed by the instrument. For each symptom assessed, the specific qualities

(e.g., occurrence, severity, intensity, distress) need to be considered and specified *a priori.* Multi-symptom measures, while useful from a respondent burden standpoint, may not capture enough details about a specific symptom. For example if the issue is whether the symptom and that particular quality is occurrence of the symptom and the tool asks about distress associated with the symptom then that measure may not be the best one to use. A disease-specific instrument may be more useful if the symptom that is being measured is very disease specific (e.g. chest pain, wheezing) rather than relying on a generic symptom instrument.

Methods that Can Be Employed for Data Analysis

A comparison of the various statistical approaches that can be used to identify symptom clusters and patient subgroups is important for a nurse researcher to do in order to select the most appropriate approach for the proposed investigation. In an effort to help clarify the issues associated with the different analysis techniques the following table was developed.

Table 1 Analysis techniques that can be used for symptom cluster research

Technique	**Basic Assumptions**	**Identification Use**	**Considerations**
Factor analysis	Exploratory Normality	-Symptom clusters	Purpose to extract the underlying structure and dimensions -Factor loadings-quantify symptom fit with a factor Sample size -1:5 minimum symptom to subject ratio Scaling - Categorical - Dichotomous-If item-item correlations <0.60-0.70 (Kim & Mueller, 1978) Variable driven less directly subject subgroups
Structural equation modeling	Confirmatory	-Symptom clusters	Large sample size required Measurement model analyzed at the same time. More mathematical and theoretical choices in the clustering process than factor analysis. -Need special training/expertise Can handle both categorical and dichotomous data Get pictures that help with interpretation.
Hierarchical cluster analysis	Exploratory	-Symptom clusters -Patient subgroups	Equal emphasis to variables and subjects. Different ways of clustering the same points. More mathematical and theoretical choices in the clustering process than factor analysis. -Need special training/expertise Sample sizes Can handle both categorical and dichotomous data Get pictures that help with interpretation.
Latent profile analysis for quantitative/ qualitative variables	Exploratory	Symptom clusters Patient subgroups	Relatively large sample sizes are needed Needs special training and expertise

Opportunities & Challenges with Methods of Measurement and Data Analysis

There are significant opportunities in the area of measurement and data analysis associated with the symptom cluster research. For example comparison of various research design approaches to identify symptom clusters. A careful clarification of the best designs in various symptom presentation situations would move the research forward in important ways. Clarification of the following issues present important opportunities to improve investigations and expand our knowledge.

- Use of symptom occurrence, severity, or distress scores to create symptom clusters.
- Number and types of symptoms within different symptom inventories.
- Use of generic versus disease-specific symptom inventories.

Future Directions for Symptom Cluster Research

In this paper the authors have endeavored to describe the current state of the science in symptom cluster research. It is clear in some, but not all, conditions where symptoms are prominent that symptom clusters are present and may influence treatments and outcomes. However, as with much of science, the answering of some questions leads to additional questions. Further carefully designed and carried out research is needed if understanding and treatment of symptom clusters is to occur. Future direction of symptom cluster research must pay attention to key issues that remain (Table 2). In particular, refinement of the definition based on the emerging information is foundational to progress.

Table 2 Future Research Directions	
Refine the definition of a symptom cluster	
	Within/across chronic/acute conditions
	Naturally occurring/treatment induced
Determine the prevalence/occurrence of symptom clusters	
	Within/across chronic/acute conditions
	Naturally occurring/treatment induced
Determine the mechanisms that underlie the development of symptom clusters	
Determine if symptom clusters change	
	Across the trajectory of medical conditions
	Within and across various treatments for medical conditions
Determine the optimal statistical and design approaches to evaluate stability of symptom clusters	
	Analysis strategies
	Multiple methods (factor & cluster analysis, etc)
	Design strategies
	Cross-sectional studies
	Longitudinal studies

References

Dodd, M.J., Miaskowski, C., Paul, S.M. (2001). Symptom clusters and their effect on the functional status of patients with cancer. *Oncology Nursing Forum*. 28, 465-70.

Kim, H.J. , McGuire, D.B. , Tulman, L. , Barsevick, A.M. (2005), Symptom clusters: concept analysis and clinical implications for cancer nursing. *Cancer Nursing*. 28: 270-82.

Leventhal, H., Meyer, D. & Nerenz, D. (1980). The common sense representation of illness danger. In S. Rachman (Ed.), Contributions to medical psychology. New York: Pergamon Press. Vol. 2, 7-30.

Lindgren, T., Fukuoka, Y., Rankin, SH., Cooper, B.A., Carroll, D., Munn, Y.L. (2008) Cluster analysis of elderly cardiac patients' prehospital symptomatology. *Nursing Research*. 57: 14–23.

Miaskowski, C., Aouizerat, B.E., Dodd, M., Cooper, B. (2007), Conceptual Issues in Symptom Clusters Research and Their Implications for Quality-of-Life Assessment in Patients with Cancer. *Journal of the National Cancer Institute Monograph*. 37, 39-46.

Miaskowski, C., Cooper, B.A., Paul, S.M., Dodd, M., Lee, K., Aouizerat, B.E., West, C., Cho, M., Bank, A. (2006). Subgroups of patients with cancer with different symptom experiences and quality-of-life outcomes: a cluster analysis. Oncology Nursing Forum; 33: E79-89.

Miaskowski, C. (2006). Symptom clusters: establishing the link between clinical practice and symptom management research. *Support Care Cancer*. 14: 792 – 4.

Pud, D., Ben Ami, S., Cooper, B.A., Aouizerat, B.E., Cohen, D., Radiano, R., Naveh, P., Nikkhou-Abeles, R., Hagbi, V., Kachta, O., Yaffe, A., Miaskowski, C. (2008). The symptom experience of oncology outpatients has a different impact on quality-of-life outcomes. *Journal of Pain and Symptom Manage*. 35:162-70.

Ryan, C.J., DeVon, H.A., Horne, R., King, K.B., Milner, K., Moser, D.K., Quinn, J.R., Rosenfeld, A., Hwang, S.Y., Zerwic, J.J. (2007). Symptom clusters in acute myocardial infarction a secondary data analysis. *Nursing Research*. 56: 72-81.

Simon, P.M., Schwartzstein, R.M., Weiss, J.W., Fencl, V., Teghtsoonian, M., Weinberger, S.E. (1990). Distinguishable types of dyspnea in patients with shortness of breath. *American Review of Respiratory Diseases.* 142:1009-14.

Simon, P.M., Schwartzstein, R.M., Weiss, J.W., Lahive, K., Fencl, V., Teghtsoonian, M., (1989). Distinguishable sensations of breathlessness induced in normal volunteers. *American Review of Respiratory Diseases.* 140:1021-7.

Teel, C. S., Meek, P., McNamara, A. M., & Watson, L. (1997). Theoretical perspectives unifying symptom management. *Image*, 29, 175-181.

The Carol A. Lindeman Award for a New Researcher

MATERNAL USE OF MOOD DISORDER MEDICATION PREDICTS THE OCCURRENCE OF PRETERM BIRTH

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Purpose/Aims*:*
Nearly half of all preterm births (PTB) are idiopathic and predominantly related to psychosocial factors widely thought to contribute to maternal chronic stress.[1] There is compelling evidence that chronic maternal stress may prematurely trigger the physiologic events that lead to birth.[2-5] The primary purpose of this prospective cohort study of 100 pregnant women was to evaluate the association between chronic stress and PTB from a biobehavioral perspective. Chronic stress was operationalized by using one biological marker (corticotrophin-releasing hormone – CRH), and several psychometric, demographic, and behavioral measures. The aims of the study were to 1) evaluate the relationships between chronic stress measures at 14-20 weeks gestation and the outcome of PTB, and 2) determine which measures provide the best predictive value for PTB. A long-term goal of this research focus is to identify at-risk groups of women who could be targeted for nursing interventions.

Background:
Preterm birth (defined as birth that occurs prior to 37 completed weeks of pregnancy) is the major contributor to infant morbidity and mortality and often has serious long-term health consequences, such as cerebral palsy, blindness, and developmental difficulties.[6, 7] No single causation has been identified and there is general agreement that PTB has a multiplicity of contributors.[1, 8] There is a fairly clear understanding of, and approach to, the management of mechanical and medical contributors to the occurrence of preterm birth (i.e., multiple gestation, placental abruption, polyhydramnios, infection), as well as medically induced PTB (i.e., due to placental insufficiency and severe pregnancy induced hypertension).[9] However, the mechanisms involved in the *psychosocial* associations with PTB are much less clear. Several studies have begun to shed light on the maternal and fetal stress responses and the related cascade of physiologic events occurring during pregnancy.[2, 3, 5, 10-17] These studies support the premise that a *chronically* activated stress response, as opposed to an acutely activated response, eventually triggers a premature sequence of physiologic events that culminates in birth (i.e. increased production and secretion of placental CRH and fetal adrenal DHEAS, cervical and membrane degradation and remodeling, and gap-junction changes in uterine myometrial cells). Central to these events is a precocious increase in placental CRH. Several studies report a higher incidence of PTB in association with both chronic stress and increased maternal CRH levels during pregnancy.[5, 13, 16-18] Studies also report a positive correlation between chronic maternal stress and serum CRH levels.[14, 19] The pathways in these associations may involve complex interactions between the maternal stress response, and the physiology of pregnancy and birth.[3, 20-22] Figure One below posits a model that depicts the sequence of events leading to PTB.

Methods:
Sample and Setting: Pregnant women (n=120) were recruited and enrolled from three

community obstetrical clinics that serve a diverse population in the Salt Lake City area. All women scheduled for a first or "new" prenatal visit for the pregnancy were targeted for recruitment. Women, who were less than 20 weeks of gestation, at least 18 years of age, and spoke English, were invited to participate in the study. Participants were excluded if they had a history of hypertension, diabetes, cardiovascular disease,

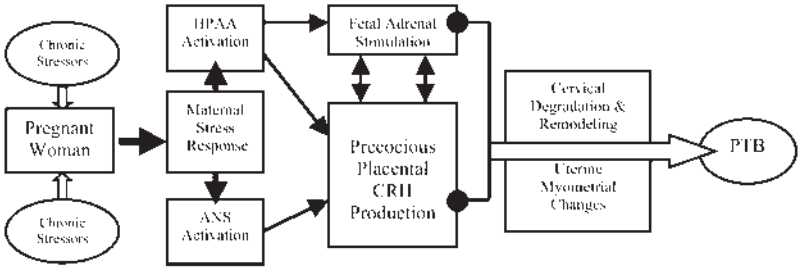

Figure 1: Biobehavioral Pathway from Chronic Stress to Preterm Birth
HPA: Hypothalamic-Pituitary-Adrenal Axis; ANS: Autonomic Nervous System; CRH: Corticotropin-Releasing Hormone; PTB: Preterm Birth

immune disorders, autoimmune disorders, threatened abortion, vaginal bleeding, or systemic corticosteroid therapy. Twenty women were excluded from the study after

Table One: Sample Demographics

Characteristic	*% of Sample n=100*
Ethnicity	
Hispanic	24
Non-Hispanic	76
Race	
White	69
Hispanic/Mexican	13
African/African American	4
Pacific Islander	4
Multi	4
Asian	3
American Indian/Alaskan Native	3

Table Two: Sample Demographics

Characteristic	*% of Sample n=100*
Marital Status	
Married	64
Living with Partner	13
Single	21
Divorced/separated	2
Parity	
Nulliparous	36
Multiparous	64
Health Insurance	
Private	56
State Medicaid	33
Uninsured/Self-Pay	11

initial enrollment, 8 who had spontaneous abortion, 3 who declined to continue participation, and 9 women who transferred to other clinics and were lost to follow-up. Very few women reported the use of tobacco, alcohol, or social drugs (less than 5% for any one of these), which is not unusual for the Utah population. Tables One and Two provide a demographic summary for the study sample.

Measures: Between 14 and 20 weeks of pregnancy (verified by ultrasound examination prior to 20 weeks of gestation), the following measures were obtained: (1) maternal serum CRH levels via radioimmunoassay, (2) CES-D – Center for Epidemiological Studies Depression Scale, (3) PSS – Perceived Stress Scale, (4) LOT-R – Life Orientation Test Revised (a measure of optimism vs. pessimism), (5) Brief Cope Scale (a measure of coping style), (6) PSA – Pregnancy Specific Anxiety Scale, and (7) NSSQ – Norbeck Social Support Questionnaire, in addition to demographic and behavioral questions

addressing tobacco, alcohol, and substance use, sleep, physical activity, and nutrition patterns, domestic violence, and use of medications for mood disorders (i.e. anxiety and depression). Prenatal and hospital delivery records were reviewed to obtain prenatal course, complications, and outcome data (preterm vs. term delivery) for each participant. *Procedures:* The study was reviewed and approved by the Institutional Review Board of the University of Utah prior to study commencement. Participants were recruited from three community prenatal clinics after approval by the University of Utah Health Research Network. Clinic staff and providers invited each clinic attendee to speak with the researcher, who was on-site and available to inform, consent, and enroll women into the study. Between 14 and 20 weeks of gestation, maternal blood samples were collected for the study. These samples were collected by the clinic phlebotomist at the same time as each woman's routinely scheduled prenatal samples were being collected. At that time women also received the study questionnaire to be taken home for completion. A stamped and addressed envelope was provided for return of the survey within 2 weeks. Upon return of the questionnaire, participants were given a $10 gift card for use at local grocery/department stores. Surveys required approximately 45-60 minutes for completion. Maternal blood samples were processed according to pre-established lab protocols.[23] Briefly, samples were immediately chilled after collection, transported to the central research lab, and processed via refrigerated centrifugation within 8 hours. Plasma aliquots were then placed into -80ºC storage to await batch assay. CRH was measured using commercially prepared (Phoenix Laboratories) radioimmunoassay kits in the biobehavioral lab of Roberta J. Ruiz, RNC WHCNP PhD (University of Texas Medical Branch – Galveston). Prenatal and delivery records were reviewed by the researcher, to complete the database.

Statistical Analysis:
The SPSS statistical software package (v17) was used for data management and analysis. Reverse coding was completed where necessary (i.e. CES-D, PSS and LOT-R instruments), the data cleaned, and descriptive statistics evaluated. Square root transformation was completed for overly skewed data. One variable, CRH, was determined to have a bimodal distribution; values were clustered at opposite poles of the range of values, and included 23 women with non-detectable CRH levels. Evaluation of this split established that there was no difference in mean gestational age between women in the "low" and "high" CRH groups (17.35 weeks vs.17.20 weeks, respectively; $t=0.352$; $df = 98$; $p = 0.725$), thus excluding the possibility that those women at lower gestational ages accounted for the low and non-detectable levels of CRH. Given this bimodal distribution, as well as the results of other studies which implicate a precocious elevation of placentally-derived CRH production as a contributor to PTB, the CRH variable was dichotomized at the 75th percentile for use in statistical analyses. Chi-square analyses were used to test the associations between categorical variables. Independent samples t-tests were conducted for continuous level variables. A stepwise logistic regression (LR) analysis was conducted, entering potential confounding variables into the model first (maternal age, antepartum complications, previous history of obstetrical complications). Given the exploratory nature of the study, alpha was set at 0.1 as the entry criteria for the LR.

Results:
One hundred women had maternal blood samples collected for CRH measurement. Eighty-five women completed the questionnaire. Women who did not return questionnaires were more likely to be single ($\chi^2=9.19$, $p=.01$), Medicaid recipients or uninsured

(χ^2=10.89, p=.005), taking prescriptions for mood disorders (χ^2=3.42, p=.064), and between 18-24 years of age (χ^2=5.34, p=.07). Associations were found between PTB and the use of medication for mood disorders prior to 20 weeks of gestation, and at any time during pregnancy. An association was also found between CRH level and PTB. Results of the Chi-square analyses are reported in table three. Furthermore, a difference was found in pregnancy related anxiety scores between women delivering at term vs. preterm (10.0 vs.12.6, respectively; t=-1.89; df=82; p=0.06). These variables were subsequently entered into the logistic regression analysis.

Variable	χ^2 (df)	Sig.	Phi coefficient
CRH (low vs. high)	13.154 (1)	.000	.366
Mood Rx Use Prior to 20 weeks	13.485 (1)	.000	.402
Mood Rx Use any time in pregnancy	4.968 (1)	.029	.221

Table Three: Results of Chi-square (χ^2) Tests of Association with PTB
df: degrees of freedom Sig: Significance Level CRH: corticotropin-releasing hormone
Mood Rx: Medication for mood disorder (depression and anxiety)

Logistic regression identified two predictors for PTB, with an overall classification of 90.4%. The results of the final LR model are shown in table four. Women who reported using a mood disorder medication at any time during the first half of pregnancy (n=13, including 3 who stopped the medication upon confirmation of pregnancy) had an odds ratio of nearly 12, while women with CRH levels in the 4th quartile were nearly 7 times more likely to deliver preterm than those with lower CRH levels. After adjusting for confounding variables, these two predictors together accounted for 32.7% of the variance in the outcome of PTB. No association was found between CRH levels and the use of medication for mood disorders.

Table Four: Results of Logistic Regression Analysis for the Prediction of PTB

Variables in Model	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for Exp(B)	
							Lower	Upper
CRH	1.888	.797	5.612	1	.018	6.609	1.385	31.531
Mood Rx	2.457	.842	8.521	1	.004	11.666	2.241	60.714
Constant	-3.329	.661	25.395	1	.000	.036		

B: beta coefficient; S.E.:Standard Error; df: degrees of freedom; Sig.: significance level
Exp(B): Odds Ratio; CI: confidence interval; CRH: corticotropin-releasing hormone (low vs. high)
Mood Rx: any use of medication for mood disorder (depression or anxiety) prior to 20 weeks gestation (no vs. yes)

Discussion:
This study did not find associations between several measures of chronic stress (maternal depression, perceived stress, and low social support) and PTB. This may reflect a lack of power to detect such associations due to the small sample size and relative low occurrence of PTB. Nevertheless, the study did find associations between PTB and high

CRH, higher pregnancy-related anxiety scores, and maternal use of medications for mood disorders. This is consistent with the few studies which report evaluation of these associations.[24-27] Existing data suggest that maternal depression and/or antidepressant use during pregnancy is associated with an increased risk of PTB.[28] The pathophysiological pathway, at least for depression and PTB, may involve an increase in maternal cortisol levels which drives the increased production of placentally-produced CRH.[16, 21, 29] CRH plays a central role in the initiation of the physiological changes necessary for labor and birth.[30] This cascade of events is normal at term, but the timing occurs prematurely in the case of PTB. This theoretical explanation for both chronic stress and depression-related PTB has been forwarded by a number of researchers.[3, 5, 12-14, 16, 17, 31, 32] However, it is unknown how the use of antidepressants may contribute to the occurrence of PTB. Studies provide conflicting data specifically related to depression, anxiety, medication use, and preterm birth. The reasons for these conflicts are likely due to differences in measures used, study populations, and consideration for confounding variables. For example, some researchers use clinical diagnostic criteria (i.e. Diagnostic & Statistical Manual-IV) for diagnosing mood disorders, while others use participant completed instruments (i.e. CES-D, Beck Depression Scale, State-Trait Anxiety Inventory etc.). One study reported an association between depression scores and PTB, but did not report medication status.[25] Another study indicated that maternal cortisol levels had a stronger association with PTB than did depression scores, but also failed to indicate medication status.[26] Two studies which did include medication status had conflicting results. Suri et al[27] conducted a study of 90 pregnant women (49 with depression and taking medication, 22 with depression, not taking medication, and 19 healthy comparisons) and reported that 7 of the 8 women who had PTB were taking anti-depressant medication. Thus, these researchers suggested that it is medication status, rather than depression that predicts PTB. In a large population-based study, Anderson et al[24] found no association between a diagnosis of depression or anxiety and PTB, but also reported that all 18 women taking medication at discovery of the pregnancy immediately stopped. It is not apparent in either of the last two studies mentioned, that confounding variables were taken into consideration. This, and the small sample size in one study, could provide conflicting results.

It is known that stress, depression, and anxiety are highly correlated. Furthermore, 10-12% of women in the US may be using medications to treat mood disorders during pregnancy. It is unknown how these medications impact the physiology of pregnancy and birth, or the interaction between pregnancy physiology and mood-related physiology. Moreover, causation cannot be assumed. While the results of this study indicate that CRH level and maternal use of medications for mood disorders both predict the occurrence of PTB, no association between these two variables was demonstrated. This could indicate parallel involvement of distinctly different mechanisms for each of these predictors. A mechanism for the relationship between medications for mood disorders and PTB has not been posited.

Although several studies add support to the premise that chronic stress, including depression and anxiety, interacts with maternal physiology to incite PTB, the pathways involved have not been clearly established.[33] Furthermore, these studies do not explain why the vast majority of women with depression, anxiety, and chronic stress do not go on to deliver preterm babies. Genetic predisposition, as well as individual allostatic load (physiologic “wear and tear” over a lifetime of stress response), could account for this.

Conclusion/Implication:

The results of this study suggest that women who take medications for mood disorders

(i.e. depression and anxiety), and those with higher levels of CRH are at higher risk for PTB. These results are consistent with the few existing studies. The mechanisms are unclear particularly regarding the effects of medication use during pregnancy. The Scientific Advisory Committee (SAC) on Prematurity (advisors to the National March of Dimes Campaign) has made a specific call for investigations that target the etiologic mechanisms of PTB, such as psychosocial contributors and identification of biomarkers.[34] The SAC admits that the precise mechanism by which psychosocial factors influence the occurrence of PTB are *largely unknown*. Nurse researchers are well-suited by education and philosophy to engage in psychosocial, biobehavioral, and intervention studies in this area. Such investigations should include large sample sizes, as well as multiple measures of chronic stress and/or psychological conditions. The inclusion of relevant biologic measures (i.e. cortisol, CRH, immune mediators, genetic polymorphisms) and control for confounding variables is essential. This will assist nurse researchers to better understand the mechanisms involved and to introduce and evaluate nursing interventions to reduce the risk of PTB. Any ability of nurses to reverse the ongoing increase in the occurrence of PTB would make a positive impact on the lives of mothers and babies to come.

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References

1. Goldenberg RL, Culhane JF, Iams JD, Romero R. Epidemiology and causes of preterm birth. Lancet 2008;371:75-84.
2. Behrman RE, Stith Butler A, eds. Preterm Birth: Causes, consequences, and prevention. Washington, DC: National Academies Press; 2007.
3. Hobel C. Stress and preterm birth. Clin Obstet Gynecol 2004;47:856-80.
4. Latendresse G. The interaction between chronic stress and pregnancy: Preterm birth from a biobehavioral perspective. Journal of Midwifery & Women's Health 2009;54:8-17.
5. Rich-Edwards JW, Grizzard TA. Psychosocial stress and neuroendocrine mechanisms in preterm delivery. Am J Obstet Gynecol 2005;192:S30-5.
6. Allen MC. Neurodevelopmental outcomes of preterm infants. Curr Opin Neurol 2008;21:123-8.
7. Petrou S, Sach T, Davidson L. The long-term costs of preterm birth and low birth weight: Results of a systematic review. Child: Care, Health & Development 2001;27.
8. Steer P. The epidemiology of preterm labour. Bjog 2005;112 Suppl 1:1-3.
9. Iams JD, Romero R, Culhane JF, Goldenberg RL. Primary, secondary, and tertiary interventions to reduce the morbidity and mortality of preterm birth. Lancet 2008;371:164-75.
10. Challis JR. Maternal corticotropin-releasing hormone, fetal growth, and preterm birth. Am J Obstet Gynecol 2004;191:1059-60.
11. Glynn LM, Schetter CD, Hobel CJ, Sandman CA. Pattern of perceived stress and anxiety in pregnancy predicts preterm birth. Health Psychol 2008;27:43-51.
12. Hogue CJ, Bremner JD. Stress model for research into preterm delivery among black women. Am J Obstet Gynecol 2005;192:S47-55.
13. Makrigiannakis A, Semmler M, Briese V, et al. Maternal serum corticotropin-releasing hormone and ACTH levels as predictive markers of premature labor. Int J Gynaecol Obstet 2007;97:115-9.
14. Mancuso RA, Schetter CD, Rini CM, Roesch SC, Hobel CJ. Maternal prenatal anxiety and corticotropin-releasing hormone associated with timing of delivery. Psychosom Med 2004;66:762-9.
15. Park JS, Park CW, Lockwood CJ, Norwitz ER. Role of cytokines in preterm labor and birth. Minerva Ginecol 2005;57:349-66.
16. Sandman CA, Glynn L, Schetter CD, et al. Elevated maternal cortisol early in pregnancy predicts third trimester levels of placental corticotropin releasing hormone (CRH): priming the placental clock. Peptides 2006;27:1457-63.
17. Wadhwa PD, Garite TJ, Porto M, et al. Placental corticotropin-releasing hormone (CRH), spontaneous preterm birth, and fetal growth restriction: a prospective investigation. Am J Obstet Gynecol 2004;191:1063-9.
18. Ruiz RJ, Fullerton J, Dudley DJ. The interrelationship of maternal stress, endocrine factors and inflammation on gestational length. Obstet Gynecol Surv 2003;58:415-28.
19. Hobel C, Dunkel-Schetter C, Roesch SC, Castro LC, Arora CP. Maternal plasma corticotropin-releasing hormone associated with stress at 20 weeks' gestation in pregnancies ending in preterm delivery. Am J Obstet Gynecol 1999;180:S257-63.
20. Hillhouse EW, Grammatopoulos DK. Role of stress peptides during human pregnancy and labour. Reproduction 2002;124:323-9.
21. Gibb W, Challis JR. Mechanisms of term and preterm birth. J Obstet Gynaecol Can 2002;24:874-83.

22. Norwitz ER, Robinson JN, Challis JR. The control of labor. N Engl J Med 1999;341:660-6.
23. Latendresse G, Ruiz RJ. Bioassay research methodology: measuring CRH in pregnancy. Biol Res Nurs 2008;10:54-62.
24. Andersson L, Sundstrom-Poromaa I, Wulff M, Astrom M, Bixo M. Neonatal outcome following maternal antenatal depression and anxiety: a population-based study. Am J Epidemiol 2004;159:872-81.
25. Dayan J, Creveuil C, Marks MN, et al. Prenatal depression, prenatal anxiety, and spontaneous preterm birth: a prospective cohort study among women with early and regular care. Psychosomatic Medicine 2006;68:938-46.
26. Field T, Hernandez-Reif M, Diego M, Figueiredo B, Schanberg S, Kuhn C. Prenatal cortisol, prematurity and low birthweight. Infant Behav Dev 2006;29:268-75.
27. Suri R, Altshuler L, Hellemann G, Burt VK, Aquino A, Mintz J. Effects of antenatal depression and antidepressant treatment on gestational age at birth and risk of preterm birth. The American Journal Of Psychiatry 2007;164:1206-13.
28. Alder J, Fink N, Bitzer J, Hosli I, Holzgreve W. Depression and anxiety during pregnancy: a risk factor for obstetric, fetal and neonatal outcome? A critical review of the literature. J Matern Fetal Neonatal Med 2007;20:189-209.
29. Erickson K, Thorsen P, Chrousos G, et al. Preterm birth: associated neuroendocrine, medical, and behavioral risk factors. J Clin Endocrinol Metab 2001;86:2544-52.
30. McLean M, Bisits A, Davies J, Woods R, Lowry P, Smith R. A placental clock controlling the length of human pregnancy. Nat Med 1995;1:460-3.
31. McGrath S, Smith R. Prediction of preterm delivery using plasma corticotrophin-releasing hormone and other biochemical variables. Ann Med 2002;34:28-36.
32. Smith R, Van Helden D, Hirst J, et al. Pathological interactions with the timing of birth and uterine activation. Aust N Z J Obstet Gynaecol 2007;47:430-7.
33. Halbreich U. The association between pregnancy processes, preterm delivery, low birth weight, and postpartum depressions--the need for interdisciplinary integration. Am J Obstet Gynecol 2005;193:1312-22.
34. Green NS, Damus K, Simpson JL, et al. Research agenda for preterm birth: recommendations from the March of Dimes. Am J Obstet Gynecol 2005;193:626-35.

The Pat A. Perry Biological Nursing Research Award

RCT OF THE EFFICACY OF SILVER NANOPARTICLE GEL AGAINST BACTERIAL HAND FLORA

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Introduction/Background: Health care associated infections (HAIs) in the United States affect more than 2 million patients each year leading to approximately 90,000 unnecessary deaths.[1,2] In addition to the morbidity and mortality burdens, HAIs add more than $4.5 billion to the total national health care cost.[1,2] The hands of health care workers (HCWs) are the primary mode of transmission of HAIs to patients.[3-5] Within the military health care environment, the impact of military field operations on HAIs has not yet been fully elucidated, although the incidence of war related infections has significantly increased, making infection control a fundamental concern for all military environments. Additionally, the Joint Commission (TJC) has identified infection control and prevention as one of the major Standard Improvement Initiatives (SII) required for hospital accreditation.[6]

Effective hand hygiene is vital for the prevention and control of HAIs.[7] In support of effective hand hygiene, studies have shown that with proper use of hand hygiene agents, infection rates can be lowered within the health care setting.[12-14] In most health care settings, easy access and a variety of hand hygiene agents are readily available for health care workers to use. However, deployed military medical personnel are frequently required to live and work in austere environments where simple infection control measures such as adequate access to running water, availability of sinks, and hand hygiene products are often limited.[15,16] Furthermore, deployed medical personnel often work for extended periods of time without access to hand hygiene resources during humanitarian or military operations, such as patient evacuation and transport, and could benefit from some form of hand antiseptic with persistent antimicrobial effects. Although current hand hygiene practices call for the use of alcohol-based hand gels,[17] their usefulness within military and other austere environments are limited. Alcohol gels are effective only against bacteria and non-enveloped viruses and provide limited persistent antimicrobial activity, poor protection against spores, parasites, and certain fungi.[18]

Investigation exploring alternative approaches to antimicrobial therapies is lacking, especially in austere environments. Thus, research of novel technologies aimed at reducing the immediate transmission of bacteria as well as providing a persistent antibacterial effect after therapy application on the hands of health care providers is urgently needed to decrease HAIs and improve patient safety. As contaminated hands of HCWs represent one of the most frequent means by which transient hand flora are transmitted to others,[19,20] testing the efficacy of a novel therapeutic for immediate reduction of bacteria is needed. Persistent action of a substance is desirable when prolonged antibacterial activity is necessary, such as wearing gloves during a long procedure.[21] Additionally, the importance of user acceptability as a critical element in contributing to the overall success of reducing HAIs and the successful implementation of any hand hygiene product has been previously identified.[22]

One novel alternative therapy that shows promise in providing both immediate and persistent antimicrobial protection involves the use of silver nanoparticles.[23] Nanoparticles, particles smaller than 100nm, are emerging as a new class of therapeutics responsible for enhancing efficacy of various drugs and other products, while simultaneously decreasing side effects attributable to the unique properties of the nano-sized particles.[24] Silver is a noble metal that has been used throughout history for its unique antimicrobial properties. At the nanoscale, these properties may prove to be even more accommodating.[23,25,26] Recent studies suggest that silver nanoparticles may provide a broader spectrum of antimicrobial coverage and may also provide persistent antimicrobial effects in contrast to alcohol-based gels.[27,28] In addition, several studies suggest the possibility that silver nanoparticles might be more resilient to the development of bacterial resistance than other hand hygiene products presently available.[23,26,29-34]

Currently, a variety of consumer and medical products claim to contain silver and antibacterial properties. Caution is required however, since not all products containing silver work in the same manner or are capable of antibacterial activity. The dissimilarity found amongst silver products is largely due to: (a) the type and size of the silver particle, (b) various chemical compounds mixed with the silver, (c) different delivery platforms, and (d) lack of standardized testing methods.[35] Nonetheless, the efficacy of silver nanoparticles as an antiseptic remains relatively unexplored. In particular, little is known about the immediate and persistent antibacterial efficacy of silver nanoparticles. Further, user acceptability of silver nanoparticles is not known. Thus, the potential efficacy and user acceptability of silver nanoparticles merits investigation with implications for infection control and use in austere environments. Therefore, this study focused on both the antimicrobial efficacy and user acceptance of silver nanoparticle gel.

Purpose: The purpose of this study was to compare the immediate and persistent antimicrobial efficacy and user acceptability of a silver nanoparticle gel to a commercialized alcohol-based hand gel on bacterial counts isolated from the hands of 22 volunteers seeded with *Serratia marcescens,* a gram negative bacterium.
Specific Aims:

- Aim #1: Compare the immediate antimicrobial efficacy of a silver nanoparticle gel (SilvaSorb™, AcryMed, Inc., Portland, OR) versus an alcohol-based hand gel (Purell™, GoJo Industries, Akron, OH) on transient bacterial counts isolated from hands seeded with *S. marcescens.*
- Aim # 2: Compare the persistent antimicrobial efficacy of a silver nanoparticle gel versus an alcohol-based hand gel on transient bacterial counts isolated from hands seeded with *S. marcescens.*
- Aim # 3: Compare user acceptability of a silver nanoparticle gel versus an alcohol-based hand gel using a self-assessment questionnaire.

Immediate efficacy was defined as a reduction in bacterial counts 1 minute after gel application. Persistent efficacy was defined as a persistent effect of gel application after 10 minutes in reducing bacterial counts. Bacterial counts were measured at baseline and after immediate and persistent gel application conditions.

Methods: *Design:* A randomized controlled, double blinded, 2-group (alcohol-based gel vs. silver nanoparticle gel) by 3 condition (baseline, immediate, persistent) experi-

mental design was used to compare the antimicrobial efficacy of a silver nanoparticle gel with a commercialized alcohol-based hand gel on bacterial counts isolated from the seeded hands of healthy adult subjects. The study was conducted in two phases. The first phase of the study was the methods development period, necessary to establish technical consistency of the protocols and to obtain assurance of bacterial elimination at the completion of the testing period. Subjects in this phase were not included in the final sample size nor were any data included in the final results. The second phase of the study consisted of the interventional period whereby 24 subjects were randomly assigned to either a silver nanoparticle gel (experimental) group or an alcohol-based gel (standard of care control) group using a computer generated random numbers table. Pre-sealed opaque envelopes were opened by subjects at the time of the testing procedure to avoid sampling bias. The investigator, subjects, and technicians performing biologic analyses were blinded to group assignment.

Sample and Power Analysis: A sample size of twenty adults was desired to complete the entire study; therefore, twenty-four adults were enrolled during the month of April 2008 to allow for potential dropouts or possible attrition. An effect size of 1.25 was anticipated for comparing baseline with immediate and persistent efficacy conditions, given a sample of 20 subjects and an 80% likelihood of finding true differences with a two-tailed .05 alpha level of significance. From the original sample, twenty-four subjects met all inclusion criteria and were randomized into two groups of 12. Two of the subjects, one from each group, were excluded due to hand abrasions. The remaining twenty-two subjects remained through completion of the study. All subjects were active duty military members between the age of 18 and 27 years.

Recruitment and Setting: Subjects were recruited from the didactic phase of a Licensed Practical Nurse (LPN) training program at Ft. Lewis, Washington. The subjects were not engaged in a clinical practicum at the time of the study. Volunteers who met the eligibility requirements based on the inclusion/exclusion checklist were invited to participate in the study.

Procedures: Approval for this study was obtained from the University of Washington's Human Subjects Division and Madigan Army Medical Center's IRB prior to the start of the study. Written consent was obtained from each participant before starting study procedures. *Washout period:* Subjects received a personal hygiene kit containing non-antimicrobial soap, shampoo, and several pairs of disposable plastic gloves to be worn when contact with antimicrobial or harsh chemicals could not be avoided and were instructed to avoid using any topical antimicrobials, medicated soaps, lotions, or foams, avoid swimming in treated pools, hot tubs or spas, and avoid using any ultraviolet light tanning beds, for the next seven days. This was identified as the "washout" period and was necessary for stabilization of normal bacterial hand flora.[36] After the one week washout period was completed, subjects returned to the laboratory and were randomized to one of the two groups. *Visual Hand Inspection:* The study investigator examined the subjects' hands using a visual inspection skin tool for any cuts or sores that might have developed during the one week washout period, and then asked subjects a series of questions regarding their washout compliance from the previous week using a standardized checklist. *Sampling:* Regardless of group assignment, all subjects began the study with a baseline sampling condition, and then in random order, proceeded with the remaining two conditions (immediate and persistent). Subjects start by gowning and applying a face mask with a plastic face shield for personal protection. Next, subjects performed a 1 minute "practice" hand wash and rinse guided by a "how-to" photo chart in the presence of the investigator. No rings or jewelry were

allowed. The practice hand wash removed oil and dirt and provided familiarity to the subjects with the washing technique. Non-antibacterial soap (Soft Soap™, Colgate-Palmolive Co., NY) was used. *Baseline sampling* consisted of subjects' hands being contaminated by a pipette filled with a 1.5 mL aliquot of *S. marcescens* (10^8 CFU/mL) culture. The subjects were then asked to distribute the surrogate marker evenly over both hands. Subjects massaged their hands for 30 seconds followed by one minute of timed air drying during which time the hands were held motionless away from the body. In accordance with the guidelines supplied by the American Society for Testing and Materials for the evaluation of healthcare personnel handwash formulations (ASTM E 1174-06),[36] the contamination process was then repeated two additional times. Microbial efficacy was determined using a modified glove juice technique where subjects placed their hands into a special solution which effectively stripped the bacteria from the hands thus providing a more rigorous and validated sampling of bacterial hand flora.[3] Once the baseline samples were obtained, the subjects washed their hands with regular soap and water; air dried their hands for one minute, and then proceeded with the remaining two random ordered conditions. *Immediate sampling* consisted of subjects' hands being re-inoculated with 1.5 mL of the *S. marcescens,* followed by one minute of timed air drying. Once the hands were dry, 3 mL of either the alcohol-based hand gel or the silver nanoparticle gel was applied. Subjects were asked to distribute the gel evenly over both hands following the printed graphic chart for one minute which was timed using a stop watch. Subjects then placed their hands sequentially into a sterile plastic bag containing 75 mL of glove juice solution with neutralizers. The study investigator then massaged all surfaces of the hand in the bag for one minute. After hands were removed from the bag, subjects were instructed to wash their hands with soap and water, dry by air for one minute, and wait for the next sampling. *Persistent sampling* differed in that subjects received 3 mL of the appropriate gel first. Then, after ten minutes, the subjects' hands were re-inoculated (as described before) with the 1.5 mL of the surrogate marker, massaged for 30 seconds followed by one minute of timed air drying. Once the subjects' hands were dry, the modified glove juice sampling was obtained. Subjects then were instructed to wash their hands with soap and water again and wait for the next step.

Degerming and Acceptability Survey: After all three sampling conditions were concluded subjects completed a degerming protocol to ensure that 99.9% of the surrogate marker bacteria were removed from their hands as validated during the methods development phase of the study. Bacterial removal was accomplished using a 70% ethanol liquid surgical hand wash (Johnson & Johnson, Racine, WI), and with the administration of a 1 minute exposure to their hands using a UV-C nano germicidal lamp. After completion of the final degerming process, subjects were taken to a designated room and asked to complete a short four question survey regarding user acceptability of the gel they used. All samples were serial diluted in triplicate, plated, and incubated aerobically for 48 hours at 28˚C. Colony Forming Units (CFUs) were then counted using an automatic cell counter. Scores for each condition were then averaged.

Results: In order for a topical antibacterial product to be considered efficacious, the FDA requires a 2 $\log_{10}$ CFU/cm^2 reduction in bacterial counts within one minute of a single application.[37] Consequently, the data from this study were converted to $\log_{10}$ so that a direct comparison could be made with the FDA requirement. Figure 1 indicates that for immediate efficacy, alcohol-based hand gel decreased bacterial CFUs by a $\log_{10}$ reduction factor of 3.5, thereby exceeding the FDA efficacy requirement. The silver nanoparticle gel reduced CFUs by 1.5 $\log_{10}$ and therefore did not meet the FDA

stipulation for immediate efficacy as a hand sanitizer. However, for persistent efficacy, the silver nanoparticle gel decreased CFUs by a $\log_{10}$ reduction factor of 2.1 as compared to the alcohol-based hand gel of 1.6 $\log_{10}$. User acceptability of the gel was not statistically different between gel types or groups.

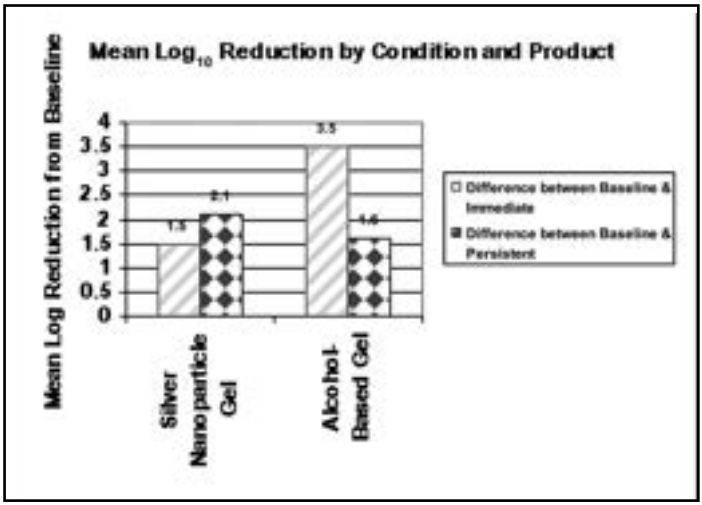

Figure 1: Bacterial reduction by condition and product

Limitations: One of the limitations of this study was the lack of generalizability in regard to types of gels used, number of gel applications, type of bacteria, and populations. Equally important with the lack of generalizability was the limited number of gel applications for each of the test conditions. For both the immediate and persistent efficacy conditions, subjects were tested after only one application of gel per condition. Single application is not consistent with current hand hygiene efficacy methodologies, which normally require up to 10 consecutive hand dosing and washings cycles.[36] Hence, any conclusions from this study must be considered as preliminary findings.

Implications for Clinical Practice and Conclusion:
Hand hygiene is an effective tool available to break the chain of infection transmission, decrease HAIs, and improve patient safety. Nurses play a vital role in improving the safety and quality of patient care not only in the hospital or ambulatory treatment facility, but also in community-based care settings. As more hand hygiene products become available, determining the efficacy and effectiveness of alternative hand hygiene products is essential to provide evidence-based guidelines for techniques, protocols, and interventions that nurses and other HCWs can use to enhance patient outcomes. By evaluating the efficacy of silver nanoparticle gel as an alternative therapy to reduce bacterial hand flora, this study represents one of the first known attempts to integrate nursing and nanotechnology. The study results were consistent with other studies regarding the immediate antibacterial efficacy of alcohol-based hand gel and suggested the potential clinical benefit of using silver nanoparticle gel as an adjunct for persistent antimicrobial activity. However, prior to moving into a clinical study, additional efficacy testing of the persistent antimicrobial activity of silver nanoparticles is necessary.

This study helps to fill a profound void of information essential for military, public health nursing, and emergency response teams by documenting the efficacy of novel antimicrobial agents. This information can be used in austere conditions and emergency situations such as world catastrophes and deployment operations that involve land, air, or sea environments. Additionally, this study serves as a model for related nursing investigations building on nanoscience with the potential to contribute knowledge for all military healthcare providers regarding infection control.

References

1. National Nosocomial Infections Surveillance (NNIS) System Report, data summary from January 1992 through June 2004, issued October 2004. *American Journal of Infection Control* 2004;32:470-85.

2. Kohn L, Corrigan J, Donaldson M. To err is human: a safer health system *A report of the Committee on Quality of Health Care in America, Institute of Medicine*. Washington, DC: National Academy Press, 2000.

3. Larson E. Persistent carriage of gram-negative bacteria on hands. *Am J Infect Control* 1981;9:112-9.

4. Larson E. A causal link between handwashing and risk of infection? Examination of the evidence. *Infection Control* 1988;9:28-36.

5. Pittet D. Improving adherence to hand hygiene practice: a multidisciplinary approach. *Emerg Infect Dis* 2001;7:234-40.

6. (JCAHO). Revised "Prevention and Control of Infection" Standards Approved. *The Joint Commission Perspectives* 2004;24.

7. Bearman GM, Munro C, Sessler CN, Wenzel RP. Infection control and the prevention of nosocomial infections in the intensive care unit. *Semin Respir Crit Care Med* 2006;27:310-24.

8. Goldmann D, Larson E. Hand washing and nosocomial infections. *N Engl J Med* 1992;327:120-2.

9. Gordin FM, Schultz ME, Huber RA, Gill JA. Reduction in nosocomial transmission of drug-resistant bacteria after introduction of an alcohol-based handrub. *Infect Control Hosp Epidemiol* 2005;26:650-3.

10. Larson E, Cimiotti J, Haas J, Parides M, Nesin M, Della-Latta P, Saiman L. Effect of antiseptic handwashing vs alcohol sanitizer on health care-associated infections in neonatal intensive care units. *Arch Pediatr Adolesc Med* 2005;159:377-83.

11. Boyce JM, Pittet D. Guideline for Hand Hygiene in Health-Care Settings. Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. Society for Healthcare Epidemiology of America/Association for Professionals in Infection Control/Infectious Diseases Society of America. *MMWR. Morbidity and Mortality Weekly Report* 2002;51:1-45.

12. Larson E, Early E, Cloonan P, Sugrue S, Parides M. An organizational climate intervention associated with increased handwashing and decreased nosocomial infections. *Behav Med* 2000;26:14-22.

13. Pittet D, Hugonnet S, Harbarth S, Mourouga P, Sauvan V, Touveneau S, Perneger TV. Effectiveness of a hospital-wide programme to improve compliance with hand hygiene. Infection Control Programme. *Lancet* 2000;356:1307-12.

14. Doebbeling BN, Stanley GL, Sheetz CT, Pfaller MA, Houston AK, Annis L, Li N, Wenzel RP. Comparative efficacy of alternative hand-washing agents in reducing nosocomial infections in intensive care units. *New England Journal of Medicine* 1992;327:88-93.

15. Gunby P. Environment adds to challenges facing Desert Shield physicians. *JAMA: the journal of the American Medical Association* 1991;265:435, 439-40.

16. Pace JL. Sun, sand, and skin: the Persian Gulf. *Int J Dermatol* 1991;30:247-9.

17. CDC. Guideline for hand hygiene in health care settings. *MMWR Morb Mortal Wkly Rep* 2002;51:1-44.

18. Boyce JM, Pittet D. Guideline for Hand Hygiene in Health-Care Settings. Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. Society for Healthcare

Epidemiology of America/Association for Professionals in Infection Control/Infectious Diseases Society of America. *MMWR Morb Mortal Wkly Rep* 2002;51:1-45, quiz CE1-4.
19. Pittet D, Dharan S, Touveneau S, Sauvan V, Perneger TV. Bacterial contamination of the hands of hospital staff during routine patient care. *Archives of Internal Medicine* 1999;159:821-6.
20. Trampuz A, Widmer AF. Hand hygiene: a frequently missed lifesaving opportunity during patient care. *Mayo Clinic Proceedings* 2004;79:109-16.
21. Larson E, Eke P, Laughon B. Efficacy of alcohol-based hand rinses under frequent-use conditions. *Antimicrobial Agents and Chemotherapy* 1986;30:542-4.
22. Larson E, Talbot G. An approach for selection of health care personnel handwashing agents. *Infection Control* 1986;7:419-24.
23. Melaiye A, Youngs WJ. Silver and its application as an antimicrobial agent. *Expert Opinion on Therapeutic Patents* 2005;15:125-130.
24. Euliss LE, DuPont JA, Gratton S, DeSimone J. Imparting size, shape, and composition control of materials for nanomedicine. *Chem Soc Rev* 2006;35:1095-104.
25. Lansdown AB. Antimicrobial textiles. *Journal of Wound Care* 2004;13:413.
26. Sondi I, Salopek-Sondi B. Silver nanoparticles as antimicrobial agent: a case study on E-coli as a model for gram-negative bacteria. *Journal of Colloid and Interface Science* 2004;275:177-182.
27. Dunn K, Edwards-Jones V. The role of Acticoat with nanocrystalline silver in the management of burns. *Burns* 2004;30 Suppl 1:S1-9.
28. Kim JS, Kuk E, Yu KN, Kim JH, Park SJ, Lee HJ, Kim SH, Park YK, Park YH, Hwang CY, Kim YK, Lee YS, Jeong DH, Cho MH. Antimicrobial effects of silver nanoparticles. *Nanomedicine* 2007;3:95-101.
29. Miner KJ, Salome N. Use of silver antimicrobial gel on non-healing surgical wounds to closure. *Journal of Wound Ostomy and Continence Nursing* 2006;33:S15-S16.
30. Cho KH, Park JE, Osaka T, Park SG. The study of antimicrobial activity and preservative effects of nanosilver ingredient. *Electrochimica Acta* 2005;51:956-960.
31. Furno F, Morley KS, Wong B, Sharp BL, Arnold PL, Howdle SM, Bayston R, Brown PD, Winship PD, Reid HJ. Silver nanoparticles and polymeric medical devices: a new approach to prevention of infection? *Journal of Antimicrobial Chemotherapy* 2004;54:1019-1024.
32. Tian J, Wong KK, Ho CM, Lok CN, Yu WY, Che CM, Chiu JF, Tam PK. Topical delivery of silver nanoparticles promotes wound healing. *Chemistry and Medical Chemistry* 2007;2:129-136.
33. Dibrov P, Dzioba J, Gosink KK, Hase CC. Chemiosmotic mechanism of antimicrobial activity of Ag(+) in Vibrio cholerae. *Antimicrob Agents Chemother* 2002;46:2668-70.
34. de Macedo JL, Santos JB. Bacterial and fungal colonization of burn wounds. *Mem Inst Oswaldo Cruz* 2005;100:535-9.
35. Chopra I. The increasing use of silver-based products as antimicrobial agents: a useful development or a cause for concern? *J Antimicrob Chemother* 2007.
36. ASTM E1174-06 standard test method for evaluation of health care personnel handwash formulations West Conshohocken, PA: American Society of Testing and Materials, Inc., 2006:480-482.
37. FDA. Topical antimicrobial drug products for over the counter human use: tentative final monograph for health-care antiseptic drug products. *Federal Register* 1994;59:31402-31452.

Abstract of the Western Academy of Nurses Program

EDUCATION AND PRACTICE: NETWORKS IN INNOVATION

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The Western Academy of Nurses is pleased to sponsor this panel on the use of partnership and networks to promote innovations in education in practice. Each panelist will highlight an innovation as briefly described below.

Accelerated Degree Program (Badger): The University of Arizona has a 14-month Accelerated BSN Partnership Program for students with previous degrees. Since 2003 we have graduated over 300 new BSN nurses from this program. The program was developed in partnership with four Arizona health care organizations: Carondelet Health Network, University Medical Center, Tucson Medical Center and Northwest Hospitals. Students are sponsored by one of these four organizations and must agree to work at the sponsoring facility for three years after graduation. This collaboration demonstrates how Universities and health care systems can work together to increase the nursing workforce.

Dedicated Education Unit Clinical Teaching Model (DEU) (Warner): The University of Portland School of Nursing and the medical centers of Providence Portland, Providence St. Vincent and Portland VA collaborated to create DEUs. They are designed to provide students with a positive clinical learning setting that maximizes the achievement of student learning outcomes by using proven teaching/learning strategies and by capitalizing on the expertise of both clinicians and faculty. The partnership between faculty and nursing staff on the unit provides a synergistic environment to best educate the next generation of nurses, an opportunity for nursing staff to stay fresh and motivated in their roles as mentors and role models, and a way for faculty to remain grounded in current clinical reality.

VA Nursing Academy (Beck): The Veteran's Affairs Nursing Academies (VANA) were begun in 2007 as a national initiative by the VA to address the eminent crisis in the VA nursing workforce. The goal of the VANA is to increase the number of new nursing graduates and build partnerships between local VA health systems and colleges of nursing. The University of Utah College of Nursing in partnership with the Salt Lake City VA Health Care System was one of the first four VA Nursing Academies in the country. With the resources of the VANA, we have successfully increased our undergraduate enrollment. We have also creatively implemented innovations in practice (comfort rounds, and a bereavement program), education (clinical teaching workshop for staff nurses), and research (funded pain and care quality grant).

Army Nurse Corps Human Capital Campaign (Horoho): In response to recruiting shortfalls and growing attrition the Army Nurse Corps partnered with industry and academia to examine issues surrounding recruiting and retention of Army Nurses.

Initial improvement efforts focus on marketing and branding, as well as improving the work environment, nurse autonomy, and middle management leadership. To address these areas consultants are working with the Army Nurse Corps to develop and test a standardized professional practice model, and redesign strategies to develop, select, and reward high performing nurse managers.

ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

Moderator:
Melissa Henry, PhD
Assistant Professor
School of Nursing
University of Northern Colorado
Greeley, CO

OVERVIEW: ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

Melissa Henry

VISUALIZATION OF LEUKOCYTES IN THE CEREBRAL MICROCIRCULATION AFTER ISCHEMIC STROKE

Leslie Ritter

THE USE OF FLOW CYTOMETRY TO STUDY NEUTROPHILS AFTER ISCHEMIC STROKE AND REPERFUSION

Helena Morrison, Leslie Ritter

WHOLE BLOOD MEASURES OF PLATELET ACTIVATION, AGGREGATION, AND COAGULATION

Melissa Henry, Leslie Ritter

TELOMERE LENGTH AS A MEASURE OF AGING

Charles Downs, Carrie Merkle, Kathie Insel, Amy Vidrine, David Montgomery

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RNA-BASED BIOLOGICAL METHODS: AN EMERGING FIELD

Carrie Merkle, Sharon Lobert, Ida Moore, David Montgomery

ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

Overview: Advanced Biomethods in Nursing Research: Microvascular, Cellular, and Genetic Assays

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The biological domain of nursing research is immense and encompasses a multitude and range of methodologies. Because the research training of nurses does not always include education in biological methods, many nurses may not be aware of the potential and use of biological assays to examine phenomena related to their studies. Additionally, many nurse researchers use biologic assays, but may have questions related to the development of more advanced and technical methods. The purpose of this symposium is to review the development and use of advanced and emerging biological methods in nursing research, with emphasis on analyzing microvascular, cellular, and genetic alterations in human health.

The investigators presenting in this symposium will discuss various advanced biologic research methods. Each presenter will highlight technical aspects of development and use of the method by illustrating some of the results from their studies. In the first paper, Dr. Ritter will present aspects of her research analyzing the contribution of inflammation on ischemic stroke in type 2 diabetes by direct visualization of the cerebral microcirculation. Helena Morrison, a doctoral student working with Dr. Ritter, will present the second paper on the use of flow cytometry to further the understanding of neutrophil function after an ischemic stroke and reperfusion. For the third paper of this symposium, Dr. Henry will present on the use and development of three whole blood methods for analyzing platelet activation, aggregation, and coagulation in obese, type 2 diabetic mouse models. In the fourth and fifth papers, Dr. Merkle and doctoral student, Charles Downs, will present assays examining aging using telomere length and use of emerging RNA-based methods in genetic research.

The biological domain is a very rewarding and exciting aspect of nursing research. This symposium presents a wide variety of methods to analyze diverse biological phenomena related to human health and disease. Development of biological assays for use in nursing research can be a daunting task, however, we hope that this symposium provides some background and support for nurses who are interested in undertaking and exploring this type of research.

ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

Visualization of Leukocytes in the Cerebral Microcirculation after Ischemic Stroke

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Purpose: The purpose of this paper is to discuss our experience using fluorescence microscopy to study the cerebral microcirculation after ischemic stroke in type 2 diabetes.
Background: Direct visualization of the microcirculation of various organs can be accomplished by a variety of microscopy methods… These methods allow for the examination of *in vivo* blood cell-blood vessel interactions during normal and pathophysiologic states. Ischemic stroke is associated with high mortality and disability. In order to more fully understand the reasons for these associations, early work from our laboratory examined how blood leukocytes and their interactions with the cerebral microcirculation might contribute to additional brain injury after ischemic stroke. Using *in vivo* fluorescence microscopy and a clinically relevant model of ischemic stroke in rodents, we reported that leukocytes adhere to the cerebral microcirculation during the first minutes of reperfusion after stroke, and thus have the potential to contribute to brain damage via toxic mediator release. As an extension of this early work, we were interested in how diabetes, a known risk factor for stroke, might make stroke outcomes worse. We found that in a rodent model of type 2 diabetes, leukocyte CD11b adhesion molecule expression and reactive oxygen species production are increased. We hypothesized that chronic leukocyte activation in type 2 diabetes may result in exaggerated leukocyte adhesion to the cerebral microcirculation during reperfusion after ischemic stroke, and that this inflammatory response may contribute to increased brain injury.
Methods: Male, 10-12 week-old Zucker Diabetic Fatty (ZDF, N=4) and Zucker Lean Control (ZLC, N=3) rodents were used. Both groups were anesthetized, intubated, and continuously ventilated. Cannulas were placed in the tail vein and artery for drug administration and blood pressure monitoring, respectively. Arterial blood gases were monitored and maintained within physiologic range. Middle cerebral artery occlusion and reperfusion were then performed using the filament method. Rhodamine, a fluorescent dye that stains leukocytes, was administered. Direct visualization of leukocyte adhesion to the cerebral microcirculation was then accomplished using cranial window and *in vivo* fluorescence microscopy. Leukocyte adhesion to cerebral venules was videotaped during the first 30 minutes of reperfusion; quantification of leukocyte adhesion was performed on videoplayback (leuks/100um venule). ANOVA was used to compare leukocyte adhesion between diabetic and non-diabetic groups during the reperfusion period.
Results: During early reperfusion following ischemic stroke, leukocyte adhesion to the cerebral microcirculation was significantly greater in the diabetic vs. non-diabetic group (ZDF=12.3 +/- 1.1 leuks/100um venule vs. ZLC=6.2 +/- 0.9 leuks/100um venule; $P<0.05$).
Conclusions and Implications: In a rodent model of type 2 diabetes subjected to ischemic stroke and reperfusion, early and significant leukocyte adhesion to the cerebral microcirculation occurs. It is possible that exaggerated leukocyte adhesion and the subsequent damage leukocytes may cause to the vasculature and surrounding brain tissue may be one explanation for the worse outcomes observed in diabetes and stroke. Furthermore, the methods described herein may be useful in developing potential therapies for these disorders and have great potential for use in nursing research examining vascular disease in a variety of clinical disease processes.

Funding: NIH NR005208 and NIH HLB58859

ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

The Use of Flow Cytometry to Study Neutrophils after Ischemic Stroke and Reperfusion

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Purpose: The purpose of this paper is to discuss the use of flow cytometry to examine neutrophil activation within the first minutes of reperfusion after ischemic stroke.
Background: Activated neutrophils contribute significantly to inflammation during disease and injury. A characteristic of neutrophil activation is their surface expression of the CD11b/CD18 adhesion molecule. Neutrophil CD11b binds to its ligand intracellular adhesion molecule one (ICAM-1) on activated endothelium, facilitating firm adhesion to the vasculature. Neutrophil adhesion to the vasculature during reperfusion is associated with increased tissue injury via multiple mechanisms: the no reflow phenomena caused by cell trapping in the microvasculature, the release of reactive oxygen species (ROS) and proteases from neutrophils, and the systemic and local release of pro-inflammatory cytokines. Using microcirculatory techniques, we have previously shown that neutrophils adhere to the microcirculation during the first minutes of reperfusion after ischemic stroke. However, neutrophil activation, measured by surface expression of CD11b and intracellular ROS production, has not been investigated during ischemic stroke and early reperfusion.
Methods: Flow cytometry was used to quantify neutrophil activation during early reperfusion after ischemic stroke. Two groups of male Sprague-Dawley rats (275-325g) were used: one group underwent middle cerebral artery occlusion (4 hours) and reperfusion (MCAOR) via the filament method and the other group underwent sham surgery. One milliliter of blood was drawn into 0.1 ml citrate before the MCAOR or sham surgery and again at fifteen minutes of reperfusion (or at the similar time point for the sham animals). Whole blood was incubated with PE-Cy5 conjugated anti-rat mAb to CD45 for neutrophil identification. To measure neutrophil expression of CD11b, the same blood was incubated with FITC-conjugated anti-rat mAb to CD11b. To measure ROS production, CD45 labeled blood was incubated with 2',7'-dichlorodihydrofluorescein diacetate (DCF). Additional aliquots of blood were also incubated with neutrophil activator fMLP as a positive control. Flow cytometry data are reported as total fluorescence intensity (TFI). A repeated measure ANOVA was used to compare CD11b expression and ROS production between groups (MCAOR, Sham, and MCAOR/fMLP) and over time (pre-ischemia and reperfusion).
Results: When compared to the pre-ischemia time and Sham group, the MCAOR groups at fifteen minutes of reperfusion demonstrated a significant increase in neutrophil surface expression of CD11b (p<0.007, n=5), a significant increase in fMLP stimulated CD11b expression (p=0.002, n=5), a trend toward an increase in neutrophil ROS production (p=0.34, n=5), and a non-significant increase in fMLP stimulated ROS production after reperfusion (p=0.11, n=5).
Conclusions: These data indicate that in a rodent model, neutrophils are activated as early as 15 minutes of reperfusion following cerebral ischemia, evidenced by a significant increase in surface expression of CD11b adhesion molecule. Continued investigation of complex blood cell inflammatory responses during ischemic stroke and reperfusion could be elucidated with the use of this method. As seen in our study, flow cytometry is a very useful and exciting method for use in nursing research, analyzing a variety of cellular alterations.

Funding: NIH NRSA 1 F31 NR010658-01, University of Arizona College of Nursing Laurence B Emmons.

ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

Whole Blood Measures of Platelet Activation, Aggregation, and Coagulation

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Purpose: The purpose of this paper is to discuss our experiences with the use and development of three whole blood assays, analyzing platelet function and coagulation. Data from our laboratory examining platelet function in obese, type 2 diabetic mouse models will be presented as an example of potential use of these methods.

Background: Many diseases are associated with alterations in platelet function. Our laboratory is especially interested in the contributions of the known platelet dysfunction and subsequent hypercoagulability observed in obese and type 2 diabetic patients on the increased morbidity and mortality after an ischemic stroke. Several *in vitro* assays to study platelets are available, however many use isolation techniques that are known to cause artifactual platelet activation and examine platelets in isolation. Alternatively, *in vivo* methods, such as ferric chloride thrombus formation, are used in rodent models to examine platelets and coagulation in an optimal physiologic environment (in the presence of other blood and endothelial cells), but these methods are difficult to reproduce and are not clinically relevant. Therefore, we developed and modified three *in vitro* whole blood assays to examine platelet function and coagulation, which are clinically applicable, easy to use, reduce the amount of artifactual platelet activation by eliminating isolation procedures, and provide a physiologic milieu of blood cells and plasma known to be involved in normal platelet aggregation and function.

Methods: To analyze the effects of platelet alterations in obesity and type 2 diabetes, we measured platelet activation and coagulation using whole blood aggregometry, thromboelastography, and flow cytometry. Whole blood aggregometry was used to measure platelet aggregation in response to the platelet agonist adenosine diphosphate (ADP). Thromboelastography was used to measure platelet aggregation, coagulation, and fibrinolysis in response to agitation for 30 minutes. Flow cytometry was used to quantify the expression of surface proteins known to be increased during platelet activation, CD61 (glycoprotein IIb/IIIa), and CD62P (p-selectin).

Results: Similar to *in vivo* measures of coagulation, but different from previous platelet isolation assays, we found that mouse models of obesity and type 2 diabetes do not demonstrate the platelet activation or hypercoagulability observed in people with these disorders. Our results support the use of whole blood methods for analyzing platelets *in vitro* and are consistent with *in vivo* measures of platelet aggregation and coagulation.

Conclusions: Overall, the whole blood assays presented offer several advantages for studying platelet aggregation and coagulation, including their ease of use and relatively low cost, and could easily be integrated into nursing research examining these physiologic processes.

Supported by NIH 1 F31 NR009318-01 and NIH NINR RO1 05028.

ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

Telomere Length as a Measure of Aging

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Problem and Rationale: Although chronological age in years is commonly used as a measure of age in human subjects, it is not necessarily the best marker of age in all investigations. In biological studies, telomere length is one of many emerging aging markers. Telomeres are DNA structures that are found at chromosome ends and that shorten with cell divisions. Telomere length and shortening has been studied in numerous cell types in cell culture and in vivo models. Following seminal work by Epel et al (PNAS 101: 17312), in which high emotional stress was found to be inversely associated with telomere length in blood mononuclear cells, there has been interest in using telomere length measurement as a marker of aging in clinical studies. The purpose here is to discuss our protocols/experience measuring telomeres in age-related studies.

Methods: We have measured telomere length in a variety of cell types and models including bovine endothelial cells, human lung microvascular endothelial cells, T-cell lymphomas, rat endothelial cells, and human blood in studies designed to examine age-related differences. Initial protocols involved isolating DNA then performing Southern blots using a telomere sequence-specific probe. Mean telomere restriction length was determined by analyzing digital images of the blots. More recently, the telomere assay is performed by Cawthon's method (Nucleic Acids Research 30: e47) that utilizes real-time quantitative polymerase chain reaction (RT-qPCR) and a Jurkat human T-cell lymphoma cell standard. Advantages of the RT-qPCR method are that it is rapid, easy to perform, and requires small amounts of DNA. The main disadvantages are that the assay is expensive and requires specialized equipment.

Results and Conclusions: In our hands, telomere length measurement has been a useful marker of aging in a number of, but not all, cell types and experimental models. Due to commercially available kits and Cawthon's method which is RT-qPCR-based, both undergraduate and graduate nursing students can perform the assay with minimal training.

Funding: Mr. Downs is a trainee supported by NIH 1F31NR010843.

ADVANCED BIOMETHODS IN NURSING RESEARCH: MICROVASCULAR, CELLULAR, AND GENETIC ASSAYS

RNA-Based Biological Methods: An Emerging Field

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Purpose: The purpose of this paper is to review state-of-the-science and emerging biological methods that focus on mRNA measurement and manipulation. Examples of use and data that are related to cancer research from our laboratories will be presented and discussed.

Introduction and Rationale: Although DNA is the central focus in the fields of genetics and genomics, recent advances have contributed to an explosion of investigative interest in RNA and how it regulates cell functions, can be used as a platform for assays, and can be used as a tool to "silence genes." These advances resulted from the advent of the complete sequencing of the genome coupled with advances in biotechnology including the polymerase chain reaction (PCR); microarray and "chip"-based technologies; fluorescent probes and other detection mechanisms; and automated, computerized equipment. It has become relatively easy to examine changes in the expression of multiple genes in cells and tissues by profiling mRNA expression. These assays permit one to identify specific cellular mechanisms that become activated or suppressed in response to various treatments or changes in physiological conditions. Additionally, RNA interference (RNAi) techniques, which are based on natural cellular defense mechanisms that protect cells from viral RNA harm, have become popular methods to examine the effects of silencing particular genes on cellular responses and behavior. Collectively, our laboratories have experience with these techniques in endeavors to assist in better understanding the consequences of cancer and its treatment.

Methods: Originally we examined changes in gene expression using an array format with a chemiluminescence-based detection system. More recently our studies have employed the RT^2 Profiler™ PCR arrays (SABioscience™). These are supplied in 96- and 384-well formats (to measure expression of 84 or 370 genes, respectively) to examine specific pathway- and disease-related gene expression. After isolation of the RNA, the protocol involves a rapid and simple real-time PCR method. Data are analyzed using a downloadable template that is easy to use. These PCR arrays permit one to identify specific cellular mechanisms that become activated or suppressed in response to various treatments or changes in physiological conditions, such as changes in cells in response to chemotherapy. As for RNAi methodology, we are currently performing studies to examine changes in breast cancer metastasis and responses to chemotherapy when specific proteins in breast cancer cells are reduced or "knocked down" using short hairpin RNAs to silence genes. Issues encountered in these studies will be discussed.

Conclusion: In addition to the DNA focus of genetic/genomic studies, RNA-based methods are emerging as invaluable techniques in scientific endeavors that pertain to the biology of disease, such as cancer, and disease treatment. Technological advances such as automated and easy to use equipment, as well as commercially-available kits and products, have enabled these RNA-based methods to be used in nursing investigations.

This work was supported in part by NIH P20 NR07794 and an ONS Senior Fellowship.

ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

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OVERVIEW: ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

Lauren Clark

CULTURAL COMPETENCIES FOR BACCALAUREATE EDUCATION DEVELOPED BY THE AACN

Jean Ballantyne

TEACHING A REQUIRED GLOBAL HEALTH, HUMAN DIVERSITY NURSING COURSE

Rae Jeanne Memmott, Erin D. Maughan

CULTURAL COMPETENCE IN THE BS CURRICULUM AT UNIVERSITY OF COLORADO DENVER

Victoria Baker

CULTURAL COMPETENCE AND MUTUAL RESPECT: AN INTERDISCIPLINARY APPROACH

Valerie Flattes, Sue Chase-Cantarini

A TOOLKIT OF FACULTY TO TEACH CULTURAL COMPETENCE

Lauren Clark, Evelyn Calvillo

ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

Overview: Attaining Cultural Competencies in Baccalaureate Nursing Education

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Nurses in every clinical arena have encountered a wide variety of patient and family cultural beliefs and practices related to health and illness. In the best of circumstances, nurses recognize cultural aspects of their own and their patients' experience and are equipped with the rich educational resources and professional expertise to render humane and safe nursing care. The challenge for nurse educators is how to scaffold student learning to attain cultural competencies in a rigorous, reliable manner responsive to the cultural diversity that characterizes a global society.

This symposium explores the spectrum of cultural competence in baccalaureate nursing education. The first presentation begins with the need for new competencies to guide educators preparing baccalaureate nurses and discusses the recent cultural competencies crafted by nursing experts and published by the American Association of Colleges of Nursing (AACN).

Next, three different universities in the western United States tell their own stories of how their faculty developed, implemented, and continued to evaluate their cultural competence educational models in baccalaureate nursing programs. Contrasting these exemplar programs in cultural competence highlights the creativity of faculty in developing meaningful cultural competence experiences for students. Each university openly grapples with the need for faculty to review their existing didactic and clinical learning activities and assess the fit of current cultural competence education with the newly established AACN cultural competencies. Each university case presentation concludes with a discussion of future directions in their own baccalaureate nursing program related to cultural competency education.

Finally, resources available to all faculty through the AACN website and toolkit are reviewed. Some nursing programs may already be using case studies, simulations, self-reflection activities, and clinical encounters with culturally diverse patient populations to prepare nurses of the future. Other nursing programs may benefit from reviewing the range of educational experiences and resources assembled in the toolkit.

Overall, the process of preparing professional nurses to enter the workforce with identified cultural competencies is underway. Recent nationally-disseminated competencies and a toolkit of resources can be used in educational programs that have already adopted a cultural competence curricular thread. Programs seeking direction as they establish cultural competence in educational programs will also benefit from a review of resources and exemplars.

ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

Cultural Competencies for Baccalaureate Education Developed by the AACN

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Purpose: The purpose of the Preparing a Culturally Competent Nursing Workforce Initiative was to create cultural competencies for baccalaureate nursing education. This project spanned an 18 month period beginning in January 2006 and was supported with grant funding from the California Endowment.

Background: Nurses spend more time assessing and managing patients than any other group of health care providers. It is imperative that nurses be educated in providing culturally competent care to an increasingly diverse population in the United States. Nurses must be aware of patients' beliefs, religion, values, primary language, and other cultural socioeconomic factors that influence their health. One barrier to nurses achieving cultural competence has been the lack of uniform standards that outline essential competencies. Although many efforts have been made to incorporate cultural factors into traditional nursing curricula, disparities among diverse populations in health status and access to care underscore the need for establishing essential cultural competencies in professional nursing education.

Implementation: In 2006, the California Endowment awarded the American Association of Colleges of Nursing (AACN) grant funding to address the lack of coherent national nursing attention to provision of culturally competent patient care and establish cultural competencies for baccalaureate nurses. As part of the work, AACN convened a national panel of expert educators and clinicians to review and make recommendations about strengthening the cultural competency elements of the *Essentials of Baccalaureate Nursing Education.* The product of this work includes five cultural competencies for baccalaureate nursing education.

Outcomes: No one set of standards will outline the specific care needs of the diverse array of patients and communities that comprise the population of the US. However, competencies developed by the AACN expert panel provide a frame of expectations that can guide the nursing educator to prepare a culturally competent workforce. The work of the expert panel resulted in five competencies being recommended for inclusion in the revised *Essentials of Baccalaureate Nursing Education.* The competencies include learning content and strategies as well as a toolkit with resource material for educators. The toolkit is housed on the AACN website.

Conclusion: The AACN expert panel established five cultural competencies for baccalaureate nursing education with support from a California Endowment grant. The toolkit that accompanies the competencies paves the way for application of the competencies in teaching-learning encounters. Looking to the future, integration of these competencies is the first step toward preparing the next generation of nurses with the skills, attitudes, and knowledge they need to provide excellent nursing care to the wide array of culturally diverse patients who need nursing care.

Supported by a grant from the California Endowment to AACN.

ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

Teaching a Required Global Health, Human Diversity Nursing Course

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Purpose: To ensure students from Brigham Young University (BYU) College of Nursing achieve the global health and human diversity outcomes documented in AACN's *Essentials of Baccalaureate Education,* a four credit required course entitled "Global Health and Human Diversity" was developed. The purpose of the course is to assist students to better understand the impact of culture on health; learn how to provide culturally competent care to individuals, families, and populations; and to learn about global health trends.

Background: When the AACN's *Cultural Competency in Baccalaureate Nursing Education* and the associated *Toolkit* were published, we reviewed the material in our course and incorporated several ideas into the course. Information in the toolkit also supported many of the assignments and clinical locations, which were already part of our course.

Implementation: Our course is made up of both a didactic and a clinical component. The didactic component and four assignments (population assessment, an analysis of a global health issue, a teaching activity, and a reflective writing) provide cohesion and structure. The clinical component provides diversity through a variety of local, national, and international clinical sites. All enrolled students begin the course by attending "immersion days." Immersion days are usually organized in a conference format, with guest speakers who focus on topics pertinent to the course, such as the structure of health care systems, paradigm shifts, the impact of culture on health and illness, and health care decision making. Students also participate in activities that promote self-assessment related to their own prejudices and biases. Group presentations expose students to a variety of cultures.

Clinical sites expose students to at-risk and underserved population from varying cultures. Local sites include the Utah State Prison, Veterans Clinics, rural hospitals, populations with infectious diseases such as HIV/AIDS and Tuberculosis, alternative and complementary practices, and families and children with disabilities and chronic illness. Stateside experiences include Wendover schools, the Navajo Reservation, and Hawaii. International sites include Ghana, Jordan, Australia, Argentina, and Ecuador.

Evaluation: The course has been in existence in its current form for four years. Students indicate the course increases their understanding of cultures and global health issues. We are in the process of analyzing data to determine the impact of the course on student learning in a number of areas such as cultural competency and self-awareness.

Conclusion: This coming year we will incorporate additional ideas found in the AACN toolkit. Although our existing course, with its didactic and clinical components, is already aligned with the intentions of the *Cultural Competency in Baccalaureate Nursing Education* document, further refinements are anticipated to enhance cultural competence of nursing graduates.

ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

Cultural Competence in the BS Curriculum at University of Colorado Denver

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Purpose: I will present the education in cultural competency provided at the University of Colorado Denver College of Nursing (UCDCON) baccalaureate program in light of new AACN competencies. Specifically, I will review how we currently implement cultural competence in the curriculum, review current evaluation methods, consider what remains to be done in light of new AACN cultural competencies, and propose possible improvements in our curricular efforts in this area.
Background: Cultural competency has been a focus within nursing practice and education, as well as the health professions more generally, for more than a generation now. The UCDCON has made consistent efforts to integrate cultural competence experiences and discussion across all baccalaureate clinical courses using a variety of approaches, including guest lectures, a shared text with successive readings, and an oversight committee of faculty invested in cultural competence education. Recently, the American Association of Colleges of Nursing (AACN) issued new guidelines for the "Cultural Competency in Baccalaureate Nursing Education" against which we compare our efforts.
Description: Cultural competency has been a long-standing curricular thread in the UCDCON curriculum. One of ten professional competencies adopted in 1999 and leveled for each educational program in the College states that all UCDCON students will learn to *advocate for social justice initiatives that enhance access, quality, and socio-cultural acceptability of health care for all.* In addition, our college diversity plan calls for *outcome competencies on cultural competency and human diversity and in social justice and health disparities* in our curriculum.
Outcomes: Faculty-led innovations in the BS program to implement this competency and enact the diversity plan include clinical placements in diverse settings with expert pre- and post-conference facilitation to address cultural competence, readings from a pre-selected text throughout the program, and guest lectures. Evaluation of these efforts is conducted in course evaluations and surveys of both recent graduates and other alumnae.
Conclusions: The new guidelines offer the UCDCON an opportunity to re-assess our efforts to date and their implications for educational practice. The UCDCON is taking stock of program successes, engaging in improved outcomes measurement in this area, and planning for additional experiences modeled after the AACN Toolkit resources to upgrade student competencies. Like many competencies needed for professional nursing, measurement of attainment and program completion has proven difficult. Faculty have begun to identify options for future action and evaluation in light of newly formalized national expectations. Conclusions from the UCDCON experience indicate that faculty ownership of cultural competency content is one aspect of our success.

ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

Cultural Competence and Mutual Respect: An Interdisciplinary Approach

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Purpose: The overarching theme for the University of Utah health sciences cultural competence program was mutual respect and cultural competence in health care. Cultural competence was recognized in interactions with patients, regardless of cultural background or ethnicity. It also crossed all relationships and interactions that occurred in health care settings.

Background: In Spring 2002, the University of Utah Health Sciences initiated a planning process to create an interdisciplinary Cultural Competence course for all students, faculty, staff, and hospital employees. Early in the planning stages, it became evident that an interdisciplinary approach went beyond diversity training by adopting a set of critical skills for working with diverse individuals, groups, and managing relationships.

Implementation: The Cultural Competence and Mutual Respect program is comprised of four modules covering the following areas: (1) Relationships and Cross Cultural Conflict, (2) Beliefs and Attitudes: Disparity of Care, (3) Systems Diversity: Solutions to Cultural Clashes, and (4) Cross Cultural Communication. The course addresses fundamental issues of creating accountability for understanding cultural and behavioral aspects of health care and ultimately building effective communication strategies. The complexities of relationships are consistently reinforced throughout the program.

In Fall 2003, the four modules were implemented for all health science students and facilitated by interdisciplinary teams of faculty. Group activities include group discussions, video vignettes, case studies, integrated learning strategies, and homework assignments. Facilitators and students share real life stories, enhancing meaningful dialogue within each session.

Outcomes Achieved: Interdisciplinary evaluative focus groups were implemented to collect data about the program as one evaluative outcome. Over time, faculty and facilitators are provided guidance and support in improving the interdisciplinary modules as well as integrating content into didactic and clinical courses across the curriculum. Formative and summative evaluations are also collected for program enhancement. The course has easily transitioned to include faculty new to the program and has developed into an online course to meet distance student participation.

Conclusions: The modules introduce many of the newly identified AACN Cultural Competencies. There is an initial self awareness tool for students (Competency 1). Faculty invite and support open interdisciplinary dialogue (Competency 3). Other nursing courses, including courses with an international or diversity designation, address safety and quality, social justice, and other aspects of cultural competence.

ATTAINING CULTURAL COMPETENCIES IN BACCALAUREATE NURSING EDUCATION

A Toolkit of Faculty to Teach Cultural Competence

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Purpose: The toolkit for cultural competent education for baccalaureate nurses identifies significant content, teaching-learning activities, and resources to integrate cultural competency in nursing education.
Background: The five competences identified by the American Association of Colleges of Nursing (AACN) as essential to cultural competence in nursing education can be enacted in didactic and clinical teaching-learning situations. The toolkit offers faculty direction about the concepts to be taught, resources available to assist students to master these competencies, and practice and research applications of the competencies.
Approach: The toolkit itself can be downloaded from the AACN website at http://www.aacn.nche.edu/Education/pdf/toolkit.pdf. The toolkit is organized in three main parts. The first part is an overview of educational components, beginning with key concepts in the field of cultural competence. Culture, cultural awareness, cultural imposition, and cultural competence are reviewed and referenced in professional literature, along with other pertinent concepts. Next follows an overview of nursing models for culturally competent care and the components of each model. Highlighted models include Campinha-Bacote's Model of Cultural Competence, Leininger's Cultural Care Diversity and Universality Theory/Model, Purnell's Model of Transcultural Health Care, and Spector's Health Traditions Model. Learning strategies to foster cultural competence and curricular resources complete the first part of the toolkit.

The second part of the toolkit is a collection of practice-relevant resources for students to consider in their provision of nursing care. The agencies, publications, and web-based resources encourage students to think about their own culture, learn about other cultures, and gain skills in working with people who have particular health or illness needs.

The third part of the toolkit addresses the need for research in the provision of health care and cultural competence. Consideration of the concepts and measures of inequities, disparities, and culturally competent health care systems are featured.
Outcomes Achieved: The toolkit is a compendium of current and classic resources in the field of cultural competence. The online nature of the toolkit makes it cost-effective and easy to update.
Conclusions: Faculty may use the toolkit to prepare lectures, simulation scenarios, clinical pre- or post-conferences, structure clinical experiences, and dialogue with students about clinical care experiences. Students, too, may find the content useful during their formal education as a supplement to didactic or clinical content in the area of cultural competence, as well as a helpful resource for additional information and resources after their formal education is concluded.

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BENCHMARKS, BEST PRACTICES, AND BRICKBATS: CALNOC ANALYTIC METHODS INTEGRITY

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OVERVIEW: BENCHMARKS, BEST PRACTICES, AND BRICKBATS: CALNOC ANALYTIC METHODS INTEGRITY

Nancy Donaldson

DIVIDE & CONQUER: CHALLENGE OF DEFINING SMALL HOSPITALS FOR BENCHMARKING

Diane Storer Brown, Moshe Fridman

VOICE OF EVIDENCE-BASED PERFORMANCE: IDENTIFICATION OF BEST PRACTICE

Nancy Donaldson, Mary Foley, Carolyn Aydin

RATIOS, POLITICAL CORRECTNESS, AND METHODOLOGICAL PRECISION

Linda Burnes Bolton, Nancy Donaldson, Diane Storer Brown, Carolyn Aydin, Moshe Fridman

BENCHMARKS, BEST PRACTICES, AND BRICKBATS: CALNOC ANALYTIC METHODS INTEGRITY

Overview: Benchmarks, Best Practices, and Brickbats: CalNOC Analytic Methods Integrity

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Introduction: Since its inception in 1996 as one of the American Nurse's Association's first six state-based nursing quality measurement research and development projects, the California Nursing Outcomes Coalition, now known as the Collaborative Alliance for Nursing Quality Outcomes (CalNOC), has pushed the outer edges of analytical methods for the study of how unit level nurse staffing and nurse driven processes of care, impact patient outcomes. Although, CalNOC methods have been extensively reported elsewhere (Aydin, 2004; Donaldson, JONA [dashboard], 2005; Bolton, 2007 and Aydin, 2008 [virtual dashboard]), the analytic and methodological challenges confronting CalNOC in its benchmarking, best practices, and ratios evaluation efforts have been unprecedented and the resulting insights and templates emerging from CalNOC may guide others who share a similar research and strategic guest. **Aims:** This symposium examines the challenges and resulting methods used by CalNOC to optimize the integrity of its benchmarking, best practices, and ratios evaluation studies. With the aim of providing CalNOC member hospitals with information to guide their strategic performance improvement efforts, the CalNOC research team has confronted a series of methodological issues steeped in convention and administrative tradition. Leveraging the most sophisticated analytic approaches, it became clear that the "received view" did not necessarily fit the data, provide accurate information to guide performance improvement, or benefit insightful public policy decision making. This paper addresses these challenges and proposes analytic and methodological approaches to spark discussion, debate, and further study.

Purposefully planned to ensure adequate time for rich discussion among participants, this symposium will present three papers that focus on how CalNOC has approached its analytical and methodological study of benchmarks, best practices, and ratios evaluation. In the midst of national demand for evidence-based performance excellence as the basis for accreditation, reimbursement, and public comparisons, CalNOC analytic insights and models may be timely and invaluable.

BENCHMARKS, BEST PRACTICES, AND BRICKBATS: CALNOC ANALYTIC METHODS INTEGRITY

Divide & Conquer: Challenge of Defining Small Hospitals for Benchmarking

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Purpose: With increasing public transparency on performance of nurse-sensitive quality indicators, selecting appropriate benchmark comparison groups has never been more important. While using administratively determined comparison groups based on average daily census (ADC), we have noted, over 10-years of unit-based hospital data, significant differences in falls and hospital acquired pressure ulcers (HAPU) between small and large hospitals. The purpose of this presentation is to examine statistically appropriate cutoff values to determine comparison groups for benchmarking hospital performance using nurse-sensitive quality indicators, thereby challenging the conventional use of arbitrary administrative comparison groups.

Methods: Data from the 190 CalNOC participating hospitals reported during 2007 and the first two quarters of 2008 were used for these analyses. Included were 195 medical/surgical nursing units (MS), 192 critical care (CC), and 124 step-down (SD) for the reported outcomes of total reported falls, falls with injury (both per 1000 patient days), HAPU, and HAPU stage 2 or higher. Data were aggregated to the facility level by taking the median outcome rate for each facility. For each outcome of interest, we calculated unit-type hospital size cut-points since the hospital size distribution for the distinct unit types was different, potentially affecting the resulting cutoff values.

Our approach was to look for an optimal dichotomous classification of hospitals into "small" and "large" hospital size so that the resulting groups were the best predictors of outcome. This classification results in contiguous size and homogeneous (relative to the outcome) hospital groups. To obtain cut-points that are robust to extreme outcome values, we calculated the overall sample median rate of outcome (for each specific outcome and unit type) and classified facility rates as "low" (below median) or "high" (above median). For a given hospital size cut-point, this process created a two-by-two table of hospital size by outcome level. Logistic regression was used with varying hospital size groups as predictors of outcome level, using cut-points from lowest to highest size in increments of 10 beds. The optimal size cut-point was the one that resulted in the highest accuracy of outcome prediction based on the largest c-statistic.

Results: Our results demonstrated that hospital size cut–points varied by both outcome and unit type. The identified cut-points were not consistent with historically identified administrative cut-points using ADC where broad categories typically have defined small hospitals as under 100 beds. For specialty units such as CC or SD, cut-points were not as stable as those identified in MS units. We will discuss the results in detail in our presentation.

Implications: Understanding appropriate comparison groups for benchmarking nurse-sensitive quality indicators is an important nursing research issue in this era of transparency and accountability for outcomes. Traditional administrative categories may not be appropriate for all unit types and standard categories may not be appropriate for all outcome indicators.

Funding Source: Member Fees, Grants (AHRQ; Gordon & Betty Moore Foundation; RWJF and Contracts.

BENCHMARKS, BEST PRACTICES, AND BRICKBATS: CALNOC ANALYTIC METHODS INTEGRITY

Voice of Evidence-Based Performance: Identification of Best Practice

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Purpose: Confronting the demand for evidence of comparative best performance public reports as well as the imperative to expedite performance improvement, clinical leaders are challenged to identify best performance and understand how to transfer successful practices into their settings. In its ongoing benchmarking, CalNOC reports identify the 25th, 50th, and 75th percentile cut-points, enabling members to examine their relative performance on the continuum of near peer and all participating hospitals. The next step in using CalNOC evidence to advance patient care is to identify the best performing hospitals and validate effective strategies used by these hospitals to reduce falls, pressure ulcers, and restraint use. This presentation describes the conceptual and statistical methods used to answer the question: what constitutes evidence of comparative "best" performance?

Method: Although similar methods were used for three strategic nursing quality measures: fall rates, pressure ulcer prevalence, and restraint prevalence fall rates are used in abstract as the exemplar. Two analyses were conducted: (1) total facility and (2) medical/surgical units only.

1. Monthly data were averaged to calculate mean falls per 1,000 patient days for each quarter for each hospital in the year.
2. For each facility or unit type (ie, medical/surgical units) fall rates for each quarter were ranked in one of four quartiles: lower (best) quartile (below 25th percentile), second quartile (25-50th percentile), third quartile (50-75th percentile), and upper (worst) quartile (75-100th percentile).
3. Facilities with at least 3 quarters with a rank of 25th percentile or lower were considered "best performers" for that year. Facilities ranking at the 75th percentile or higher for at least 3 quarters were considered "worst performers" for that year.
4. In an effort to identify potential factors operating as "key levers" of best performance, statistical analyses were then conducted to determine whether variables such as hospital demographics, staffing, or fall prevention process variables differed among hospitals with consistently low fall rates when compared to those with consistently high fall rates.
5. Hospital rankings for 2006 and 2007 were compared to identify consistent best and worst performers over a two-year period. Validation interviews and surveys then identified analytic and qualitatively derived differences in fall related care processes and organizational culture for each group of hospitals.

Findings: In 2006, the medical/surgical unit type analysis identified 16 hospitals as best performers for fall prevention (6 with all 4 quarters in the lowest quartile and 10 with 3 out of 4 quarters in lowest quartile). Eight of the 2006 identified hospitals were still best performers in 2007. Of the 14 hospitals in the worst quartile in 2006, 5 were still in the worst quartile in 2007. The 25th percentile cut-points ranged from 2.1-2.5 falls per 1,000 patient days, while 75th percentile cut-points ranged from 3.9 to 4.2 over the 8 quarters. Trends were not detected in the quartiles, indicating that average fall rates were stable. Next steps involve systematic comparisons for key processes of care differentiating best and worst performers, with the aim of explicating factors likely to explain best performance.

Funding Source: Member Fees, Grants (AHRQ; Gordon & Betty Moore Foundation; RWJF and Contracts.

BENCHMARKS, BEST PRACTICES, AND BRICKBATS: CALNOC ANALYTIC METHODS INTEGRITY

Ratios, Political Correctness, and Methodological Precision

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Introduction: In October 1999, California became the first state to adopt legislation mandating unit-based minimum licensed nurse-to-patient ratios in acute care hospitals. Witness to a natural experiment, CalNOC has published 2 papers examining the impacts of the resulting regulatory changes in nurse staffing on patient outcomes at the unit level. Findings pre- and post-regulation reveal expected changes in nurse staffing, but no significant changes in the quality measures studied, and no consistent trends in the relationship between staffing and patient outcomes. Confounding conventional wisdom and findings reported by other investigators using myriad data sources, this paper examines the methodological issues and challenges confronting investigators whose public policy stakeholders seek robust answers to lingering questions and validation of existing regulatory interventions intended to ensure patient safety.
Methods: CalNOC preliminary ratios evaluation analyses use a matched sample of units with staffing and falls data and at least one prevalence study available for the first two quarters of each year: 2002 (pre-regulation), 2006 (post regulation), and 2007 (recent unpublished data). The analysis used repeated measures ANOVA with adjustment for multiplicity of testing and was conducted in two steps to first understand the impact of the ratio mandate, and second to explore relationships between nurse staffing and patient outcomes. All analyses were performed for medical-surgical and step-down units separately because of inherent differences in patient populations and resulting differences in nurse staffing ratios.
Results: Analyses of staffing for medical-surgical units showed that total RN hours of care per patient day increased from 4.78 in 2002 to 6.59 in 2007. The increase from 2006 (6.31) to 2007 (6.59) was also significant. Corresponding changes were seen in percent of care by RNs. Step down units showed similar changes from 2002-2007. From 2006-2007 in step down units, however, only the percent of care by unlicensed staff continued to change, from 23% in 2006 to 20% in 2007. Noting significant staffing changes, no significant changes in target patient outcomes (falls and injury falls per 1,000 patient days, pressure ulcer prevalence, and restraint use) were found. Methodological differences between this approach and other recent reports will be highlighted.
Conclusions and Implications for Practice: Although mandated nurse staffing ratios changed the configuration of the direct care workforce, these analyses did not reveal consistent trends in the relationship between staffing and outcomes. Analytical precision (matched unit level data and repeated measures) may explain why CalNOC findings vary from those of other investigators in the field and confound conventional wisdom. We posit that multiple factors, not limited to characteristics of the nursing workforce and the amount of time nurses spend in direct patient care, ultimately determine patient outcomes and that this is the new frontier of nursing quality research.

COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

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OVERVIEW: COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

Suzanne Sikma, Carol Leppa

REVISION OF AN EVALUATION TOOL FOR STUDENT SELF-REPORT OF PROGRESS

Elizabeth Pesek, Gwen Pilon, Shannon Wilner

COMPREHENSIVE CURRICULUM REVIEW AND REVISION

Carol Leppa

COLLABORATING WITH MN STUDENTS IN FORMATIVE RN-BSN CURRICULUM EVALUATION

Jerelyn Resnick, Linda Westbrook

QUANTITATIVE ANALYSIS OF STUDENT SELF-EVALUATIONS OF AN RN-BSN PROGRAM

Barbara Plovie, Avra Veilleux

STUDENT VOICES: CONTENT ANALYSIS OF RN-BSN PROGRESS REPORT DATA

Anna Sterner, Lena Hristova

COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

Overview: Collaborative Curriculum Revision: Process & Evaluation

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The purpose of this symposium is to discuss how faculty and nursing students (undergraduate and graduate) collaborated in the revision of the RN-Baccalaureate (RNB) curriculum and in the formative evaluation of the new curriculum during the first year of implementation. The location of the curriculum revision was on one campus of a CCNE accredited School of Nursing in a tri-campus university. Our campus houses two nursing programs: the RNB program offered at the campus and at one distance site, and a Master of Nursing program.

Curriculum revision needs to actively and broadly engage both the faculty and students in the process. The first paper in the symposium, by the faculty leader of the curriculum revision, describes the process and outcomes of the comprehensive review and revision of the program, identifying specific challenges and strategies used. Two faculty members whom are extensively involved in teaching in the RNB program provided leadership in planning and implementing the evaluation of the revised curriculum. In the second paper of the symposium, they provide an overview of the comprehensive curriculum evaluation plan and discuss their experience collaborating with MN students in implementing selected components of that plan.

The MN program on our campus includes an emphasis and core courses on preparing nurses for program planning, leadership, and evaluation. As part of one of the MN core courses, teams of graduate students completed components of the RNB curriculum evaluation, which will be reported in the final three papers in this symposium. The third paper reports on a team project focused on quantitative evaluation of the RNB student self-evaluations. The fourth paper reports on the content analysis of RNB student self-reports of progress in achievement of the twelve core competencies of the curriculum. The final paper discusses recommendations for change in the student self-report evaluation tool as a result of the team's analysis of faculty and student experiences with it during the formative evaluation during the first year of curriculum implementation.

COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

Revision of an Evaluation Tool for Student Self-Report of Progress

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Purpose: The purpose of this evaluation project was to analyze the effectiveness and efficiency of a student self-report tool designed to measure achievement of student outcomes progressively through a recently redesigned RN to BSN program. Based on this analysis, tool revisions were proposed to improve its use as a formative evaluation and improve its utility to students as part of an end-of-program portfolio process.
Background/Rationale: Two teams of graduate nursing students performed a qualitative and quantitative analysis on the data the paper tool provided as reported on in the two previous papers. These analyses brought several problems with the tool itself and its implementation method into focus.
Process: A team of graduate students reviewed both the qualitative and quantitative data analysis recommendations, summarized the limitations of the existing tool in accomplishing the intended evaluation purposes and proposed revisions for the tool.
Findings: The paper tool currently used did not produce all of the desired data. While the data illustrated student progress toward the twelve core competencies, it was not demonstrated to the extent hoped for (in terms of comprehensive and behaviorally oriented data) when the tool was originally designed. The tool was time consuming to implement and analyze. Issues that may have affected the effectiveness of the tool included instructor orientation on the use of the tool, consistency in tool distribution and completion, and instructions to the students. In addition, faculty desired a hybrid evaluation and portfolio building tool. The graduate student team identified a need for a hybrid tool that both records/reports student competency growth and provides the building blocks for a comprehensive senior portfolio at the end of the program. The graduate student team's review of community examples of portfolio building provided objectives for process change toward the goal of a hybrid tool.
Recommendations/Implications: Recommendations for changing the tool include a change in format from paper to electronic entry, revision of instructions, and a change from voluntary self evaluation to a requirement for course credit. An example revision of the hybrid tool was produced using the University of Washington's Catalyst© online survey instrument. The electronic evaluation/portfolio building tool is currently under development and will undergo a pilot test upon completion. Implications for educational practice include but are not limited to: utilization of online survey tools that provide accessible and manageable data collected in an effortless format, use of cutting-edge electronic formats that may increase reliability and validity of evaluation data provided, evaluation of program terminal objectives through individual student self reflections, and encouraging portfolio development to enhance recognition and documentation of individual progress.

COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

Comprehensive Curriculum Review and Revision

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Background/Rationale: We initiated the curriculum review/revision in anticipation of a scheduled 10-year university program review and an upcoming three-campus CCNE accreditation review. In addition, we felt a need to align nursing course credits with other UWB campus programs to better represent nursing faculty productivity and credit-hour metrics.
Purpose: The purpose of this paper is to describe the process and outcomes of a comprehensive review and subsequent revision of an RN-Baccalaureate (RNB) program, identifying specific challenges and strategies that may serve as a model for other programs.

The University of Washington, Bothell (UWB) Nursing Program faculty conducted a comprehensive review of the curriculum to determine: (1) current curriculum strengths, (2) best practices in RNB curricula nationally, (3) alignment with AACN Essential Competencies, (4) alignment with three-campus UW nursing program goals, (5) alignment with our 12 Associate Degree program feeder schools and their NLN accreditation standards, and (6) fit within our Bothell Campus course/schedule structures.
Process: The review progressed systematically over 9 months and included individual and group research and literature review, survey of Community College ADN Program Directors, focus group interviews with current students and alumni, focus group interviews with Nursing Program Advisory Board members, and continuous articulation with our Seattle and Tacoma campus nursing colleagues. Major steps in the revision process included: (1) review of US RNB program curricula and review of nursing education literature, (2) critical evaluation of current UWB curriculum structure, (3) focus group interviews with key constituents, (4) articulating revised course structures, and (5) shepherding the revised curriculum through University review/approval.
Outcomes: The curriculum was revised from a 3-credit course structure to a 5-credit course structure with each course identifying the fit with AACN Essential Competencies as well as 3-campus BSN Program Goals. Individual course objectives and curricular threads were mapped to illustrate alignment with accreditation standards. Course revisions were approved through Nursing Program, 3-campus and university procedures and the new curriculum was launched in Summer 2007. Challenges included: (1) maintaining a 2-day/week schedule to accommodate student/employer needs, and (2) negotiating revised and distributed content among diverse faculty. Sample documents for curriculum planning and implementation were developed and will be presented at the symposium.
Implications: The collaborative approaches and planning tools developed were useful in involving the entire RN-BSN faculty in the curriculum revision and subsequent evaluation. The strategies and tools also were essential to coordinate curriculum change in one program as it related to the larger curriculum goals in a multi-campus school of nursing.

In addition, collaboration with our ADN Program partners strengthened program relationships and helped inform the articulation agreements that smooth student transfer into the BSN.

COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

Collaborating with MN Students in Formative RN-BSN Curriculum Evaluation

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Purpose: The goals for a formative evaluation project of the revised RN-BSN curriculum included addressing the following questions: What are the students' and faculty's opinions about the strengths and challenges of the revised curriculum? Can the students report changes in clinical practice that correspond to the program objectives quarter to quarter? Can we demonstrate implementation fidelity?
Background/Rationale: To generate data to answer these questions we used a variety of approaches. We solicited information from the faculty themselves (individual presentations and focus groups) and from the RN to BSN students (large group discussions and end of quarter self-evaluations of progress). In addition MN students in the program planning and evaluation course contributed to data generation and analysis. It is our common practice to engage MN students in this core MN course in a "real world" project. To that end, we became clients of a group of MN students who were tasked with assisting us in our project.
Approach: We had a menu of items that we presented to the students and through a process of discussion and negotiation we agreed upon a set of "deliverables." They agreed to conduct a quantitative and qualitative analysis of the data from the end of quarter progress report forms completed by the RN-BSN students as well as an evaluation of the data collection process itself. They also agreed to assess implementation fidelity through a review of some of the revised course syllabi.
Outcomes: The results from the progress report analysis are descriptive and provocative in terms of the levels of cognition and effective responses reported by our students. The MN student team recommendations for improving the progress reporting process will be implemented this year. Although we chose syllabus examination as representative of the delivered curriculum in the assessment of implementation fidelity, we realize that a more detailed procedure for examining syllabi, along with other data collection methods, would yield more robust information.
Implications: Working with the graduate students was a welcome learning experience which helped develop and evaluate our process for working with students studying program planning and evaluation. It helped us see our revised curriculum through new eyes and assess how a collaboration like this can function. Clarity and mutual agreement of outcome expectations and negotiation of project scope is critical to student success. The list of committee needs may exceed student current capabilities and deadlines may challenge students' ability to balance the project with other responsibilities. Terms, criteria, and procedures for data collection and analysis should be clarified and reviewed so all will have confidence in the consistency of the students' results. Close communication between clients and students throughout the process can identify areas where more guidance may be needed and help maintain data quality. The formative evaluation of our revised curriculum will continue throughout this academic year, to be followed by the summative evaluation.

COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

Quantitative Analysis of Student Self-Evaluations of an RN-BSN Program

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Background: Student attainment of twelve core competencies (based on AACN and UW tri-campus nursing standards) in the University of Washington Bothell RN to BSN program are currently assessed using an anonymous student self-evaluation progress report tool administered at the completion of each quarter. Students are instructed to select four of the twelve core competencies and then write an example that demonstrates their progress toward attainment of each during the quarter.
Purpose/Aims: The purpose of this project was to provide a quantitative analysis of the tool as administered in the first two quarters of the program. The aims were to (1) attempt to quantify student competency growth from quarter to quarter and to (2) determine the adequacy of the self-evaluation tool to generate such data.
Methods: Each self-evaluation was reviewed to determine if it was filled out accurately according to criteria developed by the evaluation team. One evaluator tabulated fall quarter data and the other winter quarter. Interrater reliability (.90) and internal consistency (100%) between the two evaluators were adequate. Evaluators compiled the percentages of each competency selected by quarter, percentage of questionnaires completed accurately by quarter, and percentage of "no text" questionnaires by quarter.
Findings: In fall quarter, 2007, 110 self-evaluations were returned representing 69% of total student enrollment for that quarter. In winter quarter, 2008, 227 self-evaluations were returned, which was 74 more than the number of students enrolled, indicating that some students completed the self-evaluation more than once. Every competency was selected in both fall and winter quarters although not every competency was commented upon. Not all core classes were equally represented. Neither the competencies selected most often nor the competencies selected least often varied by quarter. The percentage filled out incorrectly was greater in winter (66%) than fall (50%) as evidenced by the number of incomplete or blank responses.
Recommendations/Implications: Based on these results, the evaluators recommended that the instructions for tool administration for both students and faculty be revised, that the tool itself be revised and administered online, that students complete the tool as a credit/no credit quarterly portfolio assignment, and that student anonymity be eliminated. The self-evaluations can then be used not only to inform the faculty on the status of student achievement as a group, but also for students to document individual progress quarter by quarter, which can subsequently be factored into their final senior portfolio summative essay.

COLLABORATIVE CURRICULUM REVISION: PROCESS & EVALUATION

Student Voices: Content Analysis of RN-BSN Progress Report Data

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Background & Purpose: A team of University of Washington Bothell (UWB) MN students was asked to evaluate the new UWB RN to BSN curriculum to determine whether it was meeting the AACN Core Competencies and to measure overall student breadth and depth of competency attainment using the current progress report tool. The purpose for qualitative analysis was to answer the question: Is progress toward achievement of the twelve competencies demonstrable quarter by quarter?
Approach: At the conclusion of each quarter students are asked to complete the progress report, a one page combination quantitative and qualitative instrument. The UWB program competencies are based on the AACN core competencies. Qualitative content analysis was completed using a deductive approach outlined by Elo & Kyngas (2008). The data from fall and winter quarter surveys was transcribed and broken down to the twelve competencies. Key concepts expressed as action verbs and phrases describing action were selected as the unit of analysis. A sense of the whole was obtained through several readings of the data. Structured categorization matrix was chosen using Bloom's Taxonomy (1984). Data was reviewed for content, coded into identified categories using action verbs/phrases from Bloom's taxonomy, and summarized.
Findings: Evaluation of the new RN to BSN curriculum revealed that the program changes have been successful. The student evaluations indicate the courses are well aligned with the AACN competencies. Students are reporting various levels of learning across all twelve competencies. The findings revealed that knowledge, analysis, and application domains are strongly present based on the students' responses. An improvement of critical thinking skills and learning how to analyze nursing research were skills well acknowledged by the majority of the students. The concept of nursing theories was new and challenging for the majority of students. Comprehension took place as students learned to understand and apply Swanson's Caring Theory. Students applied improved communication, ability to deal with conflicts at the work place, and culturally sensitive care. Students gave evidence of learning to evaluate their own practice, values, and beliefs. A synthesis domain is present as students talked about the process of writing a scholarly paper and preparing for presentation. In addition, student learning occurred within the affective domain as students gave examples of increasing awareness and valuing of new concepts.
Conclusions/Implications: Bloom's taxonomy provides an excellent framework for qualitative evaluation of student learning on a self evaluation tool. Progress during each quarter for student learning is well demonstrated within the taxonomy of Bloom. Continued improvement of the report tool, as recommended in the previous paper, can facilitate increased student responses in quantity and quality.

DESIGNING CULTURALLY-EMBEDDED INTERVENTIONS: ADVANCING THE HEALTH OF HISPANIC WOMEN

Moderator:
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OVERVIEW: DESIGNING CULTURALLY-EMBEDDED INTERVENTIONS: ADVANCING THE HEALTH OF HISPANIC WOMEN

Colleen Keller

A MULTI-LEVEL ANALYSIS OF PHYSICAL ACTIVITY IN HISPANIC WOMEN: TOWARD FOUNDATIONAL SCIENCE

Julie Fleury, Colleen Keller, Adriana Perez, Felipe Castro

DEVELOPMENT OF A CULTURALLY-EMBEDDED INTERVENTION FOR PHYSICAL ACTIVITY AMONG HISPANIC WOMEN

Colleen Keller, Julie Fleury, Adriana Perez

USE OF LAY HEALTH ADVISORS IN CULTURALLY-EMBEDDED HEALTH PROMOTION INTERVENTIONS

Julie Fleury, Colleen Keller, Adriana Perez

DEVELOPING CULTURALLY-EMBEDDED HEALTH PROMOTION INTERVENTIONS: HISPANIC WOMEN AS COMMUNITY PARTNERS

Adriana Perez, Colleen Keller, Julie Fleury

DESIGNING CULTURALLY-EMBEDDED INTERVENTIONS: ADVANCING THE HEALTH OF HISPANIC WOMEN

Overview: Designing Culturally-Embedded Interventions: Advancing the Health of Hispanic Women

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Health disparities continue to exist among vulnerable populations and are apparent in increasing levels of overweight and obesity and in sedentary behaviors. Such disparities are particularly evident among Hispanic women, and may reflect critical gaps in understanding culturally-relevant concepts and approaches to health promotion. This symposium presents the results of programmatic efforts toward specifying the design of culturally-embedded health promotion interventions among Hispanic women. The presentations are designed to address knowledge development through their focus on programmatic research, systematic review, and synthesis of empirical literature, to explicate: (1) unique strengths and resources for health promotion, reflecting culture, and context; (2) the role and relevance of Promotoras in culturally-embedded interventions; (3) innovative methods for formative research in designing culturally-embedded interventions; and (4) the use of treatment/evaluation theory in the design of culturally-embedded interventions. 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 Hispanic women.

Over the last decade there has been marked progress in research identifying relevant correlates of health promoting behavior. Specific to Hispanic women, the challenge remains to synthesize these findings as a foundation for translation to practice. Dr. Fleury presents a multi-level synthesis of determinates of physical activity in Hispanic women, explores the extent to which knowledge exists to inform culturally-embedded interventions for health promotion, and outlines the types of evidence needed to further advance the science. The involvement of Promotoras in the design, implementation, and evaluation of health promoting interventions has been proposed to ensure that programs are culturally-embedded; address issues of importance to the community; and promote sustainable, community-wide change. Dr. Fleury further presents a synthesis of the use of Lay Health Advisors in cardiovascular risk reduction, including a discussion of future directions for research. Such interventions may be key to health promotion in Hispanic women.

Divergent theoretical models and approaches have been used to guide intervention design for health promotion. However, few have used innovative formative research in intervention design, to build upon the cultural, social, and contextual resources of Hispanic women. Mrs. Perez describes a multi-method approach to design an intervention promoting moderate intensity physical activity in Hispanic women. Dr. Keller describes the corresponding approach to operationalizing the culturally relevant intervention to promote 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.

DESIGNING CULTURALLY-EMBEDDED INTERVENTIONS: ADVANCING THE HEALTH OF HISPANIC WOMEN

A Multi-Level Analysis of Physical Activity in Hispanic Women: Toward Foundational Science

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Purpose: The purpose of this paper is twofold: (1) using a multi-level perspective, to provide a descriptive review of literature relevant to physical activity among Hispanic women and (2) to recommend future directions to foster translational physical activity research to foster the design of culturally-embedded interventions.
Rationale: Physical inactivity has been identified as affecting the largest segment of the population. Although research concerning physical activity in Hispanic populations is limited, data indicate that Hispanic women have low levels of physical activity and higher levels of subsequent health risk when compared to other populations. While there has been marked progress in the development and testing of behavioral strategies to promote regular physical activity, there has been limited synthesis of research findings relevant to Hispanic women. The challenge remains to critically examine these findings as a foundation for translation into practice.
Methods: A computer-assisted search using keywords Latina or Hispanic, exercise, physical activity in four databases from January 1990 to May 2008 was conducted. Original articles reported: (a) empirical data derived from qualitative, descriptive, correlational, or intervention methodology; (b) sample primarily or completely of Hispanic women; provided distinct findings for Hispanic women; (c) outcome or descriptor variable of physical activity. Data were extracted and categorized using data display matrices consistent with a multi-level, social ecological perspective, outlined by the Institute of Medicine as levels of influence essential to health promotion (Smedley & Syme, 2000): intrapersonal, interpersonal, community and environment, and organizational. Matrices and the original reports were iteratively reviewed and compared to qualitatively analyze and synthesize results.
Results: Data characterize the environments of persons and communities as multidimensional, encompassing social and contextual as well as physical components. Across social ecological categories, specific factors were identified as “leverage points” for culturally-embedded translational research influencing physical activity among Hispanic women. Although existing research supports individual attributes as influencing physical activity, less is known about potentially modifiable social and contextual correlates and how these might be influenced.
Implications: Understanding and addressing social, cultural, and contextual factors associated with physical activity among Hispanic women is necessary to establish comprehensive, translational intervention programs within community settings. Despite encouraging findings, the creation of a sound foundation for translational research requires that researchers and clinicians continue to identify key areas for development in promoting physical activity among Hispanic women.

DESIGNING CULTURALLY-EMBEDDED INTERVENTIONS: ADVANCING THE HEALTH OF HISPANIC WOMEN

Development of a Culturally-Embedded Intervention for Physical Activity Among Hispanic Women

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Purpose: The purpose of this paper is to describe a theory-driven approach to developing a culturally relevant social support intervention to promote physical activity among Hispanic women. A social support framework guided development of *Mujeres en Accion por Su Salud* [Women in Action for Their Health], grounded in formative research, partnership with community members, and strengths of community-based physical activity interventions with Hispanic women.
Rationale: Factors contributing to cardiovascular (CVD) risk in Hispanic women, particularly older women, include a lack of physical activity. Community-based interventions designed to promote physical activity among Hispanic women have shown varying effectiveness. Further, there are few culturally relevant, theory-based interventions designed to foster support systems and environments to promote physical activity.
Methods: Intervention development was based on program theory: problem definition, critical inputs, mediating processes, expected outcomes, and implementation issues, grounded in formative research, partnership with community members, and strengths of community-based physical activity interventions with Hispanic women.
Results: *Mujeres en Accion por Su Salud* operationalizes culturally-embedded social support mechanisms, fostering naturally-occurring social networks, role models, and community resources. Mobilizing naturally-occurring social networks through intervention is important because such networks are indigenous to the community, and offer culturally relevant and effective social support. Social support is defined as aid and assistance exchanged through social relationships and interpersonal transactions. Critical inputs designed to foster social support, implemented within the community, include: (a) emotional support provided by *Promotoras* and study participants; (b) instrumental support, including social and community resources to promote physical activity; (c) appraisal support, including sharing goals, strategies, and resources for physical activity; and (d) informational support through *Promotoras* who promote the safe performance of physical activity. *Mujeres en Accion* critical inputs target planned changes in the structure of supportive mechanisms, operationalized through supportive interaction between group members and community-based *Promotoras*, changes in interactions between women themselves, and group engagement and role modeling of self-paced, moderate intensity walking as the behavioral change of interest.
Implications: Attention to culturally-embedded, theory-based interventions that foster social support, increase physical activity, and promote CVD health outcomes among Hispanic women may begin to address critical health disparities and further the science in this field.

DESIGNING CULTURALLY-EMBEDDED INTERVENTIONS: ADVANCING THE HEALTH OF HISPANIC WOMEN

Use of Lay Health Advisors in Culturally-Embedded Health Promotion Interventions

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Purpose: The purpose of this paper is to: (1) provide a comprehensive review and evaluation of the roles, evaluation, and effectiveness of Lay Health Advisors (LHA) in community-based programs with an emphasis on cardiovascular risk reduction (CVD); and (2) provide recommendations for future research involving LHA in such programs.
Rationale: Noted health disparities among ethnic and underserved groups might be best addressed with programs designed to enhance awareness and development of resources within a context of community support. The involvement of LHA in the design, implementation, and evaluation of health promoting interventions has been proposed to ensure that programs are culturally-embedded, address issues of importance to the community, and promote sustainable, community-wide change. Such interventions may be key to health promotion in Hispanic women.
Methods: A computer-assisted search using keywords Lay Health Advisor, natural helper, peer health educator, *promotora de salud*, cardiovascular risk, disease management, health promotion in five databases from 1980-2007 was conducted. Original articles reported: (a) data-based, LHA-facilitated CVD risk reduction intervention; (b) study outcomes delineated beyond a description of the program. LHA was defined consistent with the Cochrane Collaboration (2005). Data were extracted and evaluated using data display matrices; variables for analysis include target population, specified health behavior change, theoretical perspective, intervention implementation strategies, LHA role, LHA training, study outcomes, and documentation of LHA process data.
Results: Twenty studies were identified concerning LHA interventions for CVD risk reduction. Overall, LHA interventions resulted in positive outcomes. However, differences in populations targeted, outcomes, and LHA roles make it difficult to draw conclusions about overall effectiveness. Best practices for LHA interventions in CVD risk reduction include: (a) Selection and development of LHA as a role model and support from the community of interest. (b) Involvement of LHA in formative and summative research exploring community concerns, strengths, and resources. (c) Specification and ongoing evaluation of the LHA role, role implementation, and training. (d) Outcome measures consistent with intervention critical inputs.
Implications: Next steps for development of the science related to culturally-embedded LHA interventions for CVD risk reduction in Hispanic women include: (a) Clear specification of the role of the LHA in intervention; (b) stronger operationalization and testing of theoretical frameworks for LHA interventions, including evaluation of multi-level frameworks and analysis of the theoretical mechanisms through which LHA effect risk reducing behaviors; and (c) evaluation of the impact of LHA interventions on resource development, utilization, and community capacity.

DESIGNING CULTURALLY-EMBEDDED INTERVENTIONS: ADVANCING THE HEALTH OF HISPANIC WOMEN

Developing Culturally-Embedded Health Promotion Interventions: Hispanic Women as Community Partners

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Purpose: This presentation outlines formative methods used in the design of a theory-based intervention, conducted in partnership with Hispanic women, to enhance cultural relevance and foster sustainability of program efforts. A multi-method approach was used to design an intervention promoting moderate intensity physical activity and related community and cardiovascular health outcomes. Formative research: (1) explored the social and contextual strengths and resources of Hispanic women and (2) incorporated issues of cultural relevance and sustainability of program efforts.

Rationale: Recent studies support the use of community-based participatory action research strategies to design culturally-relevant interventions in order to better address health disparities. Summary Statements from the 2003 Minority Health Summit emphasize the importance of culturally and contextually-relevant research targeting minority women, due to high levels of cardiovascular risk factors and mortality rates in these groups. The application of innovative formative research methods for development of culturally-relevant health promotion interventions has been emphasized as key to reducing health disparities.

Methods: A qualitative descriptive methodological design, incorporating: (a) focus groups, (b) photo-elicitation, and (c) prosumer integration, was used to gain a deeper understanding of resources for physical activity among Hispanic women, as well as methods for intervention design and sustainability. Consistent with a traditional formative approach, focus groups explored strengths, meanings, and motivation around regular physical activity. Photo-elicitation allowed women to represent resources for physical activity through images. Using a marketing approach, Prosumer participants provided directed advice on the cultural relevance and strength of the intervention, recruitment approaches, intervention adherence strategies, and measurement protocol. Qualitative content analysis guided description and categorization of both verbal and visual data, and included an iterative approach and constant comparison in analysis.

Results: Themes provided a formative basis for intervention design, including cultural, social, and contextual resources. Culture provided an overarching perspective, guiding identification and choice of physical activity, resources, support, and setting. Data emphasize the importance of culturally-embedded social support mechanisms, fostering naturally-occurring social networks, role models, and the mobilization of naturally-occurring social networks through intervention.

Conclusions: A multi-method approach to intervention design provides an innovative mechanism for generating a more complete understanding of perceived resources for physical activity in Hispanic women. Formative research is an essential step in the design of culturally-embedded and relevant health promoting interventions for Hispanic women.

GEAR UP! CHALLENGES IN IMPLEMENTING A TARGETED AND TAILORED INTERVENTION TRIAL

Moderator:
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OVERVIEW: GEAR UP! CHALLENGES IN IMPLEMENTING A TARGETED AND TAILORED INTERVENTION TRIAL

Susan Beck

THE RANDOMIZED PREFERENCE DESIGN: TAILORING LEARNING PREFERENCES

Norissa Honea, Gail Towsley, Michael Caserta, Terry Thomas, Susan Beck

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DEVELOPING THE GEARUP! GUIDEBOOK: ISSUES IN HEALTH LITERACY

Jackie Smith, Karen Lindau

APPLICATION OF THE NIH TREATMENT FIDELITY GUIDELINES TO A TAILORED INTERVENTION TRIAL

Andra Davis, Lee Ellington, Norissa Honea

DATABASE DESIGN FOR TAILORED QUESTIONNAIRES IN A NURSING INTERVENTION TRIAL

Jia-Wen Guo, Bob Wong, Susan Beck

GEAR UP! CHALLENGES IN IMPLEMENTING A TARGETED AND TAILORED INTERVENTION TRIAL

Overview: Gear Up! Challenges in Implementing a Targeted and Tailored Intervention Trial

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Gear Up! is an exploratory randomized clinical trial to test a targeted and tailored intervention designed to help men undergoing radiation therapy for prostate cancer to manage their symptoms. The study is based on the Symptoms Experience Model (Armstrong) and the intervention applies concepts of adult learning theory. The study is unique in that it targets specific symptoms likely to occur after 40Gy of external beam radiation therapy or radiation therapy followed by a seed implant. Although there is a common profile of symptoms that are targeted, not all men will experience all symptoms and to the same degree. The study is also tailored based on learning preference and uses a unique randomized preference design.

These two features, targeting and tailoring, are becoming common in behavioral and symptom management trials. Yet these two characteristics have yielded many challenges in study implementation. These challenges include: feasibility issues in recruitment and implementation of the design, the need for targeted educational materials that apply knowledge in health literacy, the necessity of a data collection system to handle the complexities of targeted interventions, and the need to assure treatment fidelity as recommended by national standards. This symposium will share the interdisciplinary work of our team in creatively and effectively addressing these challenges. Four papers will be presented.

1. The Randomized Preference Design: Tailoring Learning Preferences;
2. Developing the Gear Up! Guidebook: Issues in Health Literacy;
3. Database Design for Tailored Questionnaires in a Nursing Intervention Trial; and
4. Application of the New NIH Treatment Fidelity Guidelines to a Tailored Intervention Trial.

Funded by NCI (R21 CA120896-01A1; PI, S. Beck).

GEAR UP! CHALLENGES IN IMPLEMENTING A TARGETED AND TAILORED INTERVENTION TRIAL

The Randomized Preference Design: Tailoring Learning Preferences

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Purpose: The purpose of this presentation is to provide an overview of an exploratory clinical trial which uses an experimental "randomized preference design" to test a symptom management intervention in older men with prostate cancer receiving radiation therapy.

Background and Rationale: The patient preference design, in which patients can choose treatment options, has been primarily used in regards to medical treatment. This design is ideal in educational/behavioral interventions that require a high degree of patient motivation and participation. We applied this design to a clinical trial where men who are randomized to the treatment condition can choose their preferred way of learning self-care strategies to ameliorate their symptoms.

Research Issue: This intervention is based on theory and data that indicate that older adults have a preferred way of learning. Tailoring the teaching method to learning preference can enhance the efficacy and acceptability of an intervention. Each participant in the intervention chooses from three ways of learning: (1) a self-directed approach that includes written materials and internet resources; (2) group-facilitated learning, a conference call approach that applies concepts of social learning theory; and (3) one-on-one counseling, an individualized approach provided by an advanced practice oncology nurse. Participants are randomly assigned to two study groups in a 2:1 ratio: (1) the tailored symptom management intervention which allows patients to choose their preferred learning method (n=72) or (2) usual care (n=36). The projected sample and the unbalanced design maximize the number of participants in the intervention group, allowing more experience with each preferred learning method and still providing an adequate control group for a pilot study.

Conclusions and Implications: This design provides a unique approach that can guide other types of tailored intervention studies. Lessons from the pilot study will inform issues to be considered in a larger randomized clinical trial in which the randomization schema is usually extended to compare a preference group to a traditionally randomized group. This study is one of few oncology nursing trials to utilize the randomized preference design. Potential challenges in implementation and strategies for success will be useful to other scientists and students.

Funded by NCI (R21 CA120896-01A1; PI, S. Beck)

GEAR UP! CHALLENGES IN IMPLEMENTING A TARGETED AND TAILORED INTERVENTION TRIAL

Developing the GearUp! Guidebook: Issues in Health Literacy

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Purpose: This presentation describes how the principles of health literacy and plain language communication were used to prepare a patient guidebook, a core component of a trial of a targeted and tailored symptom management intervention for older adult men with prostate cancer.

Background and Rationale: Health literacy, according to *Healthy People 2010*, is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions." Health literacy includes the ability of patients to read and understand health information and to manage disease.

Research Issue: The guide helps patients manage problems that commonly occur during and after receiving radiation therapy for prostate cancer. Topics covered include fatigue, urinary problems, diarrhea, hot flashes, pain, skin care, sexual concerns, exercise, sleep problems, emotional responses, and communication with health care professionals. We used the following process. (1) We conducted a literature review to determine the most common side effects, their causes, and what patients can do to manage them. This included review of numerous patient education materials. (2) The information was compiled and written in a clear and readable format. Strategies from relevant clinical practice guidelines were recommended. (3) The draft was reviewed and edited by all study team members, on-site oncology nurses, and editors. (4) An expert consultant in health literacy provided suggestions regarding format and style. (5) Design assistance was provided by a professional printing service. (6) The guidebook was then pre-tested with several prostate cancer patients. They provided extremely valuable insights regarding the content and style. (7) Literacy testing indicated only 5% Passive Sentences, a Flesch Reading Ease of 72.5 (60 to 70 and higher is easier to read) and a Flesch-Kincaid Grade Level of 6.1.

Conclusions: The described process was effective in developing a core component of an intervention for men completing radiation therapy for prostate cancer. The effort resulted in a patient-friendly, targeted, learning guide entitled, *Gear Up! A Guide to Help You Feel Better After Treatment.*

Implications: Health literacy techniques can be used by oncology nurses as they prepare written materials to increase patients' learning, understanding, and ability to manage their symptoms.

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GEAR UP! CHALLENGES IN IMPLEMENTING A TARGETED AND TAILORED INTERVENTION TRIAL

Application of the NIH Treatment Fidelity Guidelines to a Tailored Intervention Trial

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Purpose: This presentation will apply the five-category Treatment Fidelity Framework presented by the NIH Behavior Change Consortium (2005) to this efficacy and feasibility trial of symptom management for prostate cancer survivors.
Background and Rationale: Methodological strategies to enhance treatment fidelity largely address issues related to randomized clinical drug trials. Although many treatment fidelity strategies are commonly used, inconsistencies remain in their application and usefulness for behavioral research.
Research Issue: In this patient-preference, symptom management intervention trial for prostate cancer survivors during and immediately after radiation therapy, we applied the five-category Framework to project design and initial implementation. For category one, *Design*, we developed data collection procedures to enable evaluation and replication of the study. For example, we assessed length of intervention sessions and monitored interactions with the nurse facilitator within the session as well as outside of the session (e.g., participant phone calls). For category two, *Training,* the nurse facilitator role-played both individual and group sessions. Facilitator skill maintenance is also assessed. For *Treatment Delivery*, we ensure that intervention content and dose are being delivered as specified. To do this, the facilitator and researchers complete checklists. Additionally, digital recordings are reviewed for variation in specific and nonspecific treatment effects. For category four, *Treatment Receipt,* we have designed the study to increase participant understanding. Assessment of participant understanding and knowledge is measured by post-session questionnaires from both participants and facilitator. During sessions, the facilitator prompts for understanding as well as summarizes information to reinforce knowledge acquisition. Finally, assessment of participant *Treatment Enactment* is gathered via self-report at subsequent intervention sessions and by follow-up calls post-intervention.
Conclusions and Implications: Previous guidelines for treatment fidelity failed to emphasize critical design and reporting factors for behavioral trials. The application of the Treatment Fidelity Framework to behavioral oncology interventions will enhance rigor in our scientific reporting and improve translation of efficacy trials into effective clinical interventions. Adherence to treatment fidelity strategies in biobehavioral research will strengthen the translation of efficacy trials, such as the current project, to effectiveness trials.

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GEAR UP! CHALLENGES IN IMPLEMENTING A TARGETED AND TAILORED INTERVENTION TRIAL

Database Design for Tailored Questionnaires in a Nursing Intervention Trial

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Purpose: A clinical trial testing a tailored intervention, designed to help men undergoing radiation for prostate cancer to manage symptoms, has led us to develop tailored data collection procedures as well. The purpose of this presentation is to demonstrate how we utilized a ubiquitous database program (Microsoft Access) to collect data when individuals' symptoms and the self-care strategies they implemented changed on a week to week basis.

Background and Rationale: The dynamic nature of symptoms and interventions can pose a problem from a data collection/management standpoint. Three strategies for 13 different symptoms over 7 different time points could be evaluated and tracked during a patient's participation in the intervention protocol. This results in 273 potential symptom management strategies for each patient.

Research Issue: To deal with the complexity of each individual's unique situation, we created a novel database for gathering real time patient data conducted during a phone interview. Unlike traditional longitudinal data collection procedures, where individuals complete a common battery of instruments at multiple time points, only relevant information is obtained and examined according to how a patient answered questions from the previous week. In order to reduce interviewer time, data entry screens are designed to only be visible based on whether a patient previously reported a particular symptom. Direct entry of data by the interviewer reduces data entry time. For example, in Week 1, a patient may report experiencing fatigue. The database would prompt the phone interviewer at Week 2 to ask the patient about what strategies he used to deal with the fatigue during the past week. Each self-care and symptom management strategy would be evaluated for the participant's level of self-confidence, frequency, and perceived helpfulness. The database also will prompt the phone interviewer to ascertain any new symptoms that may have developed over the week.

Conclusions and Implications: Using a database that tailors questionnaire items to evaluate individual patient's strategies for each symptom can simplify the data collection process, and reduce data entry time. This database provides a model for designing data collection tools that are relevant and tailored to specific symptoms and goals for managing them.

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HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Moderator:
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OVERVIEW: HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Adeline Nyamathi

SECOND GENERATION LATINAS' PERCEPTIONS OF ACCESSING MENTAL HEALTH CARE FOR DEPRESSION

MarySue Heilemann, Katrina Dornig, Huibrie Pieters

HEALTH LITERACY AND SELF-EFFICACY AMONG LOW INCOME MEN WITH PROSTATE CANCER

Sally Maliski, Mark Litwin

HEALTH CARE ACCESS AND THE COMMUNITY REINTEGRATION OF MALE PAROLEES

Elizabeth Marlow

OLDER WOMEN'S REFLECTIONS ON ACCESSING CARE DURING AND AFTER CANCER

Huibrie Pieters

PERCEPTIONS AND HEALTH CARE NEEDS OF HIV-POSITIVE MOTHERS IN INDIA

Adeline Nyamathi, Beena Thomas, Soumya Swaminathan

HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Overview: Health Care Access Issues Experienced by Vulnerable Populations in the US and Globally

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Aims: This symposium illustrates how researchers conduct culturally-sensitive, community-based investigations to assess barriers of health care access, experienced by vulnerable populations who suffer with health disparities, both domestically in California and globally. The investigators are faculty who direct the National Institute of Nursing Research (NINR)-funded T32 on Health Disparities of Vulnerable Populations and co-direct or are affiliated with the NINR-funded Center for Vulnerable Populations (CVPR) and their doctoral and post-doctoral students. The focus is to illuminate barriers to health care access among vulnerable populations and to shed light on nursing strategies which can positively impact health care outcomes. **Overview of the Studies:** Heilemann begins the domestic side of presentations by using constructivist grounded theory methodology to explore and describe the perceptions of second generation Latinas of low income in need of mental health care for depression. Maliski, using a cross-sectional design, engages culturally diverse men of low income who are diagnosed with prostate cancer and in search of effective symptom management and quality of life. Marlow, using hermeneutic phenomenology, reflects on male parolees as they encounter community reengagement and the need for quality health care interface. Pieters, using grounded theory methodology, describes the culturally diverse experiences of older women diagnosed with breast cancer and who engage the health care system during and after their prescribed treatment. Finally, Nyamathi, extends health care access barriers from the domestic to the global sphere in sharing perceptions and perceptions of HIV positive mothers living with HIV in Chennai, India using qualitative methodology. **Implications:** Exploration of health care access among culturally diverse populations in California and globally has implications for nursing practice. The results of this symposium highlight the importance of health care professionals in assessing barriers which impact care-seeking of vulnerable populations and build the knowledge base for best practices among populations experiencing health disparities.

HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Second Generation Latinas' Perceptions of Accessing Mental Health Care for Depression

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Aim: The aim of this study was to explore and describe the perceptions of second generation Latinas of low income as they reflected upon their experiences of accessing and engaging in mental health care for depression.
Background: Among Latinos, the lifetime rates for major depressive episode are two times higher for women than for men. Multiple studies have shown that second generation Latinas report more depressive symptoms than immigrants. However, help seeking efforts that result in formal mental health care for Latinos is quite low, even if they speak English or have insurance. As social stigma can act as a barrier to obtaining services, exploration and analysis of urban, low income Latinas' perceptions of their experiences accessing and engaging in depression treatment is crucial for understanding what prevents women from getting and completing needed mental health care.
Method: Constructivist Grounded Theory (Charmaz, 2006) methodology guided collection and analysis of narrative data from eight second generation Latinas three months after they completed a unique nurse-led, community-based pilot project to treat depression called Project Well Being (PWB) (an eight week treatment program of Cognitive Therapy and Motivational Interviewing). Women were asked about their expectations about treatment before they started therapy, the factors that influenced their decision to enroll in PWB, and what made them stay in the program to its completion. Semi-structured interviews were conducted by a qualitative researcher (second author).
Results: The process to get an appointment for an intake interview was fueled by internal motivators such as a strong desire to get better and stop feeling so poorly, courage to overcome stigma and fears that others would consider them "crazy," and a sense that they were building on efforts they were already making to help themselves. The fact that PWB was a study that held promise for helping other women in the long run was extremely meaningful and gave women an added reason to engage in treatment (i.e., it wasn't just for themselves, but to also benefit others). External cues from friends and family who noticed and pointed out that they needed "help" made women realize they needed to "do something." However, the dynamic of the relationship of the women with the therapist was described as central to their process, giving them confidence in themselves related to their ability to "do therapy" and to stay in the treatment program until the end. The women reported rich details of the characteristics of the therapist and the collaborative nature of the therapy as a compelling reason to stay in therapy.
Implications: Insight from the experiences of Latinas themselves holds promise for creating services that are desirable and accessible for second generation Latinas who are depressed.

Funding is acknowledged from NINR – K23 NR008929.

HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Health Literacy and Self-Efficacy among Low Income Men with Prostate Cancer

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Aims: Health literacy is key for patients to successfully access care and information needed to optimize health-related quality of life (HRQOL). This study examined relationships between health literacy and self-efficacy for patient-physician interaction, prostate cancer-specific symptom function and bother, and HRQOL. Specifically, we: (1) measured health literacy, self-efficacy for interacting with physicians, and disease specific and general (HRQOL) using standardized instruments; and (2) examined associations between health literacy level and self-efficacy for interacting with physicians, HRQOL, disease-specific QOL, and sociodemographic factors.

Background: Little is known about the interplay of health literacy and self-efficacy on the ability of low income and culturally-diverse populations to take charge of their illness such that symptoms can be effectively managed and HRQOL maintained. While low self-efficacy has been shown to be detrimental to understanding critical health information, the relationship between self-efficacy (i.e., confidence in one's ability to interact with physicians) and health literacy remain largely unexplored.

Methods: A cross-sectional descriptive design used primary and secondary data. Participants were recruited from a larger study of uninsured, low income men who had been treated for prostate cancer through a state-funded program. As part of this larger study, men had completed sociodemographic and clinical information and measures of HRQOL and self-efficacy. The 40 men participating in our study completed the Test of Functional Health Literacy-Adult (TOFHLA). Analyses included univariate and multiple regression techniques.

Results: Results indicated that mean reading comprehension (p=.04) and numeracy (p=.006) are significantly higher for those with a high school education. Numeracy was significantly higher for Caucasians (p=<.0001) and English speakers (p=<.0001), but reading comprehension was not. The highest means for these men indicated inadequate functional health literacy. In bivariate analyses with mean subscale scores of the SF-12v2 (HRQOL) and the PCI (disease-specific) QOL, more urinary bother (troublesomeness of incontinence) was significantly associated with lower reading comprehension (p=.047). In multivariate analysis for self-efficacy and controlling for the HRQOL covariates, no models were significant. The Physical Composite and Mental Composite subscales of the SF-12v2 approached significance for reading comprehension. Better composite scores were associated with higher health literacy.

Implications: Identification of significant associations between health literacy and self-efficacy will help in understanding the role that health literacy plays in obtaining and understanding information necessary for effective self-management of chronic, life-threatening illness and to lay the groundwork for the development of interventions specific to the needs of extremely vulnerable populations.

Funding is acknowledged from NCI RO3 CA122896.

HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Health Care Access and the Community Reintegration of Male Parolees

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Aim: The aim of the study was to understand how health care access affects the community reintegration of male parolees.
Background: Parolees often have long criminal histories and their time in the free community is punctuated by multiple incarcerations. Approximately 60% to 70% of all individuals on parole are rearrested and reincarcerated within three years of release from prison. Formerly incarcerated individuals frequently have limited employment skills, have not finished high school, and have physical and mental health problems and addiction disorders at rates greater than the general population. These individuals' continued involvement in correctional and criminal life further removes them from the institutions and experiences necessary (e.g. health care, education, and legal employment) for a stable life in civil society.
Methods: Hermeneutic phenomenology guided the conduct of the study and the analysis of the data. Phenomenology aims to describe distinct beliefs, patterns, and practices amongst individuals with a shared or similar experience, i.e. chronically ill men on parole. The hermeneutic process provides an understanding of how certain aspects of the individual and his situation open up possibilities and close down others in his efforts to access health care services in the community. The method does this via in-depth analysis of narrative data. Data were collected via repeat individual interviews with chronically ill male parolees 40 to 65 years of age. Thirty-two in-depth interviews with 17 participants were completed.
Results: Findings revealed three patterns of engagement with the health care system: (1) ambivalent engagement with an inconsistent and unreliable health care system, (2) dismissive engagement with the health care system, and (3) engagement with street life that overrode health care concerns and reintegration efforts in general. Through these patterns of engagement participants explicated their perceptions of the impact of heath care access on their reintegration efforts.
Implications: These findings suggest a need for new ways of conceptualizing reintegration that includes health more centrally in the processes of success or failure. The health care system has the potential to be a positive influence in these individuals' lives. In order to effectively support and care for chronically ill individuals on parole, the health care system, as an institution and as individual clinicians, must begin to integrate the problems and issues of long term involvement in criminal and correctional life into its evaluation and treatment of these individuals.

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HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Older Women's Reflections on Accessing Care During and After Cancer

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Aim: The aim of this study was to describe the experiences of older women (≥70 years of age) related to interactions and communications with the health care system during and after treatment for primary breast cancer.

Background: Fifty six percent of all new cancer diagnoses are with people ≥65 years (Yancik, 2005) and 61% of all cancer survivors are 65 years and older (Hewitt, Greenfield, & Stovall, 2006). Except for gender, age is the second highest risk factor for breast cancer (Chapman & Moore, 2005). Women of all ages are surviving breast cancer, including those 70 years and above. However, the unique contextual issues of the interface between aging and cancer survivorship, including accessing care, within the context of our aging society are seldom studied (Boyle, 2006; Hewitt et al, 2006; Rowland & Yancik, 2006). Useful information to guide clinical practice is very limited (Crooks, 2001).

Methods: Grounded theory methodology informed by feminism guided both data collection and analysis of the many facets of the experiences of women accessing care during and after treatment for primary breast cancer. Semi-structured interviews were conducted with women ≥70 years who completed treatment for primary breast cancer within the past 3-15 months. Participants represented diverse cultures, marital statuses, treatments received, and socio-economic strata. Data was analyzed according to constructivist grounded theory principles (Charmaz, 2006). Collaborative analysis was instrumental to enhance rigor, accountability, and depth of analysis.

Results: The women told stories of discovery that showed both similarities and differences with the existing literature on younger breast cancer survivors. They identified unique barriers to health care including the ramifications of the "triple barriers" of age, multiple cancer treatments, and pre-existing comorbidities. The complex, daily demands generated by the "triple barriers" resulted in challenges to their efforts to access health care. Nonetheless, these women were remarkably capable to navigate the health care system and access care for, not only a life-threatening disease, but chronic co-morbid problems as well. The significance of the roles of support persons in relation to decision making, accessing care, and adaptation were crucial to women's adaptation.

Implications: Understanding the newly recognized phenomenon of cancer survivorship impacts all nurses, not just oncology nurses. In order to provide effective care to all members of society across the lifespan, sensitivity to the unique needs of elders can grow as we listen to the voices of older cancer survivors through research such as this.

Awareness of the "triple barriers" can be a catalyst for nurses to enhance access to care and the quality of service delivery for these women who have fought so effectively to overcome a life-threatening disease, in order to move on in their lives.

HEALTH CARE ACCESS ISSUES EXPERIENCED BY VULNERABLE POPULATIONS IN THE US AND GLOBALLY

Perceptions and Health Care Needs of HIV-Positive Mothers in India

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Aim: The aim of this study was to explore the perceptions and experiences of a group of community-based, HIV-positive mothers, living in India, in order to learn about the challenges they face in terms of assessing health care services, dealing with mental health stressors, and parenting while ill. They were also given a voice in designing intervention programs for women like themselves.

Background: An estimated 2.5 million Indians are currently living with HIV/AIDS. Spread primarily through heterosexual contact, the epidemic is shifting towards women, 29% of whom are currently infected, with still more cases going unreported. Within the family structure, women often lack power in sexual decision making, placing themselves at high risk for HIV infection. As the primary caregivers for their families, women face many challenges when it comes to accessing care, including dealing with discrimination from family, community, and health care providers, and a general lack of education, social support, and nutrition guidance and sustenance.

Methods: This study employed a qualitative approach utilizing focus groups consisting of a convenience sample of 60 HIV-infected mothers recruited from a large maternity hospital and STD clinic in Chennai, India. Using community-based participatory research approaches, a Community Advisory Board to guide all phases of the research, including the construction of the semi-structured interview (SSIG). Using the SSIG, information was solicited from participants and qualitative content analysis conducted to determine common themes discussed among the groups. The Comprehensive Health Seeking and Coping Paradigm was utilized to assess challenges in accessing health care.

Results: Participants described challenges they face on a day-to-day basis, living with HIV. They also described factors that prevent or help them to seek, obtain, and maintain care. The women offered suggestions as to how health care providers can assist them better in the future and made recommendations for intervention plans, which included counseling, nutritional support, psychological support, and educational services. Health care providers were also sought to assist HIV-positive mothers in disclosure issues and in access of medications and other health care services.

Implications: Findings of this study provided a rich backdrop upon which a community-based AIDS program for HIV-positive mothers in India can now be designed.

Funding is acknowledged from NICHD RO3HD052145.

PROVIDING EVIDENCE OF NURSING'S IMPACT ON ENVIRONMENTAL HEALTH

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OVERVIEW: PROVIDING EVIDENCE OF NURSING'S IMPACT ON ENVIRONMENTAL HEALTH

Laura Larsson

TERRA: A MODEL TO GUIDE NURSING INQUIRY ADDRESSING ENVIRONMENTAL HEALTH

Patricia Butterfield, Julie Postma

PREDICTORS OF RADON RISK REDUCTION FOR RURAL, LOW-INCOME FAMILIES

Laura Larsson

PRIORITY ENVIRONMENTAL RISKS AMONG RURAL LOW-INCOME FAMILIES

Wade Hill, Tamara Odom-Maryon

INCORPORATING ENVIRONMENTAL RISK REDUCTION IN PUBLIC HEALTH NURSING PRACTICE

Elizabeth Tinker, Julie Postma, Patricia Butterfield

PROVIDING EVIDENCE OF NURSING'S IMPACT ON ENVIRONMENTAL HEALTH

Overview: Providing Evidence of Nursing's Impact on Environmental Health

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Differential environmental exposures are experienced by families, particularly poor and minority families, in the places they live, work, and play. Rural communities are a differential community of concern, as they experience higher levels of exposure (both in frequency and magnitude) to many environmental stressors and have fewer resources to manage these exposures than their urban counterparts. Relative risk and health status may further amplify exposure suggesting the importance of a combination of compositional and contextual factors in environmental health (EH) outcomes. One fundamental focus of environmental health nursing is to promote indoor risk reduction, yet nursing research with the aim of assessing the efficacy of nursing interventions to reduce EH risk was without a well-fitting theoretical framework. In response to this gap in nursing theory, the Translational Environmental Risk Reduction in Rural Areas (TERRA) model was developed.

One aim of this symposium is to describe the unique theoretical contributions of the TERRA model including that the authors: (1) specifically applied a vulnerable populations interrelationship model to rural families combining important elements of rural and health disparities theories; (2) included both compositional and contextual macro-determinants of EH, which reflects the importance of place in rural intervention research; and (3) expanded traditional socioeconomic determinants in their conceptualization of inequities.

The second aim of this symposium is to present findings from the Environmental Risk Reduction through Nursing Interventions and Education (ERRNIE) project as they relate to the TERRA model. The ERRNIE project is a randomized controlled trial with the primary aim to evaluate the effectiveness of a public health nurse delivered intervention designed to improve household environmental risk reduction behaviors. Study sites exist in Gallatin County Montana and Whatcom County Washington.

Dr. Butterfield will provide a brief history of the ERRNIE study and describe the factors that led her team to develop the TERRA conceptual framework. Dr. Larsson will report on cross-sectional research on sociodemographic and mental model variables important for predicting radon risk reduction behavior. Dr. Hill will discuss risk perception as a salient variable in public health messaging as well as share empirical risk perception findings from the ERRNIE study. Dr. Postma will discuss the nursing intervention element of the TERRA model with findings from public health nurses regarding their readiness, acceptance, and confidence level to deliver risk reduction strategies to rural, low-income families during visits to their homes.

PROVIDING EVIDENCE OF NURSING'S IMPACT ON ENVIRONMENTAL HEALTH

TERRA: A Model to Guide Nursing Inquiry Addressing Environmental Health

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Purpose: The goal of the ERRNIE (Environmental Risk Reduction through Nursing Interventions and Education) study is to test the impact of a public health nursing intervention on environmental health (EH) risks to rural low-income families. Unique features of this four year RCT include: (1) the use of local public health nurses to deliver the intervention, (2) the collection of EH prevalence data in a previously unstudied population, and (3) the provision of a practical home-based intervention addressing multiple EH risks.

Background: The conceptual foundation for EH focused inquiry has been inadequate for our profession. Because of the challenges in finding conceptual frameworks that reflect a nursing lens, most investigations to date have been conducted either atheoretically or by adapting models in other disciplines. To address this deficit, to capture nursing's perspective, and to provide grounding for our own investigative work in rural Western communities, we developed the TERRA (Translational Environmental Risk Reduction in Rural Areas) model. Our goal in developing the model was to identify concepts salient to family level decisions about EH risk reduction. By placing individual focused concepts (e.g., risk perception) in a broader political-economic context, we created a model that reflected the multidimensional forces shaping a family's capacity to take risk reduction actions. Concepts in the TERRA model include: (1) macro-determinants (physical-spatial, economic-resources, cultural-ideologic), (2) EH inequities, (3) EH risks, (4) EH mental models, (5) environmental risk reduction interventions, and (6) outcomes (proximal and distal).

Method: Two small qualitative studies informed preliminary development of the TERRA model: an initial study with low-income rural mothers and a second study of local leaders' perceptions. Findings from this work provided evidence of the dialectic tension between mothers' feelings of being "trapped" in poverty and leaders' beliefs that Westerners wanted to live as regulatory-free as possible. This evidence compelled us to build a framework that explicated what EH actions were rationally at the disposal of families and what actions were not accessible to families because of poverty, public health service gaps, and prevailing political/economic ideologies. Our work was further informed by the World Health Organization's ME-ME (multiple exposures/multiple effects) model, which emphasized the need to look holistically at EH threats rather than adopting a piecemeal single-agent approach to EH. Subsequent efforts yielded a model that captured the dilemmas as well as the opportunities for families to act in response to multiple risks.

Implications: Scientists are just beginning to understand the consequences of environmental exposures under conditions of poverty and marginalization. In the face of such uncertainty, practical nursing interventions hold the best promise to be family protective. Our goal is to strengthen the conceptual as well as the evidence base for EH focused nursing science. To this end, we hope the TERRA model will be one more conceptual tool available for consideration by nursing scholars.

Funding: NINR studies R01NR009239, Reducing Environmental Risk to Rural Low-Income Families (PI: PG Butterfield) and K01 NR009984 Environmental Risks to Rural Low Income Women of Childbearing Age (PI: WG Hill).

PROVIDING EVIDENCE OF NURSING'S IMPACT ON ENVIRONMENTAL HEALTH

Predictors of Radon Risk Reduction for Rural, Low-Income Families

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Purposes/Aims: This study explored expanded sociodemographic and mental model constructs from the TERRA Model as predictors of indoor radon risk reduction behavior among rural, low-income Montana families (n=170).
Rationale: Rural conceptualizations of environmental justice are important in narrowing the gap in health disparities yet little is known about precautionary behaviors related to environmental health exposures for young, rural families with children.
Method: Survey data were collected from recipients of public health services who earned less than 200% of the federal poverty level (n=170) and lived in radon Zone 1 designated counties. Logistic regression analyses tested the utility of a theoretically supported model in predicting radon risk reduction behaviors.
Results: From questionnaire data, ninety percent of study participants had not tested their homes for radon. Radon risk reduction behaviors did not differ by householder status (rent/own) ($\chi^2_{(1,\ 170)}$ =1.32, p=.25; OR=1.06; CI=0.95-1.2; p=.3 Fisher's Exact Test). A model of five sociodemographic and three mental model variables were significant in predicting whether participants who had not tested their homes had ever heard of the health effects of radon ($\chi^2_{(8,\ 153)}$ =21.07, p<.01). Years of education and radon knowledge score were variables retained in the final model ($\chi^2_{(2,\ 153)}$ = 21.32, p<.01, Nagelkerke R^2=0.17).
Implications: Public health providers in high radon areas should not assume that low-income families understand radon-related risks. On the contrary, half of the participants in this study were unaware of the health effects of radon, despite ongoing public awareness efforts by local health, housing, and weatherization agencies. Educational programs targeted for salient sub-populations are needed if the public is to be protected. Conceptualizations of environmental justice in rural Western communities should consider the roles of income, education, and social class in regard to risk characterization.

Funding: This study was funded by NINR studies R01NR009239, Reducing Environmental Risk to Rural Low-Income Families (PI: PG Butterfield).

PROVIDING EVIDENCE OF NURSING'S IMPACT ON ENVIRONMENTAL HEALTH

Priority Environmental Risks among Rural Low-Income Families

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Purpose: The purpose of this presentation is to (1) describe how rural low-income families rate health risks to a variety of anthropogenic and naturally occurring environmental risks, and (2) discuss the relevance of risk perception in the TERRA Model.

Rationale/Background: Among the myriad of behavioral determinants currently considered predictive of precautionary individual or family-level behaviors, personal assessments of risk have perhaps the greatest potential to be confounded by subjective factors. Reproducible trends in risk perception have been published and are used by risk communication experts to frame messages for greatest impact. Among trends in risk perception, risks that are considered voluntary are perceived as less serious than those considered involuntary. Likewise, natural risks (vs. unnatural) and detectable risks (vs. undetectable) are of particular interest to scientists in environmental health because of the broad range of sources for environmental exposures.

Description of Project: The Environmental Risk Reduction through Nursing Intervention and Education (ERRNIE) project is a randomized controlled trial with the primary aim to evaluate the effectiveness of a public health nurse-delivered intervention designed to improve household environmental risk reduction behaviors. Study sites exist in Gallatin County Montana and Whatcom County Washington. Inclusion criteria include family income ≤ 250% poverty level; having at least one child in the home ≤ 7 years old; residing outside city limits; and receiving water from a private or small well system. Data reported here were collected at baseline using a 27-item instrument designed by the research team to measure risk perception to a broad range of possible exposures. Item responses range from strongly disagree to strongly agree (7-points) and measure level of concern.

Outcomes: Complete data were available for 208 household respondents who were primarily female (91%), white (86%), married (80%), and had total household income of less than $45,000 (77%). A comparison of item means suggests that known trends in risk perception appear evident in our data. For example, risks ranked lowest included cigarette smoke in the home (x=2.96, sd=2.3), animal dander from pets (x=3.79, s=1.94), and contaminants from jobs getting into the home (x=4.45, sd=1.96). These exposures can be classified as controllable, detectable, and familiar. Alternatively, highest rated exposures include methamphetamine production in the community (x=5.81, sd=1.63), mold growth in the home (x=5.74, sd=1.37) and bacteria or germs in our drinking water (x=5.67, sd=1.48), and outdoor air pollution (x=5.26, sd=1.53). These environmental risks can be classified as involuntary, exotic, and/or undetectable.

Conclusions: As an important determinant of individual precautionary behavior, perception of risk for environmental exposures should be considered in light of known patterns. Psychoeducational messages may be framed to take advantage of trends in risk perception.

Funding: This study is funded by NINR studies R01NR009239, Reducing Environmental Risk to Rural Low-Income Families (PI: PG Butterfield) and K01 NR009984 Environmental Risks to Rural Low Income Women of Childbearing Age (PI: WG Hill).

PROVIDING EVIDENCE OF NURSING'S IMPACT ON ENVIRONMENTAL HEALTH

Incorporating Environmental Risk Reduction in Public Health Nursing Practice

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Purpose and Aims: The purpose of this conceptually-guided study was to identify factors that contributed to and detracted from public health nurses (PHNs) delivering environmental risk reduction (ERR) interventions in the home setting. In particular, this study explored the readiness, acceptance, and confidence level of PHNs in the delivery of ERR strategies to low-income, rural residents in their homes.

Background: Through existing public health programs, PHNs are frequently in clients' homes, providing an assessment window into household characteristics that affect children's environmental health (EH) risks. Home visitation programs are an effective mechanism to provide parental education, social support, and resource referral and have resulted in sustained and multi-dimensional improvements in children's health. Cross-training nurses to provide basic EH services is a concept that is just beginning to receive consideration within local health departments. However, little is known about how nurses view, understand, perceive of, and deliver EH education and advocacy as part of their practice. As with any new and expanding role, issues surrounding training, development, organizational and resource support, and acceptability should be explored from the vantage of the nurse.

Methods: Structured one-on-one interviews were conducted with PHNs that were delivering an ERR intervention in a randomized clinical trial. Ten PHNs from two county health departments in the Western United States were interviewed. Grounded theory principles guided the analytic process.

Results: Barriers to incorporating ERR in PHN practice included: a change in the perceived mission of public health, a lack of EH training, the absence of a strong relationship between PHN and EH services, the multidimensional roles of PHNs, the presentation of nurse participation by management, incorporating research families into full work schedules, and the difficulty with engaging parents in EH. Facilitators included: on-the-job training and support, opportunity for capacity building, belief that EH messages will help the community, potential to increase PHN visibility, and personal interest.

Implications: Adapting PHN practice to include ERR strategies is feasible, but not without challenges. With adequate training, time, and institutional support, multiple challenges can be overcome. PHNs are well positioned to improve the health of families and communities by integrating ERR into their scope of practice.

RESEARCH 2.0: SOCIAL NETWORKING TOOLS FOR RESEARCHERS

Moderator:
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OVERVIEW: COLLABORATION AND SOCIAL SOFTWARE IN A WEB 2.0 WORLD

Diane Skiba

SOCIAL NETWORKING: SOCIAL BOOKMARKING TOOLS

Amy Barton

GRANT POST-AWARD MANAGEMENT: SHARED NETWORKING TO SOCIAL WRITING

Teresa Sakraida

SOCIAL WRITING TOOLS FOR CRITIQUING RESEARCH

Jane Carrington

DATA VISUALIZATION IN THE USE OF A LARGE DATASET

Marie Hastings-Tolsma, Deborah Vincent

RESEARCH 2.0: SOCIAL NETWORKING TOOLS FOR RESEARCHERS

Overview: Collaboration and Social Software in a Web 2.0 World

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Purpose/Background: This symposium will provide researchers with a host of Web 2.0 tools that facilitate interactivity and collaboration among researchers. Conventional methods of collaboration with researchers have changed dramatically with the introduction of the Internet. Advanced Research Projects Agency (ARPA) of the US Department of Defense, created ARPANET to allow researchers to network and share files. With the advancement of information and communication networks, the next era introduced the notion of research collaboratory, a center without walls, to allow researchers to share and collaborate in virtual environments. Collaboratory tools were built on social software principles. As the world wide web appeared, a new breed of social software was created. Now with the advent of the Web 2.0, researchers have access to user-friendly tools that can create virtual spaces to interact, collaborate, and disseminate research findings.

Approach: Web 2.0 is a movement from a passive information dissemination platform to a web that is more interactive, customizable, social, and media-intensive. Web 2.0 shifts to a platform in which content is created, shared, remixed, repurposed, and passed along. It builds upon the concept of "the wisdom of crowds" and allows people to connect with each other to boost their knowledge and their ability to learn. In the research arena, it allows researchers to connect with each other around common research ideas and collaborate using a host of new tools. The purpose of this symposium is to describe these new tools, discuss the advantages and disadvantages and promote the development of future collaborations among WIN researchers.

Applications: In this symposium, several researchers from the College of Nursing at the University of Colorado Denver will present a specific Web 2.0 tool and how it is being used to foster collaboration and networking. These Web 2.0 tools are shaping new and creative methods for researchers in the future to collaborate and interact in virtual environments that transcend geographic and time barriers. The overview will provide an introduction to the concept of social networking and their use in helping researchers to find each other based on shared research interests. Researchers with shared interest use these networks to seek collaborations, share data, and harness the power of collective wisdom. The remaining presentations will elaborate how social writing, social bookmarking, and data visualization tools are now part of a researcher's toolkit. Each researcher will discuss the advantages, comparisons to conventional research tools and provide advice for their use. At the end of the symposium, the goal is to facilitate a discussion on how WIN researchers can participate in the Research 2.0 era.

RESEARCH 2.0: SOCIAL NETWORKING TOOLS FOR RESEARCHERS

Social Networking: Social Bookmarking Tools

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Background: Social bookmarking is a relatively new phenomenon. It involves saving bookmarks to a public website and identifying them for later use with keywords known as "tags." There are three major differences between social bookmarking and adding a website to your current "favorites." First and foremost, websites that are saved on a social bookmarking site are available for use on any computer with an internet connection—not just on the desktop or laptop where you've saved them. Second, when you save your websites, you organize them by adding a "tag." This is helpful for categorizing your sites for use at a later time. It is much more flexible than an extensive series of folders and files to track your sites. Third, these sites are social. It allows individuals to share websites with colleagues and students and, in turn, be able to access others' sites as well.

As with any new strategy, there are disadvantages associated with social bookmarking. One group of disadvantages is associated with tagging, while a second is associated with the social nature of website sharing. Tagging is not standardized (e.g., based on MeSH terms). Items can be mis-tagged due to spelling errors or use of the wrong form of a word. In addition, tags do not permit a hierarchical association. All terms are on the same level. Disadvantages related to the social side include web developers capitalizing on tags to make their websites more visible as well as the potential for spammers to invade your network.

Methods: Implementing use of social bookmarking is free and simple to do. One of the most common sites is delicious.com. An individual simply needs to register on the site, add buttons to his/her browser, and start saving bookmarks. The advantage is that once the bookmarks are saved, an individual can choose to share them publicly and begin building a social network based on substantive interests.

The use of social bookmarking in a program of research presents interesting opportunities. Sharing of web-based resources allows teams of researchers to interact in a ubiquitous fashion, without regard to location. If teams agree to standardize the key words they use to tag their sites, a major disadvantage to social bookmarking is eliminated. Recent research suggests that creation and use of high quality tags can facilitate a more effective web search[1]. Further, the flexibility permitted by tagging within these sites can create new ways to manage information[2]. A social bookmarking site designed especially for researchers is Connotea. When papers are tagged, the system notifies users who are tagging similar material. In addition, Connatea can download references in RIS format to facilitate input to citation management programs.

Conclusion: Given the ease of use and potential for enhanced information management, social bookmarking is a strategy meriting consideration by research teams.

1 Heymann, P; Koutrika, G; Garcia-Molina, H. "Can Social Bookmarking Improve Web Search?", First ACM International Conference on Web Search and Data Mining (WSDM'08), 2008.
2 Lomas, C. P. (May 2005) "7 Things You Should Know About Social Bookmarking" Retrieved 10/13/08 from http://net.educause.edu/ir/library/pdf/ELI7001.pdf

RESEARCH 2.0: SOCIAL NETWORKING TOOLS FOR RESEARCHERS

Grant Post-Award Management: Shared Networking to Social Writing

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Background: Successful grant post-award management requires planning for regular communication and healthy exchange with research team members about progress toward and completion of the many project tasks. Though post-award grant management includes following the structure and timeline of the proposal, the work benefits from peer-to-peer exchange within the research team may provide creative and unpredictable ideas and outcomes. Web 2.0 tools provide opportunities for shared networking and social writing that are invaluable to grant post-award management.
Approach: One of the key issues of post-award implementation is providing access by the research team to all documents and organizational tools. One means to accomplish this is by developing a shared networking space. A shared networking space includes a place to house folders containing finished documents and working drafts. The use of a shared drive allows research team members to have the opportunity to access research related items 24/7. Shared network space can be allocated on your university network or you can use other tools such as Adobe Connect to allow collaborative work through desktop sharing.

Social writing platforms, such as blogs or wikis, offer great utility for documenting post-award progress and sharing of thoughts. Placed in a secured shared network drive, the blog includes writings from all research team members. The blog provides dated entry of task completion, logs insights to barriers and difficulties, and celebrates accomplishments. Further, it allows for humor, reflection, and potentates creative ideas that improve program efficiency as well as provides ownership, an ingredient for research team-building as a social community. Wikis can also provide a repository for community sharing of knowledge.

As the post-award phase progresses, the preparation for dissemination by publication begins. Manuscript preparation commonly involves the contributions of the inter-professional team and in the past required frequent face-to-face meetings or drafts shared back and forth by e-mail. Social writing improves collaboration in manuscript preparation by using web-supported software such as Endnote Web™, Google Documents, and WriteBoard.
Conclusion: The tools of tomorrow are here for research programs today. Harnessing the collaborative aspects of Web 2.0, particularly the use of shared networking and social writing, will support an efficient and effective grant post-award implementation phase.

RESEARCH 2.0: SOCIAL NETWORKING TOOLS FOR RESEARCHERS

Social Writing Tools for Critiquing Research

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Purpose: Web 2.0 tools permeate nearly every facet of research. For example, these tools have been used as a client intervention and when organizing large datasets. Furthermore, social software such as social writing tools can be used to facilitate dialogues and critiquing of research studies. Graduate students and alumni from an online informatics program at the University of Colorado are studying and practicing throughout the United States and around the world. A virtual journal club was implemented as a means to create a learning community with a forum to discuss and disseminate informatics research. The purpose of this presentation is to describe how a social networking tool, Ning, was used to support an informatics journal club.
Approach: A blog was chosen as the forum for this project. The tested website was deemed flexible and easy to navigate. A needs assessment of potential participants indicated a high interest in this virtual journal club. Using principles described by Reynard (2008), the virtual journal club was organized to include objectives and process norms. Articles are selected each month covering the range of informatics research. Once an article is selected, the reference is posted and an automatic email informs the virtual community to begin the discussion. To assist journal club members, a process for evaluating research articles was also included.
Outcomes: The website is intuitive and members can easily sign in. An email alerts the moderator of posts made by members of the journal club. The facilitator will monitor the blog and determine the appropriate time frame of discussion for each article. In addition, the level of participation will be monitored to determine if one article a month is too ambitious and timeframes readjusted.
Conclusions: The website containing the blog has proven to be a good platform demonstrating the flexibility needed for multiple users. Students and graduates of the informatics program at the University of Colorado have warmly received the virtual journal club.

Reynard, R. (2008). Avoiding the 5 Most Common Mistakes in Using Blogs with Students. *Campus Technology*, Retrieved October 5, 2008, from http://www.campustechnology.com/articles/68089/

RESEARCH 2.0: SOCIAL NETWORKING TOOLS FOR RESEARCHERS

Data Visualization in the Use of a Large Dataset

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Purpose/Background: Nurse researchers are increasingly likely to utilize large datasets in the examination of health care outcomes. Analysis and presentation of findings can be undertaken in a variety of ways. One experimental strategy, data mining, is a particularly useful means of assimilating data from a large data set. A significant challenge, however, is how to present findings in a more powerful fashion.

An area that is receiving increased attention is data visualization. Visualization has the potential to reach beyond finding data patterns. Rather, data visualization can present information in a way that can engage others in understanding complex processes. This synthesis between creative design and information visualization has the potential to foster increased data comprehension and utilization.

Data Visualization: Data were gathered related to the prenatal, intrapartal, postpartal, and neonatal care of 510 patients receiving care with a large nurse midwifery service. Data were systematically collected on 88 variables and data mining was subsequently undertaken to determine significant relationships. Following a conventional approach to visualizing the data (graphs, charts), the data were then re-examined to present findings using infosthetics (Vande Moere, 2007)—the beauty of data visualization where form follows the data. Data visualization invents new visual metaphors for presenting data and new ways to manipulate these metaphors to make sense of the information in ways not before appreciated.

Basic considerations in the data visualization of the dataset are presented, including available software that aestheticize information processing. Information architecture and information design are briefly discussed, as is the need for collaborative analysis and visualization among researchers.

Applications: Data visualization allows for networking more clearly and effectively with other researchers through graphical means that possess both aesthetics and functionality. There can be downsides to data visualization but improved software makes it possible for nurse researchers to gain additional insight into a dataset that might otherwise have been less apparent.

Vande Moere, A. (2007). Information Aesthetics. [online]. Retrieved from http://infosthetics.com/

SYMPTOM CLUSTERS STRANGER THAN FICTION? THE ART AND SCIENCE OF SYMPTOM CLUSTERS

Moderator:
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OVERVIEW: SYMPTOM CLUSTERS STRANGER THAN FICTION? THE ART AND SCIENCE OF SYMPTOM CLUSTERS

Karen Sousa

THE TRUTH ABOUT BALANCE IN TREATMENT CONDITIONS AND SYMPTOM OCCURRENCE

Ellyn Matthews

IS TRUTH STRANGER THAN FICTION: SYMPTOM CLUSTERING WITH FACTOR & CLUSTER ANALYSIS

Paula Meek

FACT OR FICTION: THE ASSESSMENT OF SYMPTOM CLUSTERS USING SEM

Karen Sousa

GETTING TO THE TRUTH ABOUT SYMPTOM CHANGES AND HIV DISEASE PROGRESSION

Paul Cook

SYMPTOM CLUSTERS STRANGER THAN FICTION? THE ART AND SCIENCE OF SYMPTOM CLUSTERS

Overview: Symptom Clusters Stranger than Fiction?: The Art and Science of Symptom Clusters

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Symptoms are key in the health-illness experience, are multidimensional, and parallel the multidimensional models of patient care that shape clinical nursing care. An important barrier to symptom management is the lack of research describing symptoms, their patterns of association, change over time, interactions, and synergy. The evaluation of symptom clusters has been described as a means to in-depth understanding between and among symptoms and to provide new avenues for intervention research that reduces the impact of symptoms on health-related outcomes. New models and approaches for the analysis of symptom clusters will be explored in this symposium. The challenges addressed are the ability to maximize access to homogeneous groups of individuals with regards to the symptoms of interest, modeling approaches to explore and confirm the structure of clusters, and understanding changes in clusters over time. The symposium will foster dialog specific to differing methodological perspectives and discuss innovative approaches to understand symptom clusters.

The data used for each paper include responses to surveys that were collected as part of the AIDS Time-Oriented Health Outcome Study (ATHOS) databank. The ATHOS is a longitudinal database for persons with HIV-associated illness developed through a grant from the Agency for Health Care Policy and Research (HSO6211, J. F. Fries, PI). The sample consists of 917 men, 83% of whom were Caucasian. The symptoms included represent 23 symptoms from the Sign and Symptom Checklist for Persons with HIV Disease developed by Holzemer and colleagues.

Dr. Matthews will discuss an approach for randomizing individuals into research studies that maximizes the likelihood that groups are balanced with regards to important factors such as symptom clusters of interest. She will introduce and discuss Urn Randomization as an approach to promote balance between groups, particularly as it relates to the symptom clusters of interest.

The most common approaches to grouping symptoms into clusters are exploratory factor analysis and cluster analysis. Dr. Meek will compare and discuss the different structures obtained based on the two approaches and point out variations in assumptions and techniques. In addition, she will suggest guidelines that can inform an analysis strategy aimed at cluster formation. Structural Equation Modeling is a statistical methodology to confirm that measurement models reflect symptom clusters as they are truly experienced by individuals, and provides an opportunity for nurse researchers and clinicians to more appropriately evaluate patient outcomes. Dr. Sousa will discuss symptom cluster analysis from a Structural Equation Modeling perspective.

Understanding symptom clusters' change over time is imperative to developing appropriate interventions and understanding disease progression. Dr. Cook will demonstrate Hierarchical Linear Modeling's utility in analyzing symptom clusters across time. He will discuss how this technique helps to understand the relationship between symptom clusters and disease progression.

SYMPTOM CLUSTERS STRANGER THAN FICTION? THE ART AND SCIENCE OF SYMPTOM CLUSTERS

The Truth about Balance in Treatment Conditions and Symptom Occurrence

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Rationale/Conceptual Basis/Background: Randomization is central to rigorous scientific trials. If done well, randomization eliminates selection bias, enhances the validity of statistical tests to compare groups, and provides balance of sample size and of participants' baseline characteristics on multiple dimensions. However, there are issues with common randomization procedures that sometimes make group comparisons problematic. Randomization is most often associated with intervention research; it also has application for studies of symptom clusters. In both cases, Urn Randomization (UR) is a sound option to balance groups in small-sample studies, although UR is underutilized in investigations of interest to the nursing discipline. Judicious choice of a randomization method is a function of many factors including sample size, the number and importance of covariates, researchers' capacity to mask allocation, and their knowledge of randomization methods.

Purpose/Aims: This presentation will briefly review common randomization techniques and will identify a broad array of options available for clinical trial designs, particularly those with small to moderate sample sizes. UR will be extensively discussed as a novel approach to balancing groups with smaller sample sizes and in investigations where allocation concealment is a concern. A variety of clinical trials testing pharmaceutical treatments and behavioral interventions are actively using baseline UR procedures. The use of baseline UR in studies with multiple centers and allocation based on severity of disease will be discussed.

Methods: UR is a relatively easy procedure to implement. In the past, the complexity and cost of implementing the randomization procedure was prohibitive. However, a computer program for UR is now available free of charge. This program allows researchers to randomize study participants to 2 or 3 randomization groups while also balancing those groups on 2 to 20 variables for stratification. UR allows a small-scale clinical trial to be balanced and approach nearly complete randomization. Advantages include decreased susceptibility to selection bias compared with other methods of randomization (e.g., a permuted-block design). This presentation will highlight the practical aspects of UR, an approach that can help investigators to achieve the goals of random assignment while avoiding pitfalls associated with small groups and unequal distribution of important covariates in the study population.

Implications: When designing intervention studies, nurse scientists will want to consider the merits and drawbacks of a wide variety of randomization methods. Including UR in an expanded "methods toolbox" for studies with small samples may help to promote balance in treatment conditions and to ensure the concealment of group allocation.

SYMPTOM CLUSTERS STRANGER THAN FICTION? THE ART AND SCIENCE OF SYMPTOM CLUSTERS

Is Truth Stranger than Fiction: Symptom Clustering with Factor & Cluster Analysis

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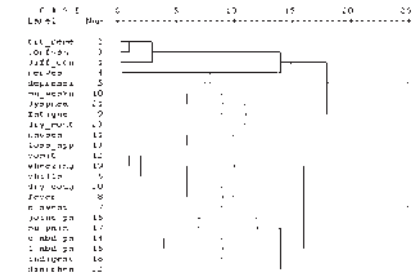
Specific Aims: The overall aim of this presentation is to compare two methods of cluster formation, exploratory factor analysis, and cluster analysis, with the same data set and point out variations in assumptions, techniques, and results. A secondary aim is to suggest guidelines that can inform an analysis strategy aimed at cluster formation.
Rationale: The literature dealing with symptom occurrence and management in recent years has been occupied with discussions of symptom clusters and their meaning and usefulness. A symptom cluster is defined as three or more coexisting symptoms that are related but may not share the same etiology. However, there is a long standing problem in understanding the occurrence and meaning of symptoms related to the use of diverse methodological approaches to analyzing the data. Few articles have sought to look at differences in symptom cluster formation by analysis strategy and methods used.
Methods: All participants were male, with an average age of 39 (SD 8). The focus of these analyses will be the symptom scale that contained 23 different symptoms (e.g, loss of appetite, muscle pain) each rated as present or not present (0 or 1). Approximately 20% of individuals (n=180) denied having any of the symptoms and were eliminated from further analysis. Factor analysis was carried out using principal components extraction and VARIMAX rotation. Hierarchical cluster analyses with different methods (within subjects, Ward, and centroid) were conducted and compared to the factor analysis results.
Results: The mean number of symptoms reported was 6 (SD 4.6) with 47% of the sample reporting only 1 or 2 symptoms. Depression was reported the most (44%) with wheezing the least (8%). The factor analysis produced six factors that explained 51% of the variance (see table). These six factors were not consistent with the cluster analysis results. Factor/ Cluster one was consistent across methods, with the best fit seen using the Ward method.
Implications: The results show that different analysis techniques can result in symptom cluster dissimilarity. A conservative approach to determine symptom clusters must include use of multiple techniques to evaluate consistency and stability in the results. In addition, it is clear that there is a need for increased clarity of the decision rules and reasons for using a particular technique in developing symptom clusters that may inform investigations and care.

	Factor					
	1	2	3	4	5	6
Difficulty Concentrating Past 7 Days	.794				.113	
Trouble Thinking or Remembering	.777	.135		.101	.188	
Confusion in Past 7 Days	.776			.130	.218	
Nervousness	.558		.318		-.151	.188
Depression	.549		.317		-.113	
Shaking Chills	.192	.718				-.142
Night Sweats		.668	.176			.113
Fever		.665	.225	.114	.191	
Excessive Fatigue	.335	.405	.337	.205		.163
Muscle Weakness	.261	.300	.280	.272	.215	.228
Nausea	.110	.164	.698	.173	.102	
Vomiting			.647		.249	
Loss of Appetite	.227	.305	.551			
Pain in Upper Abdomen (Stomach)			.200	.697		-.115
Pain or Cramps in Lower Abdomen			.176	.630		-.356
Painful Joints	.169			.557	.199	.269
Muscle Pain	.167	.364	-.179	.485		.132
Indigestion and Belching			.267	.461	-.235	.218
Wheezing			.137		.696	
Persistent Dry Cough		.344			.542	
Dyspnea	.207	.156	.216	.183	.489	.373
Diarrhea	.146		.327	.192	.102	-.582
Dry Mouth	.140	.121	.245	.143	.178	.515



SYMPTOM CLUSTERS STRANGER THAN FICTION? THE ART AND SCIENCE OF SYMPTOM CLUSTERS

Fact or Fiction: The Assessment of Symptom Clusters using SEM

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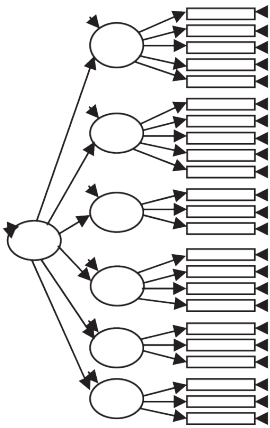
Purpose: The purpose of this presentation is to demonstrate a method for evaluating symptom clusters using Structural Equation Modeling.
Background: Structural Equation Modeling is a statistical methodology that takes a confirmatory approach to the multivariate analysis of variables. It is a comprehensive 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 the operational definition for the measurement model representing symptom clusters for persons living with HIV. Measurement models define the relations between the observed variable, represented by individual symptoms, and the unobserved constructs or cluster themes. The SSC-HIV suggests that there are six symptom clusters represented by 26 measured symptoms.
Participants: The sample is 917 men, primarily male, diagnosed with AIDS and had complete data on the symptoms of interest.
Methods: SEM was used to test the hypothesized relationships and suggested a second-order factor structure. Analysis was conducted using MPLUS and the estimator used to estimate the model was 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 which reflects the level of measurement of the symptom data, present or not present. Several goodness of fit indices were used for assessing the model fit.



Results: This analysis confirmed the six symptom clusters hypothesized by Holzemer and colleagues. The data were explained by the six first-order factors (RMSEA=.036, SRMR= .061, CFI=.99).
Implications: Symptom management is an important outcome for nursing practice and is integral to evaluating the efficacy of nursing interventions. The use of valid conceptual models provides the context to guide the development of appropriate strategies for care. Using SEM demonstrated that the SSC-HIV is a valid measure of clusters of HIV-related symptoms. SEM is useful for confirming symptom clusters, which provides the context to assist individuals living with HIV-AIDS to attain an optimal quality of life. Implications and strategies regarding SEM as a methodological strategy will be discussed.

SYMPTOM CLUSTERS STRANGER THAN FICTION? THE ART AND SCIENCE OF SYMPTOM CLUSTERS

Getting to the Truth about Symptom Changes and HIV Disease Progression

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Purpose/Aims: The purpose of this secondary data analysis was to examine symptom change in the context of HIV disease progression, illustrating the utility of hierarchical linear modeling to describe within-person symptom changes over time.
Background: With more effective antiretroviral treatment (ART) and ongoing development of new drugs, HIV care is shifting from an acute to a chronic disease model. In this context, it becomes increasingly difficult to differentiate changes in patients' HIV-related symptoms from those due to normal aging processes and comorbidities. Hierarchical linear modeling is a novel analytic approach that can answer questions about changes in patients' symptom reports over time. As a first step in answering these complex questions, this secondary analysis examined changes in symptoms over the course of HIV disease progression, using data collected from a cohort of persons living with HIV (PLWH) at a time before effective ART was available.
Participants: PLWH ($N = 917$) were participants in a longitudinal cohort study of HIV symptoms; all had progressed to AIDS based on a lab CD4 value < 500. From the total cohort, 246 participants had at least five data points *after* the time their CD4 dropped below 500, and these participants constituted the analysis sample.
Methods: Participants completed the Sign and Symptom Check-List for Persons with HIV Disease (SSC-HIV) and items from the SF-36 health questionnaire at regularly scheduled clinic visits. Within-person changes on each of the SSC-HIV's six subscales—malaise/fatigue, confusion/distress, fever/chills, gastrointestinal discomfort, shortness of breath, and nausea/vomiting—were modeled as a function of time since the AIDS-defining event of a first CD4 count < 500. Our hypothesis was that participants would have higher scores in each symptom category over time, based on HIV disease progression. A secondary question was whether psychological distress could account for the relationship between HIV disease progression and reported symptoms.
Results: Participants had increasing symptoms over time on only two of the SSC-HIV subscales, malaise/fatigue (p=.001) and nausea/vomiting (p=.02). For the other four subscales, change over time was insignificant. All SSC-HIV subscales were affected by initial disease severity, but not by age. There were significant independent effects of the SF-36 "worry" item and the SSC-HIV distress subscale on all other symptom reports, which were additive to the effect of disease progression. As shown in Figure 1, PLWH differed substantially in their baseline symptom levels, and PLWH starting at different symptom severity levels showed similar changes in symptoms over time.
Implications: HIV disease progression predicted increased symptom reports for some but not all symptom types. Changes in other symptoms therefore may be due to normal aging or other processes. Psychological distress contributed independently to reported symptom severity, and PLWH differed substantially in their symptom perceptions.

THE DYNADS PROJECT: STREAMLINING DATA COLLECTION

Moderator:
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OVERVIEW: THE DYNADS PROJECT: STREAMLINING DATA COLLECTION

Judith Effken, Joyce Verran

EXAMINING CORRELATES OF PARTICIPANT RESPONSE RATE

Joyce Verran, Ya-Chuan Hsu

A TECHNIQUE FOR "STREAMLINING" DATA COLLECTION

Joyce Verran, Kyung Hee Lim

UNDERSTANDING THE NURSE MANAGER'S WORK DOMAIN

Judith Effken, Melanie Logue

THE DYNADS PROJECT: STREAMLINING DATA COLLECTION

Overview: The DyNADS Project—Streamlining Data Collection

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Researchers engaged in nursing outcomes research typically collect a vast amount of data because of prior evidence of the many individual, organizational, and unit factors that affect patient outcomes. For example, the purpose of our DyNADS research project is to develop a simple *prototype* virtual environment that allows nurse managers to assess, through a dynamic network analysis (DNA) decision support tool (*DyNADS*), the organizational health of their nursing units and then engage in strategic planning by using automated "what-if" analysis techniques to test, on the virtual nursing units, potential organizational innovations to improve their actual nursing units' safety and quality outcomes. However, identifying the particular data elements that are needed to accurately model nursing units requires first collecting a huge amount of data and then identifying the subset of data that most effectively describes the unit and can be reasonably collected by nurse managers using the future DyNADS decision support tool. In this symposium, we describe three approaches we are currently using to identify a streamlined set of data that nurse managers either are already collecting or can easily collect and input directly into DyNADS so that the tool fits easily into their workflow without undue additional data collection.

The first presentation (Verran and Hsu) explores the relationship of response rate to unit variables, such as culture, and to patient outcomes, such as symptom management, and suggests that response rate might be a useful proxy for some of these measures.

The second presentation (Verran and Lim) describes a novel, multi-step process for data reduction of both scales and items and applies the process to the Control Over Nursing Practice scale.

The final presentation (Effken and Logue) applies our use of a cognitive work analysis methodology to describe the current work domain of nurse managers. The results are being used to (a) inform our efforts to fit the DyNADS tool into the nurse manager's workflow and (b) to identify data currently available to nurse managers that are the same as or could be used in place of the data we identify as needed for DyNADS so that most data needed by the decision support tool can be obtained electronically and that any additional data collection can be minimized.

THE DYNADS PROJECT: STREAMLINING DATA COLLECTION

Examining Correlates of Participant Response Rate

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Purpose: The purpose of this investigation was to examine the relationship of subject group response rate to measures of nursing work group culture and patient outcomes.
Background and Problem: When conducting research at a group level unit of analysis, it is often necessary to measure variables at the individual level and then aggregate the data to the group level. To do so, a group response rate of at least 50% is needed to assume representativeness of the data. For research that uses the patient care unit as the unit of analysis, a number of factors in today's health care environment may interfere with the investigator's ability to achieve this level of response. Researchers have hypothesized that the level of staff response might be a proxy measure for a number of other construct, e.g., nursing staff culture, staffing variables, the degree of unit turbulence, or managerial support. In this presentation, we examine the relationship of culture variables to response rate. Because nursing culture has been shown to impact patient outcomes, the relationship of unit response rates to patient outcomes is also examined.
Setting and Sample: Data used for the investigation were collected from 292 nursing staff members and 416 patients who received care on one of the 11 units that participated in substudy 1 of the DyNADS research project. Except for the criterion of representativeness, all data met criteria for aggregation to the unit level.
Methods: Four variables have previously been shown to be indicators of Nursing Workgroup Culture and six patient outcomes were used for analysis. The four culture variables were Job Satisfaction (JS), Staff Communication (COMM), Control Over Nursing Practice (CONP), and Team Shared Responsibility (SR). The six patient outcomes were Simple Self Care (SSC), Complex Self-Care (CSC), Symptom Management Difference (SYM-DIFF), Symptom Management Capacity (SYM-CAP), Total Patient Fall Rate (FALLS), and Adverse Drug Events (ADE). All nine variables were related to Unit Response Rates; Participant Response Rate ranged from 20% to 58%.
Results: For the Culture variables, Response Rate showed a strong positive correlation with CONP and COMM, a moderate correlation with JS and a low correlation with SR. In terms of Patient Outcomes, Response Rate correlated moderately with CSC, SYM-DIFF, SYM-CAP, and ADE. The correlations for SYM-CAP and ADE were negative indicating that the greater the response rate, the fewer ADEs and the lower the patient's capacity to manage their symptoms. Additional regression analysis and an examination of differences between groups will be presented.
Implications: It has long been believed that the response of subjects reflects factors that tend to influence group participation. Unfortunately, little has been done to investigate what that reflection might be. Given the cost and difficulty of collecting data from a large number of individuals, it is in the investigator's interest to utilize all possible data that may be available in a research study. This investigation provides some beginning evidence of what unit level response rate might reflect and could, therefore, be utilized in addition to or possibly in place of these factors.

THE DYNADS PROJECT: STREAMLINING DATA COLLECTION

A Technique for "Streamlining" Data Collection

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Purpose: The purpose of this presentation is to describe and provide an example of criteria used to "streamline" data collection in health care agencies. "Streamlining" is done to reduce subject burden while retaining significant factors associated with study outcome measures. Two aspects of streamlining are identified: (1) reducing data elements by eliminating scales and items within scales and (2) comparing the remaining data to information already collected in the institution that could be used instead of primary data collection. This presentation deals only with the first aspect of "streamlining."
Background: The goal of the DyNADS research project is to develop a dynamic network analysis tool that will allow managers to use a computational modeling to experiment with changes to the virtual unit. In previous research, extensive data collection of most factors shown to impact the workgroup environment was conducted. The first aim of DyNADS was to systematically reduce the needed data.
Setting and Sample: Data were collected from 292 nursing staff and 416 patients on 11 nursing unit in three hospitals. Of the 11 units, seven achieved a sufficient response rate to be included in further substudies.
Methods: Data were collected on eleven workgroup variables and 9 patient outcomes. To "streamline data," a 5-point procedure was developed. A scale or item would be considered for elimination if: (1) the scale had a minor impact on other relevant workgroup variables, (2) the scale had a minor impact on relevant patient outcomes, (3) the item had a minor impact on the total scale score, (4) the item had a minor impact on workgroup variables, or (5) the item had a minor impact on patient outcomes. A minor impact was defined by the size of correlations ($p \geq .10$), influence in regression equations ($p \geq .10$), and ability to discriminate high and low groups.
Results: We will present the results of utilizing the streamlining procedure and criteria using as an example, *The Control Over Nursing Practice Scale* (CONP). Since CONP is a workgroup culture variable, it was compared to 4 other culture variables and all 9 patient outcomes. The total CONP correlated with four of the 9 patient outcomes and the workgroup measure of Job Satisfaction. Three items did not correlate at .80 or greater with the total scale or with any of the five variables associated with the total score. Five of the items correlated at similar levels with the same variables. Three items correlated with four of the variables. The remaining 2 items had varying significant correlations. Based on this, we concluded that the CONP scale should be retained but potentially reduced from 13 to 5-8 items. Further analysis will be done to refine the "streamlining" procedure.
Implications: Results of nursing systems research have found many factors to be significant in improving staff and patient outcomes. A number of national organizations do repeated collection of data in volunteer hospitals. Individual agencies routinely collect information on scales from staff. These processes result in an ongoing burden to staff that are already dealing with increased workload and unit turbulence. Because data collection is necessary to expand our science, it is critical that nurse researchers do everything possible to reduce the data collection burden while retaining significant data.

THE DYNADS PROJECT: STREAMLINING DATA COLLECTION

Understanding the Nurse Manager's Work Domain

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The purpose of this presentation is to report preliminary results of a cognitive work analysis of the nurse manager's work domain that will inform our implementation of DyNADS and help streamline future data collection by identifying data currently available on units. Cognitive work analysis (CWA) (Vicente, 1999) is a methodology derived from cognitive engineering and ecological psychology theory aimed specifically at describing complex, high technology work domains. For that reason, it seemed uniquely suited for describing the complex, high technology world of the nurse manager, although this is the first time it has been applied in this setting. In this paper, we report the results of one portion of the CWA, the work domain analysis.

Methods: S*etting and Sample:* After obtaining University of Arizona and site approval, we interviewed 11 nurse managers, 2 nursing directors, and 2 nurse executives at three acute care hospitals in Arizona. The 1-hour interviews were audio-recorded and transcribed for analysis.

Design and Procedures: The study used a descriptive design. We contacted nurse managers via email to set up the interview and inform them about the major questions we would be asking. During the interview, we explored three major areas. We asked them first to describe a typical day, using their calendars as memory aides. We then asked them to describe the major quality and safety initiatives they were currently working on—at the hospital and unit levels. Finally, we asked them to describe a safety issue they recently identified, how they learned about it, their information sources, and what interventions they took to correct the problem.

Analysis: CWA begins by organizing the data into a work domain grid along two dimensions (abstraction and decomposition). The abstraction dimension includes five levels: functional purpose (e.g., quality goals), values and priorities (e.g., quality targets), goal-related functions (e.g., quality goal setting), work processes (e.g., quality improvement initiative), and work objects (e.g., quality report). Levels of abstraction also are decomposed by organizational level (e.g., hospital, division, nursing unit). The authors independently categorized the data into the grid's cells then came to consensus on the final grid, with the assistance of other team members and a CWA expert consultant.

Results & Implications: The work domain analysis enabled us to identify the influence of multiple levels in the organization on the nurse manager's work domain, as well as to view that work domain through several lenses, from organization goals to the physical objects that support unit goals. This rich picture of the work domain provides an excellent description of the complex context in which nurse managers work. We are using the results to ensure that DyNADs, the Dynamic Network Analysis Decision Support Tool being designed under the auspices of the primary research, will support managers and fit well into their work flow, but the CWA methodology itself can be applied broadly.

Reference:
Vicente, K. J. (1999). *Cognitive work analysis*. Mahwah, NJ: Lawrence Erlbaum, Inc.

THE LIBBY ASBESTOS STORY: OUTCOMES OF A RURAL DISASTER

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OVERVIEW: THE LIBBY ASBESTOS STORY: OUTCOMES OF A RURAL DISASTER

Charlene Winters

THE LIBBY ASBESTOS HEALTH STATUS STUDY: CONTEXT & CONCERN

Charlene Winters

THE LIBBY ASBESTOS HEALTH STATUS STUDY: PHYSICAL OUTCOMES

Wade Hill

THE LIBBY ASBESTOS HEALTH STATUS STUDY: PSYCHOSOCIAL OUTCOMES

Clarann Weinert

ECONOMIC OUTCOMES AND POLICY IMPLICATIONS

Sandra Kuntz

THE LIBBY ASBESTOS STORY: OUTCOMES OF A RURAL DISASTER

Overview: The Libby Asbestos Story: Outcomes of a Rural Disaster

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Between 1924 and 1990, nearly 6 million tons of asbestos-tainted vermiculite ore was mined and processed in Libby, Montana and distributed nationally to 28 processing and manufacturing plants now listed as priority asbestos contamination sites. The commercial products contaminated with Libby asbestos, including building supplies, insulation, and soil amendments, were widely used throughout Libby and distributed to over 200 sites across the US. Employees, families, and community members working, living, or recreating in close proximity to mining or manufacturing sites have suffered increased risk of developing asbestos-related disease (ARD) through primary or secondary exposures to asbestos. As a result of the commercial distribution of vermiculite products, schools, businesses, and as many as 35 million homes in the US may contain asbestos-contaminated insulation and other products.

Using community-based participatory research principles, academic researchers and rural clinicians from Libby collaborated on a study to understand the bio-psychosocial health status, health care access, and financial needs of a national cohort of individuals exposed to Libby asbestos. The research was conducted in direct response to needs raised by rural clinicians at the Center for Asbestos Related Disease and a national call for improved rural health policy.

In this symposium, researchers will report findings from the Libby Asbestos Health Status Study. The environmental disaster and health needs that provided the foundation for the research will be described in the first paper. The physical health outcomes with a specific focus on respiratory morbidity and the psychosocial outcomes and the related factors associated with depression provide the context for the second and third papers, respectively. In the last paper, the perception of access and financial aspects of care and rural health policy implications will be described.

The findings presented from this comprehensive assessment of bio-psychosocial health status and health service needs of persons with confirmed asbestos exposure can help clinicians, educators, researchers, and policymakers understand the effects of this toxic exposure.

Funding: Health Resources and Services Administration Office of Rural Health Policy [R04RH07544]

THE LIBBY ASBESTOS STORY: OUTCOMES OF A RURAL DISASTER

The Libby Asbestos Health Status Study: Context & Concern

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Purpose/Aims: The purpose of the study was to establish a more comprehensive understanding of the bio-psychosocial health status and health service needs of a national cohort of persons exposed to Libby amphibole asbestos. Specific aims were to (a) examine the severity of chronic illness, depression, acceptance of illness, and stress; (b) explore the associations among these variables; and (c) evaluate access, availability, convenience, and financial aspects of care among a national cohort. In this paper, the environmental disaster will be described and the study introduced.

Background: Decades of mining, disposal of asbestos-containing waste materials, and use of vermiculite products contaminated the community of Libby, Montana and processing facilities around the country. In 1999, the Environmental Protection Agency (EPA) began an investigation of asbestos contamination and high rates of asbestos-related disease (ARD) in this rural community. A mortality review (1979-1998) by the Agency for Toxic Substances and Disease Registry in 2002 reported deaths from asbestosis in Libby to be 40 and 60 times higher than the rest of Montana and the US, respectively. The EPA designated Libby an asbestos Superfund site in 2002. Exposure to asbestos is linked to significant pulmonary insult and injury. However, little is known about the psychosocial impacts of ARD.

Methods: Community-based participatory research principals were used to accomplish the study aims. Participants were local and distant patients of the Center for Asbestos Related Disease (CARD) in Libby, Montana, who were 21 years of age and older, proficient in English, with a history of exposure to Libby amphibole asbestos. Clinical and psychosocial data were collected and analyzed to examine differences between groups, relationships among the bio-psychosocial indicators of health, and financial aspects of care.

Results: Clinical and survey data were collected from 361 local and 163 distant patients of the CARD clinic. The majority were married (64%) men (54%) living within the Libby city limits (64%) with a mean age of 59.47 years (range=28-80 years; sd=10). Contact with the contaminated vermiculite came from insulation (54%), shoveling (38%), tilling (41%), gardening (45%), work in the attic (26%), or removal (10%); 35% of study participants were household contact or family member of a vermiculite worker.

Implications: Implications for nursing include risk reduction strategies and safe handling practices for vermiculite workers, family contacts, and community residents.

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THE LIBBY ASBESTOS STORY: OUTCOMES OF A RURAL DISASTER

The Libby Asbestos Health Status Study: Physical Outcomes

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Purpose/Aims: The aim of this analysis was to examine physical health status with a specific focus on respiratory morbidity among a national sample of persons exposed to Libby asbestos.
Background: Disagreements concerning the diagnostic process used to identify asbestos related disease for persons exposed to asbestos from Libby, Montana have been well publicized. At stake is both a clear understanding of health status of those exposed to asbestos and the access the health care resources and remuneration provided by those responsible for community exposures. Some research estimates that nearly 18% of community residents of Libby, Montana have B-reader confirmed pleural abnormalities [1], although representatives of industry have made attempts to discredit these numbers [2]. Until advances in diagnostic methods arbitrate this disagreement, comprehensive assessment of physical health status for those with confirmed asbestos exposures can help clinicians understand the disease course and plan for resource acquisition.
Methods: Participants (n=452) of the LHSS were recruited through primary care activities at the Center for Asbestos Related Disease (CARD) and completed research questionnaires on either an electronic Kiosk or paper versions prior to usual care activities. Physical health data, diagnostic data, and measures of respiratory morbidity were collected from existing medical records by CARD clinic staff. Results reported here include data from the St. George Respiratory Questionnaire (SGRQ) used to measure quality of life related to respiratory status.
Results: Means for SGRQ subscales (Symptoms x=51.5, sd=24.8; Activity x=49.5, sd= 28.0; Impacts x=27.9, sd=22.0) indicate that participants generally experienced much greater respiratory morbidity than comparison populations with other respiratory illnesses (e.g. COPD). Over 66% of the sample had pleural abnormalities and 24% had interstitial abnormalities on chest radiograph. Presence of comorbidities, respiratory symptomatology, and comprehensive pulmonary function will be presented.
Implications: Significant numbers of persons exposed to Libby asbestos live with severe morbidity having both impaired lung function and poor general health. Clinical data reinforce the need to provide health care resources and continue prevention efforts among those affected by this disaster.

Funding: Health Resources and Services Administration Office of Rural Health Policy [R04RH07544]

THE LIBBY ASBESTOS STORY: OUTCOMES OF A RURAL DISASTER

The Libby Asbestos Health Status Study: Psychosocial Outcomes

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Purpose/Aims: The aims of this paper are to describe the psychosocial outcomes—acceptance of illness, stress, and depression—and the related factors associated with depression as experienced by group of persons exposed to Libby asbestos.
Background: Stress and depression commonly accompany chronic illnesses and can impair the ability to cope, detract from the quality of life, impact domestic relationships, reduce occupational performance, impose economic strains, and undermine personal resources. How well a person is able to accept a chronic illness is critical in their ability to adapt and to engage in self-health management leading to healthy living despite a serious health concern. Likewise, an understanding of the relation of stress and depression in persons exposed to Libby asbestos can affect the provision of quality care.
Methods: An aim of the study was to describe the bio-psychosocial health status of exposed persons who are clients at the CARD clinic. Participants completed an electronic questionnaire including measures of acceptance of illness (Acceptance of Illness Scale), stress (Perceived Stress Scale), depression (CES-D), financial health care resources and health care accessibility (Patient Satisfaction Questionnaire), and the St. George Respiratory Questionnaire (SGRQ).
Results: The mean scores were: acceptance of illness 47.42 (sd=7.40), stress 20.90 (sd=8.93, and CES-D 13.36 (sd=10.7). Scores on these key psychosocial variables were comparable to other groups experiencing a long-term health problem. Multiple regression was employed to understand the impact of financial, psychosocial, and respiratory morbidity variables on depression for 436 study participants. Variables of interest included all three subscales of the St. George Respiratory Questionnaire (SGRQ): symptoms (x=51.5, sd=24.8), activity (x=50.0, sd=27.6), and impacts (x=27.8, sd=22.0); acceptance of illness (x=47.5, sd=7.3); stress (x=20.8, sd=8.9); perception of financial health care resources (x=22.8, sd=7.2); and perception of health care accessibility (x=42.5, sd=6.9). Overall, the model was successful in accounting for meaningful variance $F(7, 428)=106.3$, $p=0.00$ and $R^2=0.64$. Three of the variables contributed significantly to the prediction of depression including impacts ($B=0.27$, $p=0.00$), stress ($B=0.56$, $p=0.00$), and perceived access to health care ($B=-0.091$, $p=0.02$).
Implications: Depression can be very debilitating interfering with many aspects of the individual's life. Understanding the factors, such as stress, that are associated with depression can assist providers, including those at the CARD clinic, to better work with persons in managing their chronic illness and promoting socio-emotional health.

Funding: Health Resources and Services Administration Office of Rural Health Policy [R04RH07544]

THE LIBBY ASBESTOS STORY: OUTCOMES OF A RURAL DISASTER

Economic Outcomes and Policy Implications

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Purpose/Aims: The purpose of this presentation is to (a) report the economic aspects of care (perception of access and finances based on the PSQ III results), (b) discuss the significance of integrating the physiological and psychosocial findings, and (c) identify a rural health policy model for addressing the long-term ebb and flow of asbestos-related disease (ARD).
Background: The interaction of physiological, psychosocial, and economic (perception of access and ability to finance long-term chronic illness) factors "can account for ebb and flow of diseases over time" (IOM, 2003, p. 34). Application of an ecological model is necessary in order to address the long-term health needs of a population impacted by a disease with a long latency period and, to date, no cure.
Methods: Local and distance CARD clinic Libby Health Status Study participants completed two sub-scales (financial aspects and access/availability/convenience) of the Patient Satisfaction Questionnaire (PSQ-III). In addition to the economic indicators of health, participants also completed three psychosocial surveys (depression [CES-D], acceptance of illness [AOIS], and perceived stress [PSS]) and one biological survey (the severity of respiratory illness [SGRQ]). The lens of an ecological framework is used to examine the interacting and multi-determinant components of ARD that could lead to interventions to improve quality of life.
Results: The PSQ III, used as a proxy for the perception of economic health in the Libby cohort of patients with ARD, indicated a significantly lower score on both the access and financial aspects subscales when compared with a sample of adult patients with one or more of four chronic conditions. An ecological model is proposed to balance the multi-determinants of health discovered in the larger Libby Health Status Study that has examined the physiological and psychosocial condition of the impacted population.
Implications: Victims of the worst environmental disaster in US history who live without a promised public health emergency declaration that would have assured health care may be challenged to realize the recommendations of the Institute of Medicine's Committee on Quality of Health Care in America (2001) suggesting health care should be comprehensive, coordinated, continuous, and accessible to rural residents. People living with the uncertainties associated with latency and the complexities of physiological, psychological, social, and economic factors once diagnosed with ARD require health care policy that is predictable, dependable, and ecologically responsive to their fluctuating health needs.

IOM. (2003). *Who will keep the public health: Educating public health professionals for the 21st century. Washington DC: National Academic Press.*

Funding: Health Resources and Services Administration Office of Rural Health Policy [R04RH07544]

UNDERSTANDING & PROMOTING HEALTHY LIFESTYLES IN ADOLESCENTS

Moderator:
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OVERVIEW: UNDERSTANDING & PROMOTING HEALTHY LIFESTYLES IN ADOLESCENTS

Bernadette Melnyk, Diana Jacobson, Stephanie Kelly, Judith O'Haver, Mary Mays, Gabriel Shaibi, Kimberly Arcoleo, Leigh Small, Anne-Marie O'Brien, Michael Belyea

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CORRELATES OF HEALTHY LIFESTYLES, PERCEIVED DIFFICULTY, ATTITUDES, BELIEFS, AND CHOICES

Diana Jacobson, Bernadette Melnyk, Stephanie Kelly, Judith O'Haver

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PSYCHOMETRIC PROPERTIES OF THE HEALTHY LIFESTYLES BELIEF SCALE FOR TEENS

Stephanie Kelly, Bernadette Melnyk, Diana Jacobson, Judith O'Haver, Mary Mays, Michael Belyea

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PERCEPTION OF WEIGHT & PERCEIVED DIFFICULTY IN LEADING A HEALTHY LIFESTYLE IN OVERWEIGHT TEENS

Judith O'Haver, Bernadette Melnyk, Stephanie Kelly, Diana Jacobson, Mary Mays

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IMPROVING MENTAL & PHYSICAL HEALTH IN COLLEGE FRESHMAN WITH 5 TO THRIVE/COPE

Bernadette Melnyk, Diana Jacobson, Stephanie Kelly, Kimberly Arcoleo, Mary Mays, Judith O'Haver, Gabriel Shaibi, Leigh Small

UNDERSTANDING & PROMOTING HEALTHY LIFESTYLES IN ADOLESCENTS

Overview: Understanding & Promoting Healthy Lifestyles in Adolescents

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Stephanie Kelly, MS, RN, FNP

Judith O'Haver, PhD, RN, CPNP

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Despite the fact that adolescent obesity and mental health problems are two major public health problems in the United States today, there is a paucity of theory-based intervention studies to guide clinical practice in improving the mental and physical health of this vulnerable population. Unfortunately, physical and mental health services continue to be largely separated instead of integrated in the nation's health care system, which often leads to inadequate identification and treatment of these significant adolescent health problems. Of those intervention studies published in the literature, few of the interventions have had sustainable effects over time. Therefore, there is an urgent need to understand the factors influencing adolescents' healthy lifestyle behaviors and to develop theory-based interventions to promote them.

This symposium will: (1) describe factors associated with healthy lifestyle choices in adolescents, (2) present findings related to perception of weight and perceived difficulty in leading a healthy lifestyle in overweight adolescents, (3) describe the psychometric properties of a new scale to measure healthy lifestyle beliefs in teens, and (4) present findings from a 3 credit Freshman 5 to Thrive/Healthy Lifestyles course to promote physical and mental health in college students. Clinical practice implications and future research also will be highlighted to improve healthy lifestyle choices and behaviors in adolescents.

UNDERSTANDING & PROMOTING HEALTHY LIFESTYLES IN ADOLESCENTS

Correlates of Healthy Lifestyles, Perceived Difficulty, Attitudes, Beliefs, and Choices

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Purpose: The purpose of this descriptive correlational study was to assess the relationships among the key variables of adolescents' perceived difficulty in leading a healthy lifestyle, healthy lifestyle beliefs, healthy lifestyle attitudes, and healthy lifestyle choices.
Background: The risk for overweight and obesity continues to be a significant concern in the adolescent population. Overweight and obesity in adolescence is associated with mental health problems including depression, lower self-esteem, and lower health-related quality of life. Obese adolescents are at high risk for obesity in adulthood with resultant comorbidities of diabetes and heart disease.
Methods: A descriptive correlational design was used with a convenience sample of 404 high school students who ranged in age from 13.5 to 18 years, with a mean of 15.1 years. The participants were sampled from required health/physical education classes in two high schools within the same school district located in the Southwest region of the United States.
Results: Students were predominately freshman (89.1%) with 212 females (52.5%) and 192 males (47.5%). African Americans represented 3.2% of the sample, Hispanics 16.6%, Asians 5.0%, American Indians 3.0%, Caucasians 65.3%, and Other 6.9%. Cross sectional data were collected using: (a) the Healthy Lifestyle Choices Scale for Teens, a 16 item scale that assesses intentions to make healthy lifestyle choices (Cronbach's alpha =.92); (b) the Healthy Living Attitude Scale for Teens, a 14 item scale that assesses teens' attitudes toward living a healthy lifestyle (Cronbach's alpha = .85); (c) the Healthy Lifestyles Beliefs Scale for Teens, a 16 item scale that assesses one's belief in ability to live a healthy lifestyle (Chronbach's alpha = .94); and the Perceived Difficulty Scale for Teens, a 12 item scale that assesses perceived difficulty in living a healthy lifestyle (Chronbach's alpha = .89). Overall, teens with greater perceived difficulty in engaging in a healthy lifestyle reported less ability to make healthy choices (-.545, $p < .01$), more negative attitudes about healthy lifestyles (-.32, $p < .01$), and less belief in their ability to lead a healthy lifestyle (-.48, $p < .01$). Teens' intention to make healthy choices correlated positively with their attitudes (.45, $p < .01$) and beliefs (.54, $p < .01$).
Implications: Teens with higher perceived difficulty in engaging in a healthy lifestyle reported less healthy attitudes, beliefs, and choices. Cognitive Theory posits that an individual's thoughts, feelings, and behaviors are interdependent. Interventions that target improving healthy lifestyles in adolescents should include cognitive behavioral skills building components such as goal setting, problem solving, and cognitive restructuring of negative thoughts and attitudes.

UNDERSTANDING & PROMOTING HEALTHY LIFESTYLES IN ADOLESCENTS

Psychometric Properties of the Healthy Lifestyles Belief Scale for Teens

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Purpose: The purpose of this study was to assess the psychometric properties of the Healthy Lifestyles Belief Scale for Teens.

Background: The prevalence of obesity in adolescents has tripled over the last three decades. Determinants of obesity have focused on lifestyle behaviors such as physical activity and dietary patterns. The amount of physical activity steadily declines during childhood with less than 35% of adolescents meeting the national recommendations. Likewise, dietary patterns in teens are lacking essential nutrients with only 21.4% of adolescents eating five servings of fruits or vegetables daily. In cognitive theory, one's beliefs affect how one behaves. Beliefs about lifestyle habits are an important precursor to behaviors. One's beliefs about living a healthy lifestyle have been highly correlated with behavior choices.

Methods: The Beliefs Scale is a 16-item instrument that taps cognitive beliefs/confidence about leading a healthy lifestyle and engaging in healthy lifestyle behaviors. Examples of items on the scale include: "I am sure that I can handle my problems well and I believe that I can be more active." The scale reads at the 4.1 grade level according to the Flesch-Kincaid readability statistics. The items are scored on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." Initial testing of the instrument included face validity that was established with 10 teens. Content validity was established by 8 adolescent specialists. Cronbach alphas in our preliminary studies have consistently been above .87. In this study, the Beliefs Scale was administered to 404 adolescents at two high schools during a health/PE course in the Southwest region of the United States. The mean age of respondents was 15.1 years with approximately 48% male and 52% female.

Findings: Internal consistency reliability was excellent with a Chronbach's alpha of .94. Construct validity was supported with principal components factor analysis.

Implications: The foundations for lifestyle choices begin in childhood. Creation of the Healthy Lifestyles Belief Scale for Teens is an important step allowing measurement of a teen's beliefs regarding healthy lifestyle habits. Beliefs regarding living a healthy lifestyle can be targeted in interventions for the prevention and treatment of obesity.

UNDERSTANDING & PROMOTING HEALTHY LIFESTYLES IN ADOLESCENTS

Perception of Weight & Perceived Difficulty in Leading a Healthy Lifestyle in Overweight Teens

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Purpose: The purpose of this descriptive correlational study was to assess the relationships among a selected group of variables and to determine if adolescents who were overweight differ in their healthy lifestyle beliefs, attitudes, and choices from their normal weight counterparts.
Background: In the past 2 decades, the number of adolescents who are overweight has tripled. Studies suggest that teens that are overweight tend to become overweight adults. Being overweight has been associated with a higher incidence of physical disorders, such as diabetes mellitus type 2, hypertension, hyperlipidemia, sleep apnea, and mental health problems (e.g., depression and poor self-esteem).
Methods: A convenience sample of 404 adolescents from 2 high schools in a southwestern state completed a series of questionnaires during their physical education class. The mean age of respondents was 15.1 years, with 48% male and 52% female. In this sample, BMI ranged from 14.7 to 42.8 with a mean of 22.2. Eighty-six of the 404 students had a BMI of >25. Sixty nine percent of the students identified themselves as white (n=279), 16.6% (n=67) as Hispanic, 5% (n=20) as Asian, 3.2% (n=13) as Black, 3% (n=12) as American Indian/Alaskan Native.
Findings: When the students with a BMI>25 were asked, "Have you ever tried to lose weight?" 75 (87%) responded yes and 63 (73.3%) reported that they were trying to lose weight now. When asked "Compared to other students in your grade who are as tall as you" 38% (n=33) felt that they weighed the right amount, 58% felt that they weighed too much (n=50), and no student responded that they did not weigh enough. Two of these students (2.3%) noted that they would like to weigh more, 75 (87%) said they would like to weigh less, and 7 (8%) said they would like to weigh the same. There were significant positive correlations in this group of overweight teens (p=.01) among their healthy lifestyle choices, healthy living attitudes, and healthy lifestyle beliefs. In addition, there were significant negative correlations between their perceived difficulty in living a healthy lifestyle and their choices, attitudes, and beliefs. Specifically, the more difficult that they perceived living a healthy lifestyle, the less healthy were their beliefs, attitudes, and healthy choices.
Implications: Adolescents who are overweight have an accurate perception of their weight and many are actively trying to lose weight. These teens perceived that living a healthy lifestyle was difficult, which affected their health related beliefs, attitudes, and choices. Future intervention studies should incorporate problem solving strategies that affect the perception of difficulty in living a healthy lifestyle for teens.

Funding: Provided by Arizona State University.

UNDERSTANDING & PROMOTING HEALTHY LIFESTYLES IN ADOLESCENTS

Improving Mental & Physical Health in College Freshman with 5 to Thrive/Cope

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Purpose: The purpose of this pilot study was to determine the preliminary efficacy of a 3-credit course entitled Freshman 5 to Thrive/COPE (Creating Opportunities for Personal Empowerment) Healthy Lifestyles on the mental health and healthy lifestyle behaviors of college freshman.

Background: Approximately 34 percent of adolescents and young adults are overweight, with nearly two-thirds participating in less than three days/week of vigorous or moderate physical activity. There also is a decrease in physical activity in college from high school, with an average rate of weight gain more than .7 kg per year over a span of 10 years. In addition, according to the latest American College Health Assessment, approximately 30 percent of college students report that they feel overwhelmed by all they have to do and nearly 11 percent report feeling very sad.

Methods: A pre- and post-test experimental design was used with 33 of 70 (47%) students in three sections who were taking the 3-credit semester long 5 to Thrive course. The students enrolled in the course were part of a living well residential community at a large public University in the Southwest. The 5 to Thrive course focused on five domains: (1) cognitive-behavioral skills building, (2) coping strategies, (3) personal development (e.g., including goal setting, problem solving), (4) nutrition, and (5) physical activity. Each class session included an hour of physical activity (e.g., rowing, dancing, and volleyball). Data also were collected on 16 freshman students who were not enrolled in 5 to Thrive as a comparison group.

Results: Seventy-eight percent of the students were female, and 22 percent male. Seventy-six percent were Caucasian. Significant findings indicated that students taking 5 to Thrive versus those in the comparison group reported: (a) making healthier lifestyle choices, and (b) less perceived difficulty in leading a healthy lifestyle. Five to Thrive students also had significant drops in anxiety and depressive symptoms and a significant increase in pedometer steps from baseline to follow-up. Retention rate also was higher in the 5 to Thrive students than other University students not enrolled in the course.

Implications: The 5 to Thrive course is a promising strategy for promoting the mental health and healthy lifestyle behaviors as well as retention in freshman college students.

Funding: Provided by Arizona State University.

USE OF LABORATORY ASSAYS: RE-ENGINEERING THE NURSING RESEARCH ENTERPRISE

Moderator:
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OVERVIEW: USE OF LABORATORY ASSAYS: RE-ENGINEERING THE NURSING RESEARCH ENTERPRISE

Carolyn Yucha

LEUKOCYTE MEASUREMENTS IN BODY FLUIDS AND TISSUES

Barbara St. Pierre Schneider

CORTISOL: A MEASURE OF STRESS

Madalynn Neu, Mark Laudenslager

MULTIPLEX ASSAYS: 1 VS. 100 CYTOKINE MEASURES

Nancy McCain, R.K. Elswick, Cindy Munro, Debra Lyon, Christine Schubert

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USE OF SELECT PROTEOMIC TECHNOLOGIES

Marie Hastings-Tolsma

USE OF LABORATORY ASSAYS: RE-ENGINEERING THE NURSING RESEARCH ENTERPRISE

Overview: Use of Laboratory Assays: Re-Engineering the Nursing Research Enterprise

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As nursing research has matured, nurse scientists have increased their repertoire of measurement tools. We are using more standardized paper and pencil scales and more external body sensors such as those used to measure skin conductance and skin elasticity (potential measures of body fluid balance). In addition, an ever growing range of laboratory tests are being used to measure a variety of cells, genes, proteins, and biomarkers. This symposium will focus on laboratory assays used in nursing research and some of the techniques that nurse researchers have recently added. These tools are important in re-engineering nursing research to meet the NIH Roadmap Initiative.

In 2004, 55% of the 71 responding schools of nursing reported that faculty members had conducted research involving analysis of body fluids, tissues, cells, or any other physiological parameters within the last five years; 37% operated their own wet lab. These labs were equipped with a variety of analysis instruments: microscopes (84%), spectrophotometers (72%), and micro-plate readers suitable for enzyme-linked immunosorbent assays (68%). Fewer than 20% had blood chemistry analyzers; blood gas analyzers; high-performance liquid chromatographers; gamma counters; and equipment for gel electrophoresis, polymerase chain reaction, and genotyping. The most common analysis was salivary cortisol (done by 60%). Other analyses included hormone levels, immune protein, cell counts, catecholamines, chemistry, bacterial cultures in a variety of body fluids, as well as viral cultures and drug monitoring in blood.

This symposium will provide information about cortisol and cytokine measures techniques as well as newer, more sophisticated and more expensive laboratory assays, such as proteomic techniques and leukocyte measurements within body tissues. Each presenter will provide the background and purpose or the measurement; describe the method, equipment required, and costs; and give some examples of its use in nursing research.

Schaffer S., & Yucha, C.B. (2005). Physiological Wet Laboratory Facilities in Colleges of Nursing. *Biol Res* Nurs, *7* (2), 130-134.

USE OF LABORATORY ASSAYS: RE-ENGINEERING THE NURSING RESEARCH ENTERPRISE

Leukocyte Measurements in Body Fluids and Tissues

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Background/Purpose: Leukocytes are important cellular mediators of host defense. Their measurement can indicate whether the host defense mechanism has been activated. The purpose of this paper is to discuss two major approaches used to detect and measure leukocytes in fluids and tissues: flow cytometry and immunohistochemistry.
Measurement Description: Flow cytometry is the assay used to measure leukocytes or leukocyte subpopulations in fluids. This approach can provide information about the leukocyte response systemically or locally. The general procedure is to apply a primary antibody that will attach to an antigen present on the leukocyte. Usually, the primary antibody or related reagent will have a fluorescent tag attached to it so that the antigen-antibody complex can be detected and quantified. The major equipment piece needed for this method is a flow cytometer.

Immunohistochemistry is commonly used to measure leukocytes in frozen or fixed tissues, particularly in tissues from which fluid cannot be obtained. The general procedure is to apply a primary antibody that will attach to an antigen present on the leukocyte. Depending on the nature of the primary antibody and other reagents, the antigen-antibody complex or positive structures can be visualized by fluorescent or confocal microscopy or light microscopy. The major equipment pieces required for this procedure are a chemical fume hood, if hazardous reagents are used, and a microscope. The use of an image analysis program for data quantification will require a microscope with a camera and computer.
Applications: In the past 5 years, flow cytometry has been used to measure leukocytes in three nursing studies. Two of these investigations examined the percentage of blood T cells and natural killer cells from women recovering from coronary artery bypass surgery or spousal caregivers. The other study measured the percentage of blood polymorphonuclear cells from rats with ischemic stroke.

A recent example of using immunohistochemistry to measure leukocytes is an exercise-related muscle injury study. In this investigation, immunohistochemistry was used to determine whether there was a difference in the number of CD11b-positive leukocytes in the muscle injured by eccentric contractions in younger and older mice. Additionally, this investigation examined the expression of other leukocyte antigens: 7/4 and Ly-6G.
Conclusions: Both flow cytometry and immunohistochemistry are assays that can aid in determining the activation status of host defense. Flow cytometry can provide a systemic or local indication of leukocyte involvement in the body's response to stress or other immune-related events. Immunohistochemistry assists with assessing the leukocyte response that is occurring at the tissue level.

USE OF LABORATORY ASSAYS: RE-ENGINEERING THE NURSING RESEARCH ENTERPRISE

Cortisol: A Measure of Stress

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Background/Purpose: Cortisol is a common indicator of the Hypothalamic-Pituitary-Adrenocorticol (HPA) system and typically is used to examine responses to stress. The HPA system is activated during periods of stress and also has a diurnal pattern that may be affected by stress. This paper discusses the collection and measurement of cortisol.

Measurement Description: Cortisol levels can be obtained from plasma, saliva, urine, and hair. Plasma levels reflect total cortisol, both bound to glucocorticoid binding globulin and other proteins as well as unbound cortisol. Unbound cortisol is thought to be biologically active though measurement of free cortisol in plasma is difficult. Radioimmunoassays (RIA) have traditionally been used to determine total cortisol in plasma but exposure to radioactivity is a risk.

Salivary cortisol is more commonly accepted today. It is easier to collect than plasma cortisol and reflects only unbound cortisol. Saliva levels correlate highly with plasma levels. The assay typically used for salivary cortisol is an enzyme-linked immunosorbent assay (ELISA) that has many of the advantages of RIA (e.g., sensitivity, ease of handling multiple samples) without the disadvantages of dealing with radioactivity. One popular kit for saliva assessments is supplied by Salimetrics (EIA kit No. 1-3002/1-3012) that detects cortisol levels in the range of .003 – 3.0 µg/dl. Standard curves can be fitted by regression analysis using commercial software that come with the ELISA plate reader. From these curves, unknown values are computed. This kit shows minimal cross reactivity with other steroids present in the saliva. Salivary cortisol levels are not affected by saliva flow rate but timing, diet, smoking and drug therapy, should be considered in collecting salivary cortisol.

Urine cortisol also reflects unbound cortisol levels and is collected overnight or over 24 hours. Levels are affected by amount of urine secretion and much corrected using creatinine clearance rates. Recently hair has been used to determine cumulative cortisol levels over a period of several months. Approximately 100 hair strands are required and cut close to the scalp. The strands are pulverized, extracted in methanol, and the extracted cortisol is assayed by ELISA technique.

Cortisol is relatively easy to collect, but assays can be rather expensive. Standard lab equipment includes an ELISA plate reader. Other costs include collection materials and assay kits. An assay tray holds 96 samples, but samples are run in duplicate and standards are included, so that 38 samples are typically run per assay.

Applications: Clinical applications for use of cortisol are vast. Samples can be obtained from adults, children, and infants in the hospital or community and in distal or proximal settings. The presenter has studied cortisol levels in preterm infants which require special collection techniques. Research focuses on co-regulation in mother-infant saliva and environmental influences on this co-regulation. Animal and adult research by the co-author includes study of cortisol levels from hair as a marker of stress in postpartum women.

Conclusions: Examining HPA function is possible via the use of cortisol. A variety of collection methods makes cortisol collection feasible in many situations. Assays are standard and can be performed by most labs.

Reported data are from studies funded by The National Institute of Child Health and Development K23-HD04892; Newborn Hope; the Developmental Psychobiology Endowment Fund (University of Colorado at Denver and Health Sciences Center, Department of Psychiatry).

USE OF LABORATORY ASSAYS: RE-ENGINEERING THE NURSING RESEARCH ENTERPRISE

Multiplex Assays: 1 vs. 100 Cytokine Measures

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Purpose/Background: The psychoneuroimmunology (PNI) paradigm postulates multidimensional interactions among psychosocial factors and physiological mechanisms of the neuroendocrine and immune systems. It is known, for example, that the stress response involves both direct and indirect effects on the immune system, such that numerous cytokines and other biochemicals such as endogenous opioids are elaborated by cells of the immune system. Given recent technological advancements, state-of-the-science and emerging analytic approaches to evaluate patterns of cytokines can be employed to discern meaningful effects and potential biobehavioral mechanisms.

Measurement Description: Past investigations of cytokines have been limited to relatively few cytokines studied in isolation, in part because of technical limitations of biological analyses. Cytokines have been traditionally measured using enzyme-linked immunosorbent assays (ELISA), wherein levels of an individual cytokine protein are measured after binding to its specific antibody affixed in a 96-well plate. Using Luminex® xMAP^{TM} technology, up to 100 different analytes can now be simultaneously measured in a single microtiter well. Systems such as the Bio-Plex® (Bio-Rad Laboratories) employ fluorescent bead immunoassays to simultaneously quantitate multiple cytokines. The Bio-Plex instrument combines fluorescent flow cytometry and ELISA technology. For each measured cytokine, 100 microbeads specific for that cytokine are sampled and the mean cytokine binding for the sample is determined. The assay accurately measures cytokine values in the range of 1-2,500 pg/ml, is precise (intra-assay CV <10%, interassay CV <15%), and shows less than 1% cross-reactivity among cytokines or with other molecules. While the initial investment in the instrument is considerable, multiple assays and automated systems ultimately result in reduced costs for multiplex assays in comparison to single ELISA assays of cytokines.

Applications: Approaches for integrating complex biobehavioral datasets are being developed in order to advance interpretation and clinical applications of these multidimensional data. Our research programs have demonstrated, for example, quite diverse patterns of cytokines for persons with HIV infection in comparison to women being treated for breast cancer. Although levels of individual cytokines indicate some differences between the groups, more integrative approaches such as factor analysis and profile plots reveal dramatic pattern differences between the groups when sets of cytokines are simultaneously analyzed. Such analytic approaches will ultimately enable measurement, identification, and interpretation of complex patterns among cytokines, and thus, illuminate underlying mechanisms.

Reported data are from studies funded by the National Cancer Institute (R01 CA114718) and the National Center for Complementary and Alternative Medicine (R01 AT000331).

USE OF LABORATORY ASSAYS: RE-ENGINEERING THE NURSING RESEARCH ENTERPRISE

Use of Select Proteomic Technologies

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Background/Purpose: Proteomics is defined as the study of proteins and is the global analysis of gene expression at the protein level. It involves the study of protein pathways, expression, function, and structure through a variety of technologies and is invaluable in the identification of clinically relevant processes. The identification of proteins expressed in specific physiological states is useful for many purposes, including diagnosis. One such example is cervical remodeling which occurs across gestation in preparation for parturition—whether preterm, term, or post-dates. Understanding of proteomics related to how the cervix remodels in preparation for birth may foster discoveries that target specific protein pathways which may promote or impede cervical change.

Measurement Description: A variety of technologies can be used for proteomic measurement. A sample of proteins is commonly examined by techniques such as 2-D gel electrophoresis, mass spectrometry, and microarray analysis. *Gel electrophoresis* is a process of separating molecules (proteins, DNA, RNA fragments) by size and electrical charge. *Mass spectrometry* is used to identify proteins in a substance by their mass and charge. Subsequent techniques can then be used to isolate proteins and identify their characteristics. *Protein microarray* analysis is a method of profiling protein changes in a diseased or physiologic state. It allows for examination of thousands of mRNAs at one time and determination as to whether mRNA expression is changed in differing physiologic and pathologic states. Each of these measurement methods aids in differentiating between physiological processes and diseased states.

These analytic approaches can be very expensive and time consuming, but access to core facilities may reduce fees and ensure robust methods that demonstrate a high sensitivity and are reproducible. The yield of an individual protein depends on the conditions for sample preparation. Small changes result in a different sample composition and another set of proteins. Identifying proteins that are disease-specific and/or specific to a physiologic state may contribute to the subsequent development of biomarkers predictive for diseases or states that need treatment.

Applications: Science progression has focused heavily on proteins, the main effectors of physiological functions. Newer proteomic technologies have made it possible to improve patient care in an increasingly personal way. Applications are unlimited and range from detection of diabetes and pre-diabetes, to Parkinson's disease, mental health disorders such as schizophrenia, and inflammatory processes (e.g., rheumatoid arthritis, brain injury). Detecting differences in protein levels and modifications which exist between healthy and diseased states are critical and necessary for development of preventive and predictive health models. Application of proteomic technologies in the investigation of specific diseases, pathologic processes, and physiologic states are important in furthering knowledge to improve patient care.

Conclusions: Nurse researchers are well-positioned for independent and collaborative work involving proteomics, which may ultimately lead to the use of protein markers that may improve diagnoses and treatment plans.

USING THE IROM TO GUIDE AND EVALUATE RESEARCH

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OVERVIEW: USING THE IROM TO GUIDE AND EVALUATE RESEARCH

Judith Effken

EVALUATING THE EFFECTIVENESS OF THE EHR WITH LANGUAGES AS A COMMUNICATION SYSTEM

Jane Carrington

RN SATISFACTION WITH ELECTRONIC RECORD CARE PLANNING IN A VA HOSPITAL

Nicolette Estrada

COMMUNICATION INFLUENCES ON HEALTH EFFORTS IN HOME TELEMONITORING

Kimberly Shea

ASSESSING THE STATE OF NURSING INFORMATICS SCIENCE

Judith Effken, Jane Carrington, Nicolette Estrada

USING THE IROM TO GUIDE AND EVALUATE RESEARCH

Overview: Using the IROM to Guide and Evaluate Research

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Nursing Informatics is a relatively new science, but one in which the body of research is growing steadily. We may have reached the point at which it is useful to characterize the state of this young science and assess where there are gaps and where we have substantial knowledge.

Effken (2003) proposed an organizing framework for nursing informatics research, the Informatics Research Organizing Model (IROM). The framework was derived from the Systems Research Organizing Model (SROM) (Verran, Lamb & Stickler, 2008) and an informatics process model, the Systems Development Life Cycle. In this symposium, we demonstrate the use of the IROM, both as a framework to guide research and as an organizing model to evaluate the state of the science.

In the first presentation, Carrington describes how her study exploring nurses' opinions of how well electronic documentation systems with and without embedded standardized nursing languages supported communication about a patient's clinical event fits within the IROM.

In the second presentation, Estrada describes her use of the IROM to frame her study of nurses' responses to the addition of structured languages for documenting nursing diagnoses and interventions to an electronic documentation system.

In the third presentation, Shea describes her use of the IROM to guide a detailed exploration of the relationships between telehealth nurse-patient communication and the use of telemonitoring data for daily health management in the home environment.

In the final presentation, Effken, Carrington, and Estrada describe preliminary results from their application of the IROM to evaluate the state of nursing informatics science.

Effken, J. A. (2003). An organizing framework for nursing informatics research. CIN: Computers, Informatics, Nurses, 21(6), 316-323.

USING THE IROM TO GUIDE AND EVALUATE RESEARCH

Evaluating the Effectiveness of the EHR with Languages as a Communication System

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Purpose: The electronic health record (EHR) has become pervasive in health care, yet little is known about its effectiveness as a communication system. Recently, I examined the effectiveness of the EHR with standardized nursing languages for communication. The purpose of this presentation is to describe the findings of this study and demonstrate its fit within the informatics research organizing model (IROM) (Effken, 2003).

Background: The IROM organizes research into four constructs: client, NI intervention, and outcomes; and the systems development life cycle (SDLC). The elements of the IROM can be applied to research exploring the EHR, demonstrating its usability in informatics research. The EHR has been associated with reduced documentation time, increased legibility, frequent documentation entries, and fewer documentation errors. Standardized nursing languages enhance the function of the EHR through fostering administrative decision making, aggregating patient data for comparisons, and supporting unambiguous documentation. Limitations, however, do exist. EHR documentation systems with languages have been associated with difficulty to negotiate and access information. This research explored the nurses' perspectives as to the strengths, limitations, and potential solutions to improve functionality of the EHR with embedded nursing languages when documenting patient status associated with a clinical event.

Methods: Ten documenting and 8 receiving nurses were interviewed after a clinical event. A clinical event was defined as an unexpected event experienced by a hospitalized patient on a med-surg unit that did not require a transfer. The documenting nurse was caring for the patient at the time of the clinical event. The receiving nurse assumed care for the patient and received the documentation. Semi-structured interviews were used to elicit the nurses' perceptions. Qualitative content analysis was used to analyze the data.

Results: Five categories emerged: usability, legibility, communication, collaboration, and workaround. Nurses identified usability as a strength of the EHR with languages. Elements of usability and the need for workarounds were identified as limitations.

Implications: Documenting and receiving nurses (clients) viewed usability, communication, the need for workarounds, and references as strengths, limitations, and potential solutions (outcomes) of the EHR with languages (NI intervention) when documenting or receiving documentation about a clinical event (context). In addition, this study provides a useful exemplar for evaluating the IROM's utility as an organizing framework.

Reference:
.Effken, J. A. (2003). An organizing framework for nursing informatics research. *CIN: Computers, Informatics, Nurses*, *21*(6), 316-323.

USING THE IROM TO GUIDE AND EVALUATE RESEARCH

RN Satisfaction with Electronic Record Care Planning in a VA Hospital

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Purpose: The purpose of this study was to evaluate registered nurses' satisfaction with and their perception of usability and applicability of a revised nursing diagnosis list based on North American Nursing Diagnosis Association (NANDA) and "pick & click" nursing interventions available within the electronic health record (EHR) in one acute care setting.

Rationale/Conceptual Basis/Background: With the increased availability of the EHR, nurses can more readily demonstrate their contribution to patient care. Nurses are essential in the acute care setting but what nurses do is not always recognized. The contributions and value of nursing can be facilitated through documentation of the nursing plan of care, delivered interventions, and subsequent patient outcomes. Nurses recognized the value of having uniform definitions and data standards almost twenty-five years ago, demonstrated by the introduction of the Nursing Minimum Data Set (NMDS) in 1985. Standardized terminology can help detail the contribution of nursing care. However, we first need to engage nurses in using standardized nursing diagnoses in the patient care plan. Nursing diagnoses describe conditions that nurses can independently treat and provide concise labels useful for describing specific health problems. Patient-centered plans of care are formulated based on the nursing diagnosis, implementation, and evaluation. In addition to providing a measurement of patient care sensitive to nursing, the care plans provide a means of interdisciplinary communication and coordination. VA RNs, as part of an evidence-based project, developed a revised list of nursing diagnosis to replace the current list in the VA computerized patient record system based on the NANDA terminology. The Information Research Organizing (IRO) model provides a conceptual framework for this project and the research evaluating the project outcomes.

Methods: Study methods included a pre- and post-test evaluation using an instrument developed based on review of the literature and evaluation needs of the evidence-based practice project. The target sample was Registered Nurses (RNs) employed in a role that included planning and providing care of hospitalized patients in one VA. Data collection occurred prior to and 6 months after implementation of revised nursing diagnosis lists in the EHR. A third collection was conducted more than a year later as an ongoing evaluation of the outcomes of the project. Data from the three sets of data collection were analyzed using t-tests and ANOVA.

Results: Approximately 30-40% of the nurses meeting inclusion criteria responded to the questionnaire resulting in sample sizes of 55, 67, and 64, respectively. Responses to questions about their satisfaction and the ease of use were significantly positive. Responses to questions related to the use of the care plan for communication and assessing outcomes of nursing care were also positive but not significant. Greater than a year later, the RNs responses were similar to those reported post-implementation.

Implications: The IROM provided a conceptual framework to guide and develop this project. Nurses at one VA found the use of standardized language useful and applicable to planning care for their hospitalized patients.

USING THE IROM TO GUIDE AND EVALUATE RESEARCH

Communication Influences on Health Efforts in Home Telemonitoring

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Purpose: Remote home telemonitors are used by telehealth nurses to monitor chronically ill patients' daily vital signs and symptoms. While this system of care shows promise for decreasing hospitalizations, little is known about the influence of telemonitoring on patients' management of chronic disease. The purpose of this descriptive research is to explore the relationships between telehealth nurse-patient communication and the use of telemonitoring data for daily health efforts in the home environment.

Background: Several studies have shown that the use of home monitoring technology can decrease hospitalizations and resource utilization in chronically ill patients. The research evidence serves to promote an expectation that seven million people will have home telemonitoring technology in their homes by 2012. Telehealth nurses telephone patients based on the level of health risk indicated by vital sign and symptom data. Communication processes may vary from agency to agency but are commonly initiated by a high risk alert. Little is known about the contributions of the process of communications to outcomes in telemonitored chronic illness. Shea (2008) used the Social Relations Model (SRM) (Cook & Kenny, 2004) to examine multi-level effects of communication and integration of telemonitoring data on care satisfaction and self-care outcomes. Using the SRM communication and integration had significant correlations with outcomes at every level of analysis but the round robin design produced data that was difficult to interpret. The use of the Informatics Research Organization Model (IROM) (Effken, 2003) will guide a secondary data analysis of Shea's (2008) telemonitoring research.

Method: Forty-three chronically ill patients and their home helpers from three western Veteran's Health Administration site participated in the original study. A secondary data analysis examined the relationships between communication and use of telemonitored data such as vital signs and symptoms for daily health care efforts (integration). Patients and telehealth nurses were asked to rate, on a 5-point scale, frequency, timeliness, and understandability of communication with each other. Patients and their home helpers were asked to rate, on a scale of 1-100, how much of the information obtained from the monitoring device they used to manage their daily care. Correlations were used to explore the strength of the relationships between variables.

Results: A significant positive correlation ($p \leq .04$) exists between patients rating communication with the nurse as timely and understandable and with home helpers perceiving that the data is integrated. However, when telehealth nurses believe that communication with the patient is frequent, timely, and understandable, significant correlations ($p < .00$) exist with integration as perceived by the patient and home helper.

Implications: Timely and understandable communication is significantly related to a combined effort of the patient and home helper to integrate telemonitored data into daily health management. Further research is needed to explore this vital combination of disease management and telemonitoring. Use of the IROM will provide an appropriate framework for exploring the intricacies of this relationship.

USING THE IROM TO GUIDE AND EVALUATE RESEARCH

Assessing the State of Nursing Informatics Science

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Background/Purpose/Rationale: The overall goal of this research is to use the Informatics Research Organizing Model (IROM) (Effken, 2003) to identify where we have strengths and where we have gaps in nursing informatics science. The purpose of our first analysis was to characterize nursing informatics research using the constructs in the Systems Research Organizing Model (SROM) (Brewer, Verran & Stichler, 2008) and the Systems Development Life Cycle (SDLC), the two major components of IROM. We also reviewed the research to see to what extent theories were guiding the studies.

Methods: *Sample:* A search of CINAHL, Medline, and IEEE databases, as well as American Medical Informatics Symposium proceedings using various terms including nursing informatics, information systems and nursing, and (in the case of the IEEE database) simply nursing, resulted in 135 studies that we reviewed.

Analysis: The studies were categorized by the authors along two dimensions: the four constructs of the SROM (context, client, nursing informatics innovation, and outcome) and the six components of the SDLC (planning, assessment, design, implementation, maintenance, and evaluation).

Results: Of the 135 studies, 110 described some type of nursing informatics innovation. Ninety-seven identified a client and 78 reported on some type of outcome. Less than half (57) described the context in which the innovation occurred. In terms of the SDLC, about half of the 130 studies examined using this framework focused on evaluation. The number that included analysis and implementation was very similar (analysis = 33; implementation = 32). Fewer studies (27) emphasized design and still fewer (14) discussed planning. Of 128 studies, about one-third (42) utilized some kind of theoretical or conceptual framework. Generally, these represent "borrowed" theory.

Implications: Nursing informatics is still a young science, but it is useful to evaluate our body of research to identify where we are focusing our efforts and where there are gaps. This preliminary study suggests that we are focusing most of our studies on evaluating various nursing informatics innovations. Perhaps because of the nature of the evaluative study, theory is not used as often as it might be and when it is, it is most likely borrowed from another discipline.

References:

Brewer, B. B., Verran, J. A., & Stichler, J. F. (2008). The Systems Research Organizing Model: A conceptual perspective for facilities design. *Health Environments Research & Design Journal, 1*(4), 7-19.

Effken, J. A. (2003). An organizing framework for nursing informatics research. *CIN: Computers, Informatics, Nurses*, *21*(6), 316-323.

CAREGIVING IN COMMUNITIES

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STRENGTH OF TOBACCO CONTROL IN RURAL COMMUNITIES

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A PROPOSED THEORY OF THE PROBLEM FOR FAMILY CAREGIVERS OF HOSPICE PATIENTS

Bernadette Melnyk, Kathryn Lindstrom

PREDICTORS OF HRQOL IN PATIENTS WITH T2DM AND STAGE 3 CKD

Teresa Sakraida, Paul Cook, Isaac Teitelbaum, Michael McDermott

STRENGTH OF TOBACCO CONTROL IN RURAL COMMUNITIES

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Purpose: The study aimed to: (a) describe strength of tobacco control (SoTC) capacity, efforts, and resources in rural communities; and (b) examine the relationships between SoTC and its constructs and sociodemographic and political factors.

Background: Smoking rates are generally higher in rural vs. urban communities. The SoTC measure was initially developed to evaluate the effectiveness of state level tobacco control efforts. Although the SoTC has not been used at the local level, there is a need to evaluate local tobacco control measures in order to tailor approaches to reduce tobacco use in rural communities.

Methods: The data were collected during the baseline, pre-intervention phase of a community-based randomized, controlled trial to promote smoke-free policy. Stratified random sampling of rural communities was used (n=39). Key informant interviews were employed with the local tobacco control specialist from the health department. The SoTC was adapted to a county-level measure assessing three key constructs: (a) Capacity, the ability to implement tobacco control activities given sufficient resources; (b) Efforts, the comprehensiveness of tobacco control activities; and (c) Resources, assets committed to tobacco control. The SoTC constructs and total score were standardized with mean=0 and SD=1. Univariate analysis and bivariate correlations were used to examine the overall SOTC summary score and construct scores, as well as their relationships. Multiple regression examined the relationship of county-level sociodemographic and political variables with SOTC scores including population size, number of tobacco control staff per 10,000 population (tobacco staff ratio), and the Kentucky Institute of Medicine (KIM) ranking of county health characteristics.

Results: Scores ranged from -2.5 to 1.7 for Capacity; -1.8 to 2.5 for Efforts; -2.9 to 2.9 for Resources; and -2.7 to 2.7 for the total score (mean=0; SD= 1 for each). County population size was positively correlated with Capacity (r=0.35; p=.02), Efforts (r=0.54; p<.01) and the SoTC total score (r=0.47; p<.01). The higher the tobacco staff ratio, the lower the Capacity for tobacco control (r= -.32; p=.04). Communities with more Resources for tobacco control had better overall county health rankings, as reported by the KIM (r=.41; p<.01) Population size was the strongest predictor for Capacity, Efforts, and the SoTC total score; the regression model for Resources was not significant overall.

Implications: SoTC scores are valuable in determining local level tobacco control efforts and appropriate planning for additional public health interventions and resources. Dissemination of the aggregate SoTC results to communities will help local and state leaders address tobacco control more effectively.

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A PROPOSED THEORY OF THE PROBLEM FOR FAMILY CAREGIVERS OF HOSPICE PATIENTS

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Purpose: To explore an innovative theoretical framework for the development of an intervention for family caregivers taking on a new role of caring for their loved ones on hospice in order to address poor emotional and functional coping outcomes for these family caregivers.

Background of Problem and Linking to Proposed Theoretical Framework: Admission to hospice services in the United States can be a sudden and unanticipated event for families due to the complex attitudes towards death in society, ultimately affecting how we die. Complicating these issues is a health care system that has difficulty communicating with family caregivers. Family caregivers report they feel unprepared to care for their dying loved ones, what to expect from hospice services and what to expect during the dying process. In addition, family caregivers report they do not know how to help their loved ones and wished they had done a better job in their role as a caregiver of their dying family member. It is proposed that the root of the problem is that family caregivers lack an appropriate cognitive schema (a picture in the mind to know what to expect and how to respond) for this new role as a family caregiver of a dying loved one. Although stress and coping theories have been the most common theoretical framework used with family caregivers, coping outcome measures have not been statistically significant in family caregivers of hospice patients. Therefore, it is suggested that stress and coping theories may not adequately address the root of the problem; in this case, that of a lack of a cognitive schema in a new role.

Proposed Theoretical Perspective of the Problem: Self-regulation theory is based on information processing explanations of emotional and functional coping outcomes and depends upon the formation of a cognitive schema to navigate life experiences. Self-regulation theory posits that when a person receives concrete, objective information during a new stressful experience, they are able to create a cognitive schema that helps them to predict, understand, and navigate their way through this new experience. An intervention using self-regulation theory would include four tenets of preparatory information: (1) physical sensations and symptoms (what is seen and heard during an experience), (2) temporal characteristics (the event over time), (3) environmental features (social and contextual aspects to an event), and (4) causes of the sensations and symptoms. Role theory posits that roles are negotiated within families and contends that role enactment is a process related to the clarity of role behaviors. Interventions using role theory would include aspects of this role, such as information on how to assess and manage common symptoms, especially pain; information on how hospice can assist them in caring for their loved one; and skills regarding the importance of and how to better care for themselves. Caregivers should be invited to choose those areas that they need assistance with to perform better in this new role.

Conclusion: It is suggested that self-regulation and role theories be combined as an innovative theoretical framework to develop an intervention for family caregivers of newly admitted hospice patients to address a family caregiver's lack of cognitive schema in their new role of caring for a dying loved one.

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PREDICTORS OF HRQOL IN PATIENTS WITH T2DM AND STAGE 3 CKD

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Aims: The overall goal was to characterize the self-management experiences of patients with type 2 diabetes mellitus (T2DM) and stage 3 chronic kidney disease (CKD). The specific aim was to examine relationships of socio-demographic, clinical, and psychosocial characteristics at entry to health-related quality of life (HRQOL) 6 months later.
Background: T2DM is the leading cause of CKD, a pre-dialysis, staged disorder of kidney damage and function. Twenty to 40% of adults with T2DM will progress to CKD. Silent symptoms typify early CKD stages, making the need for self-management less obvious. It is known that T2DM regime adherence may forestall glomerular damage, thereby preserving kidney function and slowing or even halting progression to kidney failure.
Methods: In this IRB-approved study, convenience sampling was used and subjects (N= 54) were enrolled from medical center outpatient clinics. N=43 completed 6-month measures. Inclusion criteria entailed: (1) self-identified T2DM, (2) 18 to 85 years, and (3) stage 3 CKD based on eGFR calculation. The Problem Areas in Diabetes (PAID), Chronic Illness Resources Survey (CIRS), and Kidney Disease Quality of Life (KDQoL SF-36) survey tools were completed at entry and 6 months later. HgA1c data were obtained from the medical record. Descriptive analysis of sample characteristics and survey data was conducted. Two hierarchical linear regression analyses were employed after multiple imputations for missing data, to predict physical and mental HRQOL from predictors entered in the following order: (1) sociodemographics (sex, age, and years of education), (2) diabetes-related distress, and (3) social support.
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 educational level was 14.1 years (SD=2.4; 9-20 years).

The first block, sociodemographics, was found to explain 20% of the variation (R^2= .20) in HRQOL physical symptom scores, $F(3, 39)=3.27$, p=.031. Sex was a significant predictor of HRQOL (p=.048). In the second block, diabetes-related distress explained an additional 6.5% of the variation (R^2=.265) based on the PAID. The third block, social support, did not contribute significantly to the model. In the final model, sex remained significant, and age and food-related distress approached significance as individual predictors of physical symptom HRQOL. A second regression with predictors entered in the same order showed no significant effects on mental health symptom HRQOL. Low power is a study limitation.
Implications: Chronic illness requires psychosocial adjustments in order to engage fully in self-management efforts. In this study, subjects' sex was an important predictor of their physical symptom HRQOL. Males had the highest physical symptom HRQOL. Age and food-related distress are other potentially important predictors of physical HRQOL and may be important to consider in self-management interventions.

Funding Support: Sigma Theta Tau International, Alpha Kappa Chapter at-Large, 2006.

CHALLENGES IN RESEARCH: PROOF OF CONCEPT TO ETHICS

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IS NURSING RESEARCH BASED ON THEORY, TO GUIDE PRACTICE?

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DECISION MAKING ROLE PREFERENCES AMONG FAMILY PRACTICE PATIENTS

Margaret Clayton, Sovanny Sanh

ETHICAL CHALLENGES OF CONDUCTING QUALITATIVE RESEARCH IN THE INTENSIVE CARE UNIT

Lissi Hansen, Susan Rosenkranz, Judith Kendall, Nancy Press

IS NURSING RESEARCH BASED ON THEORY, TO GUIDE PRACTICE?

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Purpose/Aims: The aim of this descriptive study was to determine if nursing researchers are using nursing theories in their research to build a Nursing Science Discipline, with which to guide practice.
Rationale/Conceptual Basis/Background: Early nursing scholars and educators envisioned a scientific discipline, complete with theory driven research and practice. Some current nursing scientists state present nursing studies are failing to incorporate theory into their research. King's Dynamic Interacting System (1971) was used as a conceptual framework.
Methods: The authors evaluated nursing research from the 2006 JCR ISI Web of Knowledge's top ten nursing journals, which were available as full text articles in Jordan. They searched the *Title*, *Abstract*, *Problem Statement*, *Methods*, *Discussion,* and the *Conclusion*. They evaluated whether the articles used nursing theories, theories borrowed from other disciplines, or no theory.
Results: Seven nursing journals met the inclusion criteria: *American Journal of Critical Care, Journal of Advanced Nursing, Journal of Clinical Nursing, Journal of Nursing Scholarship Nursing Research, Nursing Science Quarterly,* and *Research in Nursing and Health*. For the years 2002-2006, there were 2,857 articles published in these journals. Of the 2,184 (76%) that were research articles, 460 (21%) used nursing theory, and 377 (17%) used theory from other disciplines, for a total of 819 (38%) who used theory. Seven hundred sixty-nine (94%) of those who used theory, integrated the theory into their study. The remaining 51 (6%) studies used theory as an organizing framework.
Implications: For nursing scientists to guide the profession, in complex and dynamic health care changes as they become leaders in interdisciplinary organizations and address nursing's image for today's media and the public, there needs to be a firm vision of what it means to be a Nursing Science Discipline. This can best be done by incorporating nursing theory in research to guide practice.

DECISION MAKING ROLE PREFERENCES AMONG FAMILY PRACTICE PATIENTS

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Purposes/Aims: The primary aim of this study was to assess desired and achieved decision making role preferences among patients attending two Family Practice clinics. A secondary aim was to compare these findings to a previous study of decision making roles among breast cancer survivors attending an oncology practice. **Background:** Patient decision making role preferences range from very active to very passive, with most preferring a collaborative middle ground that reflects shared responsibility for decision making with providers. However, not all patients are able to achieve their desired decision making role, potentially influencing the patient-provider relationship and ultimately health outcomes. Previous research found that only 48% of breast cancer survivors (N=203) attending an oncology practice (N=6 providers) were able to negotiate their desired role preference when interacting with their providers. The majority of survivors adopted more passive or more active roles than originally desired. However, most research examining decision making roles has been with cancer and/or end of life samples, less is known about the preferences of primary care patients. **Methods:** All English speaking adult patients attending two Family Practice clinics over a two month period were recruited. Consenting patients completed questionnaires assessing demographic data, desired and achieved role preference, willingness to communicate, and their perception of the patient-centeredness of their visit. **Results:** The final sample was composed of 188 patients (age 18-89, 37% male, 63% female) and 21 providers (age 27-55, 40% male, 60% female). Most patients were seeking care for acute illness/symptoms or preventive care. Very few were seeking care for management of chronic diseases. The vast majority of patients (85%, N=161) were able to negotiate their desired decision making role preference (active, collaborative, or passive). These patients reported on average more role discussions with providers, more encouragement from providers to adopt their chosen decision making role, and had more years of college than those who were unable to achieve their desired role. Patients who did not achieve their desired role rated their visits as less patient-centered (t 2.22; df 19.06; p .03). Comparing these results to previous research with breast cancer survivors showed that Family Practice patients reported a much greater ability to achieve their desired decision making role. However, breast cancer survivors who did not achieve their desired role adopted equal rates of increased passive or active decision making roles in contrast to Family Practice patients who all adopted more passive roles. **Implications:** Discussion of patient's preferred decision making roles is helpful in creating a positive patient perception of the patient-centeredness of their visit, which in turn may impact the patient-provider relationship and ultimately health outcomes such as treatment adherence. Comparing results to previous research suggests that patient decision making role preferences and the ability to successfully negotiate a desired role may be influenced by the purpose of the visit and the type of medical practice.

Funding: Department of Interdisciplinary Studies Seed Grant, University of Utah.

ETHICAL CHALLENGES OF CONDUCTING QUALITATIVE RESEARCH IN THE INTENSIVE CARE UNIT

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The nature of qualitative research in the intensive care unit (ICU) raises ethical questions not only about how we behave as researchers and nurses, but also as individuals confronted with the critical illness of others. This paper addresses unique ethical challenges our research team encountered while conducting a qualitative prospective longitudinal case study to capture the complexity of life sustaining treatment (LST) decision making in the ICU from the perspectives of three distinct participant groups: (1) patients with end-stage liver disease, (2) family members, and (3) health care providers. We present ethical challenges that emerged as the study unfolded, drawing upon 244 hours of data collection in the ICU, which included five cases—a total of five patients, 14 family members, and 95 health care providers. Data were collected from the time patients were admitted to the ICU to when they left the unit. Our study design using ethnographic methods—including direct observation and interviews—proved fruitful for our research, but the methods also raised serious ethical dilemmas. We describe actual strategies used by the research team to address these challenges encountered during all phases of the study and provide recommendations for nursing practice.

First, we address ethical challenges met during the enrollment of each participant group. What we found was that each group presented a unique set of challenges to the consent process and our ethical responsibility to study participants' well being. We also consider motivation for participation. The fact that the study was a potential intrusion at a time of crisis and vulnerability meant it was crucial that we paid extra attention to the motivation and voluntariness of participants' choices when asking for consent at such times. We found it helpful to continually assess motivation for participation throughout the study, taking cues from daily interview and observation data. Next, we discuss how interviewing and observation data collection methods raised unique challenges, particularly in terms of our roles as researchers, nurses, and individuals, each with its own set of ethics. For example, when the researcher was a nurse, there was the added complexity that participants expected us to respond with technical advice, information, and nursing care. Thus, at times we found ourselves caught between the demands of rigorous research and the ethical responsibilities of the nursing profession. Finally, we addressed issues of role conflict as we ended data collection with participants. Of concern was how we balanced our role as researchers and our sense of responsibility to the relationships we built over time with participants. As we met ethical challenges during the research, we reflected upon how our multiple roles intersected and, at times, merged and considered how our responses to ethical challenges might have been interpreted by our participants.

This study (1R21 NR009845-01A2) is funded by the National Institute of Nursing Research/National Institutes of Health.

CULTURAL COMPLEXITY

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NATIVE HAWAIIAN HEALTH & WELL BEING IN THE "9TH HAWAIIAN ISLAND," LAS VEGAS

Jane Lassetter

EDUCATIONAL ADVOCACY FOR YOUTH WITH COMPLEX NEEDS: CONFLICT & COLLABORATION

Roberta Rehm, Lucille Fisher

EXPLORING BARRIERS TO LATINO FAMILIES' PARTICIPATION IN DEMENTIA-RELATED RESEARCH

David Coon, Gale Kittle, Bronwynne Evans, Neva Crogan

NATIVE HAWAIIAN HEALTH & WELL BEING IN THE "9TH HAWAIIAN ISLAND," LAS VEGAS

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Purpose/Aims: The purpose was to describe how Native Hawaiians perceive their health and well being and any changes therein since migrating from Hawaii to Las Vegas.
Rationale: Migration is often a challenging process. Native Hawaiians are migrating to Las Vegas at an impressive rate, but no research has explored how migration from Hawaii to Las Vegas impacts Native Hawaiian health and well being. Exploring their perceptions of health and well being is the first step toward culturally competent nursing care and improving Native Hawaiian migrants' health and well being.
Method: A qualitative descriptive design was used, and 27 participants took part in semi-structured interviews. Data analysis involved: (1) transcribing interviews, (2) reading transcripts, (3) coding related segments, and (4) identifying themes and categories.
Results: Most participants perceived no changes in health and minor changes in well being, but the period shortly after migration was a vulnerable time. Many maintained their well being by adapting valued activities to their new circumstances. However, a few were deeply burdened by life in Las Vegas or longing for Hawaii, and their well being suffered. They tended to identify barriers to well being rather than ways to foster it.
Implications: Increased vulnerability shortly after migration suggests a need for early access into the health care system. Nurses can lead efforts to inform new migrants about where and how to access health care. Additionally, nurses can assist with anticipatory preparation prior to migration and with exploration of helpful, adaptive behaviors after migration.

Funding: Oregon Health & Science University, School of Nursing Dean's Award and a Brigham Young University College of Nursing Research Grant

EDUCATIONAL ADVOCACY FOR YOUTH WITH COMPLEX NEEDS: CONFLICT & COLLABORATION

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Purpose: Part of a larger study of parent planning for the transition to adulthood for youth age 14-25, this analysis focused on 32 youth age 14-21 years, with concurrent physical and developmental chronic conditions. The aim of this analysis was to examine advocacy practices and planning of parents and educators during high school years.
Background: Youth with complex physical and developmental needs require ongoing support as they leave high school and transition to adulthood. Federal law mandates planning for this transition, necessitating cooperation between families and professionals.
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), observations of Individual Education Plan (IEP) meetings, and interviews with home-room special education teachers. 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 complex needs fell across a wide spectrum of abilities and ongoing health challenges, including some that could shorten lifespan, and others that resulted in frequent school absences. The transition to adulthood was a long process necessitating examination by parents and educators of the youth's future potential, including ongoing health needs, suitability for an adult day program, further education, or employment beyond high school. This process often led to reprioritization of educational goals. Using thematic analysis, the following major categories were identified: (1) parents and educators frequently had differing assessments of the youth's abilities and potential for educational progress, resulting in conflicts; (2) parents and professionals used multiple levels of advocacy including personal and professional relationships, IEP meetings, community advocates, and legal proceedings; and (3) both parents and professionals voiced support for collaboration and cooperation rather than antagonism in their relationships. The unifying theme for these categories was: reaching equilibrium and a cooperative working relationship in the face of competing priorities was an ongoing struggle for parents and educators. Outcomes varied for participant families. Some parents established ongoing cooperative relationships with teachers, while others were able to resolve conflict by successfully negotiating for mutually agreeable services for their youth. Other parents experienced recurrent conflict leading to antagonism with school administrators, including lawsuits or changes in school assignments. Parents and educators recognized that parent advocacy played an important role in the distribution of school services, resulting in disparities in accommodations and programs.
Implications: Cooperation between parents and educators could be facilitated by ongoing physical and developmental assessment within education and health systems that helps both family members and professionals recognize developmental progress and set realistic goals. Much greater emphasis must be placed on equitable distribution of resources; nurses could assist families to learn advocacy skills and negotiation of complex systems.

EXPLORING BARRIERS TO LATINO FAMILIES' PARTICIPATION IN DEMENTIA-RELATED RESEARCH

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Purpose: The purpose of this study was to explore Latino views of dementia-related research through a series of focus groups targeting Latino community service providers and Latino families affected by dementia. This study extends previous work in this area by focusing on challenges faced by researchers even after incorporating previously identified strategies that were demonstrated to facilitate Latino families' willingness to participate in dementia-related research.
Background: Latinos make up over six percent of the older adult population and are expected to become the largest racial/ethnic minority in adults over 65 years by 2050. There are over one million people of Latino origin in Maricopa County, Arizona, comprising of over 30% of the population. Previous studies exploring effective recruitment strategies for Latino dementia family caregivers in intervention research emphasize the importance of collaborative partnerships between researchers and community service providers. However, some researchers have encountered ongoing challenges in recruiting Latinos into dementia-related research.
Methods: Focus group participants were recruited through collaborative relationships with a local Alzheimer's Association chapter and an informal network of Latino health and social service providers. A series of focus groups exploring barriers to reaching Latino populations for services and research were completed. The current study focuses on these three groups: English-speaking Latino dementia family caregivers, Spanish-speaking Latino dementia family caregivers, and bilingual Latino health and/or social services providers who work with Latino families affected by dementia. All groups were facilitated by following a semi-structured interview developed in English and Spanish. Key themes (both shared and unique) emerged for families and providers through qualitative analysis of the focus group transcripts.
Results: Several key themes were shared between both family and provider groups including: an overall lack of identification and connection with research; suspicion and mistrust that also encompassed challenges posed by translation from English to Spanish using words that seemed "scary" or "risky"; concerns about the safety of loved ones with dementia, as well as concerns that an "investigation" may put the family at risk; and the need to incorporate educational opportunities and information exchange with professionals and the opportunity to connect with others experiencing similar issues. Families, in contrast to providers, raised more concerns about practical barriers to participation (for example, timing and transportation); whereas, providers described research as a "necessary sacrifice" that will help create better treatments and services for the community.
Implications: This study highlights the ongoing importance of finding effective strategies to bridge gaps between researchers and the Latino community. The barriers identified suggest the need to tailor outreach and research itself to include educational components and provide opportunities for Latino families to meet others experiencing similar challenges. Our findings also suggest that the language of "research," especially when translated into Spanish, may connote a sense of being "investigated," which can be perceived as putting the memory impaired loved one and the family as a whole at risk. This finding speaks to the need to establish and maintain trusting relationships among Latino community providers and advocates, Latino families, and researchers.

ENGAGING SYSTEMS IN EVIDENCE-BASED PRACTICE

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MOVING TOWARD AN EVIDENCE-BASED NURSE STAFFING MODEL

Lori Loan, Sandra Rolph

EBP PROJECTS AND CLINICAL AGENCY PARTNERSHIPS IN UNDERGRADUATE NURSING RESEARCH

Maureen O'Malley, Tina DeLapp

DEVELOPMENT OF A RESEARCH AND EVIDENCE-BASED PRACTICE STRUCTURE IN A HEALTH CARE SYSTEM

Jennifer Mensik

ASSESSING EVIDENCE-BASED PRACTICE READINESS OF RURAL NURSES

Cathy Thompson

MOVING TOWARD AN EVIDENCE-BASED NURSE STAFFING MODEL

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Rationale/Background: Several studies looking at the impact of nurse staffing on patient outcomes have been conducted. Unfortunately, barriers between nursing leaders and the literature, such as the overwhelming number of studies, competing priorities, and resource limitations have made it difficult to interpret and use staffing study findings. Consequently, translating research results into the real-world environment has been difficult.

Project Aim & Process: The project used Stetler's Model of Research Utilization to Facilitate Evidence-Based Practice to advance understanding of staffing issues and change hospital policy to improve unit specific nurse staffing models. Work for one stepdown unit is described in this abstract. Preparatory Phase: Stakeholders that might impact the project or the application of project findings were identified. Sources of relevant information that would provide convincing evidence for stakeholders were selected. Validation Phase: A literature search was conducted. Review tables were constructed. Relevant staffing data were gathered and benchmarked against national comparison data. Decision Making Phase: A critical appraisal of the unit was conducted. Attributes that most accurately described the unit were selected from a list of universal attributes known to drive Chief Nursing Officer (CNO) staffing priorities. Challenges to improving patient care quality were described for each attribute. Two attributes that represented the greatest impediment to optimizing care quality where chosen and vetted by the CNO. A crosswalk between collected evidence and unit attributes was conducted to elicit specific staffing priorities. Translation Phase: A decision was made to recommend increasing the number of RNs in order to achieve a 1:3 nurse-to-patient ratio. Collected data plus salary costs were used to justify a staffing model change, which was subsequently approved by the hospital CEO.

Excerpts from the Policy Change Request: Two patient attributes represent the greatest impediment to optimizing nursing care on the step-down unit—patients are at risk for deteriorating rapidly; and there are wide disparities in patient types and treatments. Evidence supports enhancing the RN to patient ratio as a lower ratio would provide more opportunities to perform advanced clinical observations and ensure an adequate number of RNs who can capably integrate new and seemingly disparate clinical data. Several studies report fewer adverse outcomes when the proportion of RNs is raised—medication errors (Blegen, 2001), mortality (Aiken, 2003), failure to rescue (Aiken, 2004), and UTI and length of stay (Needleman, 2002). Decreasing the RN to patient ratio without increasing total nursing care hours is associated with a net reduction in costs. This policy change will improve nursing care quality and patient health outcomes, and bring the unit's staffing model in line with national standards resulting in a $16,170 per year cost savings.

Outcomes Achieved: *Evaluation Phase:* Metrics from the preparatory phase were used to determine if the project aim was achieved: (1) staffing issues were defined, evidence-based, consensus-based, and prioritized; (2) staffing variable benchmarks for future follow-up were defined; (3) the policy was changed in order to improve the nurse staffing model; and (4) a plan to follow clinical outcomes to determine new model effectiveness was initiated.

Conclusions & Implications: At the heart of this staffing model challenge is the imperative to maximize effective and efficient nursing care delivery, while maintaining the highest standards for quality and patient safety. Further evaluation to determine if policy change actually resulted in decreased nurse-to-patient ratios and improved clinical outcomes is needed. If this evidence-based staffing model evaluation methodology is proven to be successful, replication at other hospitals should be considered.

EBP PROJECTS AND CLINICAL AGENCY PARTNERSHIPS IN UNDERGRADUATE NURSING RESEARCH

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Purpose: The project sought to: incorporate experiential learning into the undergraduate nursing research course; promote students' development of skills needed to locate evidence and make decisions about incorporating "best practices" into clinical practice; foster student's appreciation of the role of nursing research in their post-graduate practice; address clinical questions of local nursing concern; and strengthen the relationship between academia and the local clinical community.

Rationale: This project sought to move undergraduate nursing research beyond the academic exercise of writing a critique paper toward an experiential, real-world clinical project. Practicing nurses indicate they don't have the time or the information systems skills to obtain up-to-date information on best practices (Bertulis, 2008). Further, a lack of value for research in practice has been identified as another important barrier to its integration into practice (Pravikoff, Tanner, & Pierce, 2005). This project sought to foster the application of skills in the critical appraisal of nursing research in BSN-prepared nurses as well as to foster involvement of local clinical agencies in the critical appraisal process.

Methods: Clinical questions were solicited from local clinical agencies or developed from other sources, including the Medicare no-pay event list and queries raised by clinical students. Course assignments were revised to include a searching exercise, critical appraisals, participation in a project website, and development of a PowerPoint poster presentation. Representatives from local clinical agencies were given access to the online group project pages and attended the project presentations. In many cases the student's work has been presented at the clinical agency.

Outcomes: Students have reported significant improvement in their searching skills as groups worked to find evidence that addressed their project topic. Perhaps more important have been the numerous comments regarding students' anticipated utilization of those skills following their graduation, coupled with a reduced number of comments about the irrelevance of research to real world practice. The value of their projects was evident to them in the expressions of appreciation from key members of the staff from local clinical agencies and in continuation of their projects by clinical agencies.

Conclusions: This project has enlightened our faculty on the proper role of undergraduate nursing research in today's evidence-based practice environment. Undergraduate nursing students should be given the opportunity to move beyond the critique paper. The goal for the undergraduate student should be to develop clinical questions, to locate evidence, and to determine what practices the evidence does and does not support. Collaborative evidence-based practice projects serve to enhance the learning experience for undergraduate students and support evidence-based practice efforts of local clinical agencies.

DEVELOPMENT OF A RESEARCH AND EVIDENCE-BASED PRACTICE STRUCTURE IN A HEALTH CARE SYSTEM

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Purpose/Aims: The purpose of this presentation is discuss the development of a system wide infrastructure to conduct research and incorporate current knowledge consistently into nursing practice across a health care system with 22 hospitals in seven states.

Rationale/Background: The importance of nursing care on patient outcomes is widely recognized through the public reporting of nursing sensitive indicators by many organizations, including the Center for Medicare and Medicaid Services (CMS). The importance of nursing care on outcomes is so well documented that CMS has imposed financial penalties on organizations whose patients have adverse or never events. The Institute of Medicine's latest publication, *The Learning Healthcare System* (2007), has set a goal that 90% of practice will be based on evidence by 2020. Current estimates have stated that not even 10% of current practice is based on the best and most current evidence. Furthermore, nursing care may differ significantly from facility to facility, state to state, and even within this health care system where it has been noted that there are different nursing care practices and policies for the same patient populations and problems, at each of the 22 hospitals.

Brief Description of the Undertaking: An assessment of research and evidence-based practice (EBP) needs were gathered through discussion at two regional nursing and allied health research and EBP councils, as well as sending out a survey to over 8,000 staff, management, and advance practice nurses. The nurses received and were asked to take the Nursing Knowledge, Attitude, and Practice survey as well as a readiness survey which revealed the need for education on the research process in general, literature reviews, and access to resources. The results were consistent across all levels of nursing, despite educational preparation. Two all day retreats were then held with an outside expert consultant with both regional research councils to develop the infrastructure needed to incorporate research and EBP into all nurse's practice. The roll-out plan was developed and all of the chief nursing officers (CNOs) were educated on the final product. Permission was obtained from the CNO to proceed with the education and infrastructure.

Outcomes Achieved/Documented: Several structural outcomes were a result of this project. First, there were 5 educational levels identified, along with identifying each nurse's role. These roles include: staff nurse, nurse champion, nurse mentor, nurse facilitator, and nurse leader. All nurses, regardless of practice, received education on their role in research and EBP. Second, nurse leaders received education regarding their role in supporting all nurses in research and EBP. Finally, three levels of research and EBP nurses were determined based on education, position, and desire to participate, named champion, mentor, and facilitator. In addition, the role of the advance practice nurse was defined in relationship to research and EBP, at the master's and doctoral level. Each facility now has at least one research nurse facilitator to coordinate research and EBP projects.

Conclusions/Implications: Research will be done over a several year period to determine the effects on clinical practice and patient outcomes. The goal set by the committee was to have 90% of nursing practice based on current evidence by 2020, in line with the IOM's goal. Furthermore, partnerships with multiple universities have and will continue to be established in order to provide another level of expertise into patient populations and problems of interest to our nurses and health care system.

ASSESSING EVIDENCE-BASED PRACTICE READINESS OF RURAL NURSES

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Purposes/Aims: The purpose of this paper is to describe factors influencing the readiness of rural nurses for evidence-based practice.
Background: Evidence-based practice (EBP) has become the prevailing paradigm of clinical decision making and effectiveness in the health sciences. Rural hospitals are also implementing EBP, often without the benefit of advanced practice nurses to promote this paradigm change. Certain personal, professional, and organizational factors are known to influence the use of research and evidence in practice.
Methods: The data for this paper were collected as part of a larger study to comprehensively describe the role and function of the nurse opinion leader in rural practice. A descriptive, cross-sectional, survey design was employed. All staff nurses and nurse managers in 4 rural hospitals in southern Colorado were invited to participate in the major study. Two research instruments were initially distributed; data from the Research Factor Questionnaire-Evidence-Based Practice (RFQ-EBP) are presented for this paper. The RFQ-EBP provides data regarding the internal and external factors known to influence the use of research and evidence findings in practice.
Results: Data from a total of 63 nurses from three institutions are included in this report. The average participant was a 45 year-old female, Caucasian, working full time as a staff RN, who read professional literature about 2 hours/week. The median length of time as an RN in their facility was 8.5 years; the median length of time as an RN was 13.5 years. These subjects had heard of EBP (89%) and most wanted to learn more about EBP (86%). Very positive attitudes towards EBP were determined by a semantic differential scale score of 6.29 on a scale of 1-7. The majority of nurses discussed research/evidence findings to a moderate to large extent with fellow staff nurses, physicians, and nurse managers, respectively. Seventy-nine to 90% of participants believed that communication channels influenced their attitude and use of evidence in practice. Factors related to promoting a positive research culture were rated low to moderate on a 1-5 scale.
Implications: Assessing these factors known to influence research use will aid nursing administrators in the rural setting to determine the readiness of nursing staff and the need for institution-specific strategies to successfully implement and sustain the EBP paradigm. The results from this survey show a positive outlook among rural nurses toward the acceptance of EBP, however rural settings lack infrastructure to sustain EBP changes. Nurse administrators can use these findings to tailor educational and institutional strategies to promote nurses' acceptance and use of research and evidence findings into practice.

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FOCUS ON CONTEXT OF VULNERABLE COMMUNITY

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OF SAGE, MESQUITE, AND VAST HORIZONS: ANSWERS TO UNASKED QUESTIONS

Jennifer Averill

INVESTING IN HEALTH: THE MICROCREDIT CONNECTION

Rebekah Salt

A HOMELESS TENT CITY: EXPANSION OF *TURBULENCE* AFTER RESEARCH PROPOSALS NOT APPLIED

Ann Hubbert, Fred Steinmann

THE LIFE EXPERIENCES OF WOMEN WITH CEREBRAL PALSY WHO HAVE EXPERIENCED MISTREATMENT

Donna Freeborn

OF SAGE, MESQUITE, AND VAST HORIZONS: ANSWERS TO UNASKED QUESTIONS

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Purposes/Aims: The aims of a recent rural health study were to analyze indicators of health disparities for multicultural rural elders in the southwestern US, and to construct preliminary explanatory models based on elders' definitions of health and their perceptions of resilience, hardiness, and vitality in a harsh environment. Overall study findings are addressed elsewhere in the literature. The purpose of this paper is to focus on explanatory models arising from the elders themselves.

Rationale/Conceptual Basis/Background: Growing numbers of multicultural elders living near the US-Mexican border suffer health disparities related to geography, economics, cultural/historical patterns, and social isolation. Integrating these contexts, the study was conceptually based on Stringer's *Look-Think-Act* partnership model, aiming to establish consensus on priorities for future action. In the course of the work, alongside responses to research questions, elders' life stories directed attention to unasked questions about promoting their health, autonomy, and well being. The elders' tales represent a critical voice in planning potential interventions.

Design and Methods: Combining critical ethnography and community-based partnership research (CBPR), methods included ethnographic interviews with 64 informants in three rural counties, participant observation, archival data review, photography, dialectic/negotiation, and consensus-building. Data were analyzed using sequential coding, thematic analysis, narrative analysis, and matrix analysis. During the interactions, rich chronicles of rural life in early-mid 20th century New Mexico yielded insights valuable not only to particular family legacies, but also to health care providers and researchers.

Results/Findings: Themes derived from analysis of elders' accounts centered on crossing the international border for a better life; adherence to core values; and preserving connections to family and the land. These key explanatory components suggested the following unasked questions as: (1) What historical and cultural factors contribute to elders' values of autonomy, hardiness, diligence, persistence, and finding joy? (2) What advice should be given to younger family members and to today's health care providers and planners?

Implications: In the current, uncertain contexts of economics and health care, CBPR models may reduce disparities by including local voices in the analysis and resolution of problems, potentially increasing the probability of success for interventions. Additionally, qualitative/ethnographic evidence enriches the knowledge base for healthy aging in rural communities and for effective, culturally relevant EBP and outcomes research.

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INVESTING IN HEALTH: THE MICROCREDIT CONNECTION

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Purpose/Aims: The purpose of this project was to follow up on a 2006 research study conducted with a Pacific Northwest microcredit organization. The aims of the project were to: (1) increase health awareness within the organization, and (2) provide health resource information to microcredit clientele.

Rationale/Background: The relationship between socioeconomic status and health is well established, and research has shown that the lower an individual's socioeconomic status is, the worse his or her health will be. In a time of economic uncertainty, the number of Americans without health insurance continues to rise. Uninsured adults are more likely to report poor health status, forgo necessary care, and receive fewer health screening services. A recent study of 19 industrialized nations measured and compared trends of amenable mortality rates before the age of 75, that is, deaths from causes that are potentially preventable with effective and timely health care, such as bacterial infections, treatable cancers, and diabetes. While all countries averaged a 16 percent decline in amenable mortality rates, the United States reported a decline of only 4 percent. The authors speculated that the slow decline in US amenable mortality has coincided with the increase in uninsured Americans. The motivation for this project was based on the results from a 2006 study which explored women's participation in US microcredit. Several of the outcomes of that study revealed that the majority of the participants had neither health insurance nor the economic resources to sustain through a health crisis. Generally, people who join microcredit programs are low income and cannot afford health insurance. For them, lack of health screening or treatment could have dual consequences, resulting in economic *and* health crises.

Description: The input from the microcredit organization guided this project. Over the course of 1 year, the researcher communicated regularly with the microcredit organization, which included clientele, staff, and the Board of Directors, via email, meetings, and presentations. The discussions included dialogue around health promotion and ways to disseminate health information within the organization. In general, each of the groups expressed an interest in learning more about health resources and specifically requested information about affordable health insurance for microcredit clientele. The final products were a brochure entitled *Investing in Health*, which included health and social resources, and a notebook containing local health insurance information.

Outcomes: Five hundred copies of the brochure and five copies of the notebook, along with electronic copies of the information, were given to the organization to distribute to their various microcredit sites throughout the state. In addition, a recommendation was made to continue and sustain the project through partnerships with the local schools of nursing, public health, and medicine.

Conclusions: One of the goals of *Healthy People 2010* is to eliminate health disparities. The lower incomes and the lack of access to resources experienced by microcredit clientele contribute to health disparities and amenable mortality. Historically, international microcredit organizations have supported programs, specifically health programs, which improve the lives of their clientele. As a trusted presence in the community, nursing is in a position to impact the health of microcredit clientele by: (1) offering innovative solutions to complex health issues, and (2) lobbying for affordable health insurance.

A HOMELESS TENT CITY: EXPANSION OF *TURBULENCE* AFTER RESEARCH PROPOSALS NOT APPLIED

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Purpose: The purpose of this presentation is the exploration and application of the concept, "societal turbulence," often referred to in public administration literature and research, as it applies to issues of homelessness within a Northern Nevada community. The concept of *turbulence* has not commonly been used to address issues that impact public health and health care services, but is regarded by the authors as a crucial concept to address the academic-community partnership collaborations to conduct research, education, and services for public health and/or health care issues. The concept is examined as providing insight into one community's dramatic events within the homeless population after the authors' earlier research team's recommendations for best practices of homeless services were not implemented.

Definition of Concept: The concept of *turbulence* (Kettl, 2006; Newland, 2008) within society is defined as having three components: (1) the situations involved "defy definitions"; (2) the situations are perpetual; and (3) any resolution requires "pooled resources," acknowledging that no one system can solve them and there is no one solution. The examination of *turbulence* is applied to consequences of societal actions that could go in two distinct directions: (1) innovative, creative organizations are formed; or (2) they can create destructive, demoralizing, and costly outcomes. *Turbulence* presents three unique and interdependent problems: (1) wicked problems, (2) messy boundaries, and (3) depleted intellectual capital, and each are examined through the lens of homelessness.

Approach: The authors were members of an inter-professional research team that completed a federally and county funded study (Bartholet et al, 2007) on the extent and costs of homelessness, including the cost effectives of services and housing within their community. *Turbulence* and the "*3 Puzzles*" provide context in describing what happened within the community one year after the research findings were disseminated. The evidence-based research recommendations had not been implemented, but the adverse community events of homeless individuals creating their own tent city, initially without any supervision or support services (Reno-Gazette Journal, 2008) did occur, accompanied by prolific media attention. The events are examined as components of the *turbulence concept*.

Outcomes: The original team's research recommendations had been presented to the state legislature, county and city governments, community service providers, one year earlier and professional dissemination (Hubbert & Steinmann, 2008) had begun. However, no implementations of the recommendations were in progress in spring 2008, when the dramatic events of *turbulence* expanded among the community's homeless population.

Conclusions: The research evidence and recommendations for a community's adoption of best practices of homeless services had been a costly study, but recommendations were not implemented, and there was an explosive emergence of complexities within the *turbulence concept.* Insights and understanding gained by the research team are discussed for their implications in public health and/or health care services research, education, or services. In conclusion, the value of the inclusion of public policy/administration, and economics partners is emphasized for public health and health care *future* policies and programs.

THE LIFE EXPERIENCES OF WOMEN WITH CEREBRAL PALSY WHO HAVE EXPERIENCED MISTREATMENT

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Purpose: To describe the life experiences of women with CP who have experienced mistreatment and to describe how these women understand the meaning of their disability and their mistreatment experiences relative to gender, culture, social class, and power.

Rationale: Abuse and mistreatment of women with disabilities is a complex problem that affects their health and well being. Previous studies have focused on heterogeneous groups of women with disabilities, with only small numbers of women with cerebral palsy (CP) included. It has been suggested by Hassouneh-Phillips and McNeff (2004) that specific disabilities may play different roles in relation to abuse. Exploring mistreatment of women with cerebral palsy is the first step in determining the relationship between mistreatment and a specific disability.

Method: The feminist biographical method was used to promote an in-depth exploration of women's storied lives, uncover the meaning of women's lives from their own personal perspective, and provide understanding of women whose stories seldom have been told. A criterion sample of eight participants took part in two in-depth, audio-recorded interviews. Data analysis involved: (1) transcribing interviews verbatim, (2) ongoing analysis throughout and after the interviewing process, (3) use of the hermeneutical procedure of comparing the part to the whole and the whole to the part, (4) identification of themes within each narrative and across all of the narratives, and (5) identification of exemplars of themes and categories.

Results: Two major categories emerged from the participants' narratives: (1) mistreatment, and (2) living with cerebral palsy. Subthemes of mistreatment include: (1) the meaning of mistreatment, and (2) outcomes of mistreatment in their lives. In the second category participants described living with CP at four different stages of development: (1) childhood through adolescence, (2) higher education years, (3) young adulthood, and (4) later adulthood.

Implications: Addressing the issue of mistreatment is essential in providing appropriate health care for girls and women with CP. The first step in preparing this population for the challenges of living with their disability is to understand the significance of mistreatment and the meaning of CP in their lives.

Grant: Brigham Young University College of Nursing.

INTERVENTIONS FOR OLDER ADULTS

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TELEPSYCHIATRY PROGRAM EVALUATION

Lisa Jensen

HEALTH EMPOWERMENT INTERVENTION WITH HOMEBOUND OLDER ADULTS

Nelma Shearer, Julie Fleury, Michael Belyea

STUDENTS CREATE VIDEO ON FALL PREVENTION FOR OLDER ADULTS IN THE COMMUNITY

Carol Redfield

DYADIC INTERVENTION: EFFECT ON SELF-EFFICACY, FUNCTIONING, AND ANXIETY IN OLDER ADULTS

Jaleh Akhavan

TELEPSYCHIATRY PROGRAM EVALUATION

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Purpose: This presentation describes a study of importance to APRNs comparing clinical outcomes of patients receiving psychiatric services through telepsychiatry, with outcomes of patients receiving services through traditional, in person treatment.
Rationale/Background: The George E. Wahlen VA Medical Center in Salt Lake City serves one of the largest geographic areas in the VA health care system. Telepsychiatry can be defined as the provision of mental health services through the use of interactive videoconference equipment. This method of service delivery lends itself particularly well to mental health services and is a useful means for APRNS to provide mental health care to patients in rural areas. There is a need to determine if telepsychiatry services result in comparable outcomes to traditional psychiatric services.
Methods: Sixty-one patients participated in the study, thirty-one received in-person services and thirty received telepsychiatry services. Patients were randomly selected from two lists of patients receiving psychiatric services through the Salt Lake City VA Healthcare system. Subjects were predominantly male (95%), with an average age of 54 years.

The study consisted of a phone survey and a retrospective chart review. Demographic data, including age, highest grade completed, and religion, was collected. Two instruments were administered over the phone. These instruments included the Client Satisfaction Questionnaire or CSQ-8 and the Working Alliance Inventory or WAI. The CSQ-8 is an eight-item measure, which uses a 4-point Likert-type scale to evaluate client satisfaction with mental health services. The WAI is composed of 12 questions and uses a 7-point Likert-type scale to measure the working alliance between clients and therapists. Medical records of the 2 groups of patients were also reviewed to compare scores on the Global Assessment of Functioning or GAF scale, number of psychiatric hospitalizations, treatment adherence as measured by missed appointments, provider phone calls between visits, and medication usage.
Results: The mean scores of the subject responses on the CSQ-8 and the WAI were measured and independent *t*-tests were completed. The overall mean score for the two groups on the CSQ-8 was 29, out of a possible 32, indicating a high level of satisfaction. There were no statistically significant differences between the two groups in the scores of satisfaction. Regarding the WAI, there were statistically significant differences between the groups in the areas of goal development ($p=.01$) and reaching goals ($p=.02$), but no difference in the quality of the relationship. There were no statistically significant differences between the groups in the areas measured through the medical record review.
Implications: This study indicates that the satisfaction level and the ability to form a therapeutic relationship of patients receiving telepsychiatry services is the same as patients receiving traditional psychiatric services. Telepsychiatry creates more of a challenge for patients in developing and reaching goals than those with traditional services. These results point to the importance of continuing to use telepsychiatry as a treatment modality.

HEALTH EMPOWERMENT INTERVENTION WITH HOMEBOUND OLDER ADULTS

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The adult US population aged 65 years and older increased to 35 million in 2000 and is projected to more than double by 2030. As adults age their health needs become more complex; recognition of and access to personal resources and social contextual resources as a basis for purposeful participation in attaining health goals is essential. Our knowledge concerning acceptable and effective interventions to promote purposeful participation in attaining goals related to health and well being in older adults, particularly those who are homebound, remains limited.

Purpose: The purpose of the study was to pilot test the Health Emowerment Intervention (HEI) with the intent of: (1) evaluating intervention acceptability; and (2) evaluating HEI preliminary effects on the health outcome of well being and theoretical mediators health empowerment and goal attainment.

Conceptual Basis: The HEI operationalizes the middle range health empowerment theory and is designed to build self-capacity, social networks, and social service utilization as a basis for identifying and creating needed resources to promote purposeful participation in the attainment of health goals and associated well being. Health empowerment is expressive of a human health pattern of well being and is viewed as a relational process that emerges from the recognition of personal resources and social contextual resources. This process facilitates purposeful participation in the attainment of health goals and the promotion of individual well being.

Methods: The research design was a 2 (intervention and attentional comparison) X 3 (baseline, 6 weeks, and 12 weeks) randomized controlled trial. Homebound older adults were randomly assigned to either the intervention group or attentional comparison group. The intervention group received the 6 week in home HEI, while the attentional comparison group received a newsletter once a week for 6 weeks focusing on health and safety issues relevant to older adults.

Results: Fifty-nine older adults participated in the study (32 intervention; 27 attentional comparison). Repeated measures analysis of variance was used to evaluate HEI preliminary effects on the theoretical mediating variables of health empowerment and purposeful participation in goal attainment and the outcome variable of well being. There was a significant group by time interaction in goal attainment ($F=3.69$, $p=.03$). There was a significant difference between the intervention group and attentional comparison group at 6 weeks and 12 weeks for goal attainment. There were also significant differences between the groups for well being, but only for those who were older: where there was a significant increase in well being between 6 and 12 weeks ($F=6.47$, $p=.01$).

Implications: The HEI helped homebound older adults reach their goals, which ultimately may prevent or delay the need for institutionalization.

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STUDENTS CREATE VIDEO ON FALL PREVENTION FOR OLDER ADULTS IN THE COMMUNITY

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Purpose: This presentation describes a health promotion project completed by senior baccalaureate nursing students in their synthesis practicum that addressed fall prevention for older adults in living in the community.
Background: As the US population ages, the problem of older adult falls is expected to increase. Each year, one in three older Americans (65 and older) fall, and 30 percent of falls cause injuries requiring medical treatment. Direct medical costs related to falls in the US are nearing 20 billion (CDC, 2000). As the baby boomer cohort ages, injuries from falls will unavoidably increase demands on our already stressed health care system. Falls can be prevented and risk for falls should be assessed by nurses working with older adults.
Brief Description: Nursing students at Seattle Pacific University, with faculty support, produced an 8 minute video on fall prevention titled: "The Good News About Fall Prevention." The video was designed to be used for both public and professional education and was based on the four fall prevention measures in the Center for Disease Control (CDC) brochure "What You Can Do to Prevent Falls." The fall prevention measures addressed were the need for exercise, home safety, review of medications, and vision exams. The video was made available for viewing and downloading from the Seattle Pacific University website http://spu.edu/depts/hsc/fallprevention/fall_prevention.asx. In 10 short weeks, students worked with older adults conducting interviews and focus groups and collaborated with professionals to edit and produce the video.
Outcomes Achieved: The video was utilized by many community partners/agencies during Washington State's Fall Prevention Awareness events in 2008. The video was added to the State of Washington's website, including the Department of Health, Injury, and Violence Program. Permission to use the video in various hospitals, clinics, and home health agencies was granted. The National Council for Aging and CDC also viewed the video and passed the viewing information on to their national network of organizations.
Conclusions: The creation of an 8 minute video on prevention of falls by 5 senior nursing students in their synthesis practicum shows that nursing students not only can integrate the pieces of information surrounding gerontology but develop interventions to promote health in the community. The fact that this video was mentioned in one of the New York Times articles in September, 2008 reflects that the nursing students' education in gerontology can have relevance and impact for older adults in the community.

DYADIC INTERVENTION: EFFECT ON SELF-EFFICACY, FUNCTIONING, AND ANXIETY IN OLDER ADULTS

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Background: Older adults (>65 years) are projected to reach 70 million in 2030; about 70% of them will have osteoarthritis (OA). A major advance in the treatment of OA is total joint replacement (TJR), which accounted for half the total hip and 85% of total knee replacements in 2001. For older adults, improved functional independence and reduced anxiety/depression are desired outcomes post-TJR surgery. Dyadic intervention (DI) as an innovative and low-cost approach is in line with the *Healthy People 2010*, guidelines because it addresses ways that TJR patients can increase their self-efficacy (SE) in performing post surgery activities, which can ultimately boost their ability to gain a better state of physical and mental status, in other words, "helping patients help themselves."

Purpose: To determine the effect of interaction between individuals undergoing TJR surgery (experimental group) and those who have had the surgery (dyadic support). Patients were compared to those facing the same surgery without dyadic support (control group).

Theoretical/Conceptual Framework: Social Cognitive Theory framework emphasizes SE based on the Bandura's triadic reciprocal causation: behavior, person, and environment. Dyadic intervention utilizes the four principles of SE concept (role modeling, verbal encouragement, knowledge/experience, and feedback).

Methods: Research design was interventional, prospective, randomized, pre/post-test, single-site study. Independent variable: dyadic support; dependent variables: perceived SE, physical functioning, and anxiety/depression post TJR surgery.

Sample: Fifty-five men and women, first time joint replacement surgical candidates, 65+ years old, with OA diagnosis. Inclusion criteria: free from acute disease, must have attended preoperative teaching class. Patients were recruited from preoperative teaching class one-three weeks prior to surgery. Dyads were recruited from the volunteer community members, 55+ years old, former TJR patients of at least six months ago, not to exceed five years. Both groups of research participants had to be able to read and write English.

Instruments: Western Ontario McMaster Arthritis Canada (WOMAC), Hospital Anxiety/Depression Scale (HADS), and Self-Efficacy Scales (SER; SES).

Results: With an alpha at 0.05 and power at 0.80, paired t-test compared the pre- and post-test results, indicating a statistically significant reduction from pre to post scores in both groups with all four outcome indicators (DV); ANOVA with repeated measure used to test the effect of interaction between time and treatment (DI). Findings indicated a non-significant difference in the reduction of all four indicators postoperatively, therefore failing to reject the null hypotheses.

Implications for Nursing Practice/Future Research: Nursing plays a significant role in determining the society's approach to future care of its older populations, particularly in relation to economic constraints and resource utilization. By integrating DI into practice, patients can improve and expedite the outcome of their recovery post TJR surgery.

Funding sources: Nurse's Educational Funds, Sigma Theta Tau, AORN.

INTERVENTIONS TO PROMOTE HEALTH IN THE COMMUNITY

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RCT OF THE EFFICACY OF SILVER NANOPARTICLE GEL AGAINST BACTERIAL HAND FLORA

Michael Schlicher

FATIGUE-RELATED GENE ASSOCIATIONS IN CD14 CELLS OF HIV/AIDS PATIENTS AND CONTROLS

Joachim Voss, Adrian Dobra, Caryn Morse, Joseph Kovacs, Carolea Logun, Robert Danner, Joe Adelsberger, Peter Munson, Zoila Rangel, Marinos Dalakas

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PREMATURE CORONARY ARTERY DISEASE IN DEPLOYED US MILITARY MEN

Leigh McGraw, Barbara Turner, Kathleen Dracup

SLEEP DISTURBANCE IN PATIENTS WITH HEAD AND NECK CANCER RECEIVING RADIATION THERAPY

Maria Cho, Marylin Dodd, Kathryn Lee

RCT OF THE EFFICACY OF SILVER NANOPARTICLE GEL AGAINST BACTERIAL HAND FLORA

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Problem: The hands of health care workers (HCWs) are the leading cause of health care associated infections (HAIs) in the United States. Effective hand hygiene has been identified as the most important measure to prevent the transmission of microorganisms from the hands of HCWs and reduce HAIs. Alcohol hand gels have been recommended, yet limitations remain, such as lack of persistent antimicrobial protection. Silver nanoparticles may offer an alternative; however, the immediate and persistent antibacterial efficacy of silver nanoparticles and user acceptability of nanosilver hand gel was unknown.

Aims: The aim of this study was to test the efficacy of a novel silver nanoparticle gel compared to an alcohol-based hand gel on both immediate and persistent antimicrobial activity obtained from artificially seeded hands. A comparison of user acceptability of the test gels was also sought.

Design: A randomized, controlled, double blinded, design was used to compare the efficacy and acceptability of alcohol gel versus silver nanoparticle gel in adult volunteers.

Methods: The study consisted of two phases: a methods development phase and a testing phase. Enrolled subjects began by completing a one-week washout period prior to hand sampling. Baseline bacterial samples were obtained from artificially seeded hands using a modified glove juice technique. For immediate efficacy, hands were seeded, gel was applied for one minute, and samples collected. For persistent efficacy, the gel was applied for 10 minutes followed by artificial seeding and sample collection. Subjects completed a 4 item questionnaire on gel acceptability. Data analysis consisted of paired and unpaired t-tests.

Results: For immediate efficacy, the alcohol hand gel produced ≥ 3.0 $\log_{10}$ reduction in CFUs while the silver nanoparticle gel produced ≤ 1.5 $\log_{10}$ reduction. For persistent efficacy, the silver nanoparticle gel produced ≥ 2.0 $\log_{10}$ reduction CFUs, while the alcohol hand gel produced ≤ 1.6 $\log_{10}$ reduction. User acceptability was more favorable for the alcohol gel group.

Conclusions: Alcohol-based hand gel was most efficacious for immediate bacterial reduction after a one minute application, whereas silver nanoparticle gel was more efficacious for bacterial reduction after a 10 minute persistent exposure. Further investigation is warranted to test silver nanoparticle gel as a persistent antibacterial therapeutic.

FATIGUE-RELATED GENE ASSOCIATIONS IN CD14 CELLS OF HIV/AIDS PATIENTS AND CONTROLS

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Purpose and Aims: Our purpose was to study gene associations in monocytes of ART-treated fatigued and non-fatigued HIV patients compared to healthy controls using an oligonucleotide mitochondria-specific gene expression microarray that contained 4,712 probe-sets. Our aim was to discover how HIV status and subjective fatigue severity relate to gene expression pathways of mitochondria-related genes.

Background: Fatigue is a debilitating symptom that affects a high proportion of HIV/AIDS patients throughout their illness trajectory. Defining features of fatigue include consistent or episodic tiredness and exhaustion for more than six months, which are not resolved by sleep and rest. Progressive fatigue leads to declines in physical, emotional, and social functioning and contributes to job loss and lack of adherence to antiretroviral therapy (ART). Mitochondrial dysfunction caused by HIV itself or ART may be related to the extent of fatigue experienced by HIV patients.

Methods: We collected CD 14+ cells via Dynabead Monocyte Negative Isolation kit from existing apheresis samples of 5 healthy, 6 fatigued, and 6 non-fatigued HIV patients. Cells were sorted and bead purified to 98% purity and RNA was extracted using standard methods. To reduce variability of initial RNA yield, RNA was one-round amplified and reverse transcribed with a biotin-enhanced single-round amplification kit. Data were analyzed using dependency networks for genome-wide data. The raw expression data were background corrected and normalized using GC Robust Multi-array Average. After the removal of 112 control probes included on the Affymetrix custom chip, the resulting dataset was comprised of 4,712 probes with 12 cases and 5 controls.

Results: In comparing the 12 cases (HIV+) and 5 controls (HIV-), we identified 33 genes with posterior inclusion probabilities greater than 0.01. We then sought to identify a dependency network involving these 33 genes and HIV status. The logistic regressions identified for HIV status in the dependency network classified all 17 samples correctly.

In a similar analysis comparing the 6 patients with low fatigues scores (0-3) to those with high fatigue scores (4-10), we identified 33 different genes with posterior inclusion probabilities greater than 0.01. We again sought to identify a dependency network involving these 33 genes and fatigue status. The logistic regressions identified for fatigue status in the dependency network classified all 12 samples correctly. These prediction results hold when we do leave-one-out cross-validation. We have identified 27 genes related to fatigue (two of which are associated with the function of the inner mitochondrial membrane) and 33 genes related to HIV status (three of which are associated with the Krebs cycle function). We confirmed these results with real-time polymerase chain reaction experiments for six genes.

Implications: Novel liquid association techniques assisted us in potentially identifying relevant associations between mitochondrial genes and subjective ratings of fatigue in HIV patients which will need to be verified in an independent data set. Understanding the basic biological mechanisms of fatigue might allow us to design new behavioral and pharmacological interventions and possibly monitor the effectiveness of these novel treatments.

PREMATURE CORONARY ARTERY DISEASE IN DEPLOYED US MILITARY MEN

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Purpose: To assess cardiovascular (CV) risk factors and socioeconomic status in military men deployed in support of the Global War on Terror with premature coronary artery disease (CAD).

Background: Young military men are regarded as the epitome of health and fitness, yet little is known about the major CV risk factor profile or socioeconomic status of those with premature CAD who are deployed overseas in the Global War on Terror.

Methods: This descriptive study includes military men <55 years deployed in the Global War on Terror evacuated for definitive treatment of acute coronary syndromes (ACS) (N=85). Records were identified using International Classification of Diseases-9 codes at a US military medical center in Germany. Demographic information and major CV risk factors were obtained from medical records. Rank was utilized as a surrogate marker for socioeconomic status.

Results: Demographic and clinical characteristics are reported using descriptive statistics. The average age of subjects was 42.5 years ($\pm$ 6.2; range 29-54). Of the 85 subjects, 82.4% had an acute myocardial infarction and 17.6% had unstable angina. Major risk factors in the sample included 41% with a family history of premature CAD and 49% classified as current smokers. Past medical history of hyperlipidemia, hypertension, and glucose abnormalities were noted in 37.6%, 24.7%, and 4.7%, respectively. Average total cholesterol was 177 mg/dl ($\pm$ 44), low density lipoprotein cholesterol was 120 mg/dl ($\pm$ 41), high density lipoprotein cholesterol was 34 mg/dl ($\pm$8), triglycerides were 149 mg/dl ($\pm$ 75), and total cholesterol/high density lipoprotein cholesterol ratio was 5.4 ($\pm$ 1.6). Fasting blood sugar was 101mg/dl ($\pm$ 32), mean systolic blood pressure was 123 mmHg ($\pm$ 16), and mean diastolic blood pressure was 76 mmHg ($\pm$ 12). While the sample was overweight (mean BMI 28.0 kg/m^2 $\pm$ 3.2), their Framingham risk score was 7.1% ($\pm$ 3.7), or "low risk" for ACS. Most of the participants were enlisted personnel (80%) and reservists (54%).

Implications: Report of CV risk factors and socioeconomic status in deployed US military men with a definitive diagnosis of premature CAD does not exist. Identification of risk factors associated with premature CAD can lead to policy changes on CV risk surveillance programs and risk management in young military men, especially prior to an overseas deployment. Findings from this study suggest that most military men with premature CAD are of lower socioeconomic status and require counseling about smoking cessation, weight management, and improving dyslipidemia.

This study was funded in part by the American Academy of Nurse Practitioners Foundation (Uniformed NP Association 2007 NP Doctoral Dissertation Research Grant), the American Nurses Foundation (2007 Sayre Memorial Fund Scholar), and the UCSF Graduate Dean's Health Sciences Fellowship.

SLEEP DISTURBANCE IN PATIENTS WITH HEAD AND NECK CANCER RECEIVING RADIATION THERAPY

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Purpose/Aims: To measure sleep disturbance in head and neck cancer (HNC) patients during radiation therapy (RT) and follow up (i.e, 1st week, 3rd week, end of RT week, and one-month follow up), and its association with depression, fatigue, and daytime sleepiness.

Rationale/Conceptual Basis/Background: Sleep disturbance in head and neck cancer patients undergoing radiation therapy has been understudied. It is not known whether HNC patients experience sleep disturbance during and/or after RT and whether there is a correlation with other prevalent symptoms such as fatigue and depression in cancer patients. Three P Model (predisposing, precipitating, and perpetuating factors) was used as a framework of the study.

Methods: A longitudinal repeated measure design was used to recruit 38 HNC patients in an outpatient radiation oncology clinic. Subjects were asked to fill out the self-report General Sleep Disturbance Scale, Epworth Sleepiness Scale, CES-Depression, and Lee Fatigue Scale, at four time points. Internal consistency of all instruments ranged from 0.79 to .86. Descriptive statistics, Pearson correlation, and mixed effects for overall differences over time were used.

Results: HNC patients experienced sleep disturbance at the beginning of RT, and its severity did not change at each time point. The rate changes of sleep disturbance, depression, daytime sleepiness, and fatigue were not significantly different over time. Patients experienced the worst sleep disturbance, depression, and fatigue at the end of RT with less sleep disturbance, depression, and fatigue at one month after radiation therapy. The magnitude of associations between sleep and depression ($.42<r<.64$, $p<.01$), fatigue ($.61<r<.75$, $p<.01$), and daytime sleepiness ($.42<r<.64$, $p<.05$) were moderate and positive at all time points except for daytime sleepiness at the end of RT ($r=.23$).

Implications: HNC patients experienced sleep disturbance-related depression, fatigue, and daytime sleepiness at the beginning of RT. Severity of symptoms increased at the end of RT. At one month follow up, severity of symptoms returned to beginning of RT levels. It is important that health care professionals anticipate the prevalence of these symptoms in HNC patients and provide appropriate early intervention.

Research Funding: Oncology Nursing Foundation

ISSUES IN MENTAL HEALTH

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ADHERENCE AND QUALITY OF LIFE IN SERIOUS AND PERSISTENT MENTAL ILLNESS

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DEPRESSION AND DEPRESSION PREVENTION DISCOURSES AMONG TAIWANESE OLDER ADULTS

Li-Ching Lu

SLEEP DISTURBANCE AND PTSD SYMPTOMS IN INJURED SERVICE MEMBERS

Mona Bingham, Stacey Young-McCaughan, Christine Miaskowski

PREDICTORS OF MEN'S DEPRESSION AND GRIEF AT ONE YEAR AFTER MISCARRIAGE

Kristen Swanson, Danuta Wojnar

RISKS FOR ELEVATED PTSD SCORES AMONG DEPLOYED MILITARY PERSONNEL

Paul Lewis

MEN NAVIGATING INWARD AND OUTWARD THROUGH DEPRESSION

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ADHERENCE AND QUALITY OF LIFE IN SERIOUS AND PERSISTENT MENTAL ILLNESS

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Purpose/Aims: In previously reported data (Cook et al., 2008), persons with serious and persistent mental illness (SPMI) had improved medication adherence and less emergency department (ED) use after a nurse telehealth intervention. The purpose of this secondary analysis was to determine whether these patients also had improved quality of life (QOL).
Background: Although atypical antipsychotic medications reduce the cost of care for persons with SPMI, and many organizations attempt to promote adherence to these treatments, the relationship between medication adherence and QOL for persons with SPMI has rarely been studied. Some consumer advocacy groups ask whether medications for SPMI are over-used, and adverse treatment effects may be a concern. But use of medication may also help consumers self-manage the symptoms of SPMI. It is therefore of interest to determine whether better adherence also impacts consumers' QOL.
Participants: Persons with SPMI (N=210) were recruited from a Medicaid health plan administered by Centene Corporation, and 51 enrolled in a telehealth nurse counseling service. Eligibility criteria were: (a) health plan membership, (b) age $\geq$ 18, and (c) had received a prescription for an atypical antipsychotic medication in the prior six months.
Methods: The current analysis considered pre-post change for participants who received the study intervention; no QOL data were available for the original study comparison group. Participants received an initial call from a program nurse, who screened for adherence risk factors and provided information and support. Follow-up calls from the same nurse over the next several months (M=3.2 calls per participant) reinforced initial messages and addressed additional barriers to adherence using cognitive-behavioral and motivational interviewing strategies. If patients required medical follow-up, their health plan case manager was notified and helped to coordinate needed services. QOL was measured at pre- and post-treatment, and at each call nurses documented patients' reported symptoms of SPMI and adverse events as these related to adherence.
Results: Participants' initial scores on the QOL measure were similar to those of outpatients with SPMI in a community sample of homeless individuals. Fifty percent of participants were adherent. Reported adverse events and breakthrough symptoms of SPMI were rare, and were not statistically related to adherence. In line with reported improvements in adherence and ED utilization, repeated-measures t-tests also showed improvement on four QOL items. Although only one of these changes was statistically significant (Perceived Quality of Life, p=.04), improvements in the Activities of Daily Living, Employment, and Social Support domains each approached significance (ps=.12-.16). A measure of Mental Health Symptoms did not show any change, p=.41.
Implications: In addition to improving treatment adherence, telehealth nursing has the potential to improve some QOL metrics for SPMI, with few reported adverse effects. Given power limitations in the current study, additional research is recommended on the relationships between treatment adherence and QOL in SPMI.

Reference: Cook, P.F., Emiliozzi, S., Waters, C., & El Hajj, D. (2008). Effects of Telephone Counseling on Antipsychotic Adherence and ED Utilization. *American Journal of Managed Care.*

DEPRESSION AND DEPRESSION PREVENTION DISCOURSES AMONG TAIWANESE OLDER ADULTS

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Purpose: The purpose of this study was to describe how Taiwanese older adults view depression and depression prevention and to critically evaluate how their accounts about depression and depression prevention are shaped by the Taiwanese social and cultural contexts.
Background: Depression is a common and internationally recognized mental health problem in older adults. In spite of the worldwide shared awareness of depression, there is no universal agreement on the way of conceptualizing depression. Literature shows that there is a discrepancy in conceptualizing depression between Western biomedicine and Chinese discourse. There is no equivalent word for depression in many languages and no linguistic equivalence for the concept of depression. Although the word *depression* may be translated into different languages, such as *you yu jheng* in Chinese and is widely circulated in the public media, little is known about how Taiwanese older adults make sense of depression and what they need for managing and preventing depression.
Methods: This is a critical discourse analysis (CDA) study design. CDA is a set of methodological approaches to study the relationships between language and society. It enables this study to explore how the knowledge of depression among Taiwanese older adults is constructed and used in social interactions and to examine how the macro level of social practice influences the construction of discourse. A purposive sample of 28 community-dwelling older adults without a diagnosis of depression was recruited from 7 communities in northern Taiwan. Data was collected through in-depth individual interviews. All interviews were digitally recorded and transcribed verbatim and analyzed using CDA to examine how participants talked about depression, how they positioned themselves in the talk and what rhetorical moves they made in their talk.
Results: Most older adults reported that they had heard about the word d*epression* but did not understand what *depression* exactly meant. The ways in which older adults constructed accounts of depression and depression prevention reflected the Chinese cultural value of harmonious relationships between the individual and his/her significant social groups.
Depression was conceptualized as the consequence of obsessive thoughts about issues related to descendents and others' evaluation. Obsessive thoughts were perceived to result from imbalance of the individual's mind and changes of traditional Chinese family structure and values in society. Older adults produced themselves as in the position of vulnerability relative to the changes in society meanwhile they viewed themselves as accountable for adapting to the changes. Depression was conceptualized as a preventable phenomenon when an individual assumed responsibility of increasing physical and social activities to maintain a state of balance between his/her mind, body and the society.
Implications: The study findings informs researchers, health care providers, and policy makers about how Taiwanese older adults shape accounts about depression and depression prevention in light of Chinese family values, interpersonal relationships, and social integration. Attending to all accounts of depression may help extend our gaze beyond a focus on the Western biomedical discourse that keeps marginalizing the broader social and cultural factors that contribute to depression. Recognizing depression as a consequence of social and contextual issues rather than an individual problem may reveal the subtle ways culturally sensitive and contextually relevant depression prevention programs can be generated.

Funding: This study was partially supported by the University of Washington School of Nursing McLaws Nursing Research Award.

SLEEP DISTURBANCE AND PTSD SYMPTOMS IN INJURED SERVICE MEMBERS

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Purpose/Aims: To assess sleep disturbance and post-traumatic stress disorder (PTSD) symptoms in injured Service Members with extremity trauma sustained during service in Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF). Aims were to determine the prevalence and characteristics of sleep disturbance in these injured Service Members, and to compare the differences in sleep quality between those with PTSD symptoms and those without PTSD symptoms.

Background: As of 2006, more than 8,500 troops have been wounded in action and not able to return to duty as a result of OEF/OIF. While a much greater percentage are surviving, new challenges face these individuals and the medical personnel caring for them. Those injured face the prospect of repeated surgeries, long recoveries, multiple complications, and psychological challenges associated with making sense of their service and injury. This study examines factors that may affect recovery using Roy's Adaptation Model as a conceptual framework.

Methods: This prospective descriptive study examined baseline data for 85 Service Members who are part of a longitudinal study. Service Members were recruited as they were discharged from inpatient hospital care. The General Sleep Disturbance Scale (GSDS) was used to measure sleep quality and the PTSD CheckList – Military Version (PCL-M) was used to assess PTSD symptoms. Descriptive analyses were used to characterize the prevalence and characteristics of sleep and PTSD symptoms. Independent t-tests were used to evaluate group differences in sleep and PTSD. All but one were male (n=84, 99%). Ages ranged from 19 to 47 (mean=26.5, ±5.6). Most were active component (n=76, 89%), injured in Iraq (n=74, 87%) and Army (n=70, 82%) or Marines (n=11, 13%). Forty-five (53%) had primarily orthopedic injuries (including 30 who had undergone one or multiple amputations), 36 (42%) had primarily burn injuries, and 4 (5%) had a combination of both orthopedic and burn injuries.

Findings: Sleep disturbance for 3 or more nights/week were reported by 66% (n=57); the most frequent sleep disturbance characteristics were decreased quality of sleep ((95%, n=53) and awakenings in mid-sleep (95%, n=53). Other characteristics included trouble initiating sleep (89%, n=50), early awakenings (86%, n=48), and decreased quantity of sleep (71%, n=40). Significant PTSD symptoms (PCL-M scores $\geq$ 44) were found in 22 of the injured Service Members (26%). As compared to Service Members without PTSD symptoms, those Service Members with symptoms reported significantly poorer sleep quality (p=0.00), more difficulty initiating sleep (p=0.02), daytime sleepiness (p=0.00).

Implications: This initial assessment of these data found that over half of these injured Service Members report sleep disturbance for 3 or more nights per week. The description of specific characteristics is valuable to begin to understand and treat sleep disturbance. Future studies should focus on in-depth analyses of the relationship between sleep characteristics and PTSD symptoms in order to determine pathways and targets for effective interventions to improve the long term health for our injured Service Members.

Funding: Department of Defense TriService Nursing Research Program N05-P07

PREDICTORS OF MEN'S DEPRESSION AND GRIEF AT ONE YEAR AFTER MISCARRIAGE

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Aims: The purpose of this theory-testing exploratory investigation was to describe the predictors of men's depression and grief at one year after miscarriage.
Rationale: Qualitative studies provide evidence that miscarriage takes its toll on men. Men have been described as experiencing a deepened awareness of the fragility of life, the loss of their family's hopes and dreams, and a strong sense of vulnerability and powerlessness to help their mates.[1] Immediately after miscarriage while men have lower active grief scores than their spouse, they have somewhat higher difficulty coping and despair scores.[2] This pattern has been found to predict higher grief scores at two years after loss.[3] Little is understood about the ways in which the context of miscarriage impacts men's appraisal, coping, and emotions after miscarriage.
Methods: The theoretical framework for this secondary analysis of data from the Couples' Miscarriage Healing Project (CMHP) was the Lazarus Stress and Adaptation Model. Factor analysis and a five stage path analysis were employed. All data were gathered via mailed surveys. Stage I factored variables (loss context), were gathered 1 month after loss and included: stability (financial and personal maturity), mental health, time to conceive, pregnancy length, father involvement in the miscarriage event, treatment (from CMHP), prior loss, relationship quality, and obstetrical provider caring. Stage II (context at one year) included: emotional strength, satisfaction with support of others, mate communication, concurrent stressors, and pregnant again. Stage III (appraisal) focused on the Personal Significance of Miscarriage. Stage IV (reappraisal) included active and passive coping. Stage V (emotional responses) included depression (CESD) and pure grief. All measures demonstrated adequate internal consistency.
Results: The Adjusted R^2 for depression was .546. The strongest predictors of depression were emotional strength (β=-.55); mate communication (β=-.18); passive coping (β=.18); concurrent stressors (β=.14); and pregnant again (β=-.09). Variables which indirectly impacted depression included stability, mental health history, relationship quality, time to conceive, and father's involvement in the miscarriage event. The Adjusted R^2 for pure grief was .541. The strongest predictors of grief were personal significance of miscarriage (β=.62) and passive coping (β=.14). Variables which indirectly impacted grief included mental health history, pregnancy length, and emotional strength.
Implications: Men's appraisal of miscarriage as meaningful predicted higher grief at one year. Depression at one year was more closely aligned with low emotional strength, poorer communication with their mates, a tendency to cope passively, stressful life circumstances, and failing to conceive again. Perhaps men's depression after miscarriage reflects a failure to directly deal with the loss. Alternatively, depression at one year may be due to life circumstances beyond the miscarriage.

References: [1] Speraw SR. J Perinatol. 1994;14(3):208-215. [2] Puddifoot JE, Johnson MP. J Reprod Infant Psychol. 1999 Feb;17(1):89-93. [3] Lasker JN, Toedter LJ. Am J Orthopsychiatry. 1991;61(4):510-522.

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RISKS FOR ELEVATED PTSD SCORES AMONG DEPLOYED MILITARY PERSONNEL

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Purpose/Aims: The purpose of this study was to evaluate the effect of an extended deployment on a post-traumatic stress disorder scale and determine if any predictors existed which might assist in predicting which soldiers would experience difficulties during a deployment.

Background: The incidence of Post-Traumatic Stress Disorder (PTSD) among soldiers returning from the combat zone has prompted researchers to explore the possible causes. Richardson, Naifeh, and Elihai (2007) found that of the 1,016 male veterans surveyed, 10.92% had PTSD Checklist (PCL) scores greater than 50% for those deployed once and 14.4% for those deployed more than once. Rona (2007) surveyed 5,547 members of the British military and found that deployment beyond 12 months in a 36 month period resulted in psychological symptoms and problems once they returned and that staying deployed for longer than expected resulted in greater incident of PTSD symptoms. With the US military deploying frequently and for long periods of time, determining possible contributing factors to post-deployment PTSD may allow programs to alleviate and possibly remove some of the stressors that lead to PTSD among deployed service members.

Method(s): Cross-sectional descriptive study. Framework and guidance for this process was provided by the framework of post-traumatic stress. The Soldier Wellness Survey was offered to all combat support hospital personnel at month 12 of their deployment in electronic or paper format. All survey responses were anonymous**.** The Soldier Wellness Survey was designed with six groupings of questions which include demographics, deployment history, diversions, health behaviors, safety, and family concerns.

Results: The average age of the respondents was 31.3 (± 7.97) years old with slightly over half (55%) being male. The rank of the respondents included 41% NCO (E5-E8), 25% junior enlisted (E1-E4), 23% junior officer (O1-O3), and 11% senior officer (O4-O6). The majority were married (66%) and most of those having children at home (48%). The dependent variable for this study, PCL-M, was a continuous variable with a range of 17 to 73 and a mean of 33.3 (SD 12.7). The PCL-M score was either weakly or moderately and significantly correlated with 12 items in the Soldier Wellness Survey representing at least one question from each grouping of questions. Using a stepwise linear regression entering the 12 significant items, 63% of the variance in the PCL-M scale was explained with only 5 variables in the final model. Difficulty sleeping explained the most variance (42.2%) followed by taking sleep medications (11.1%), the feeling of not being safe (5.4%), the length of the previous deployment (3.4%), and concern over family issues (3.2%).

Implications: This model would seem to indicate that difficulty sleeping and the need to take sleep medication may be one of the early markers of psychological stress and PCL-M scores elevation. This would be a key indicator for deployed leaders to be able to target those individuals who may be experiencing deployment related stress and intervene to decrease the soldier's stress and anxiety. The ultimate goal would be to intervene and alleviate the symptoms early enough to potentially avoid the development of post-deployment PTSD.

MEN NAVIGATING INWARD AND OUTWARD THROUGH DEPRESSION

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Purpose: The purpose of this study was to uncover the basic social and psychological processes of men who are living with depression. The outcome of the study resulted in the development of a substantive theory.
Background: Previous studies that have investigated men and depression identified that men have an increased vulnerability to depression because men tend to be unidentified, under diagnosed, and untreated for depression. Men who are suffering from depression may be under diagnosed because they present to their health care provider symptoms that may mask depression such as fatigue, irritability, substance abuse, aggression, or other somatic complaints.
Method: This was a qualitative study using grounded theory methods. After receiving full IRB approval and voluntary consent from 9 participants, an interview was conducted with each man, with two men participating in a second interview for member checks. The interviews were audio taped and transcribed into a word document and analyzed by the researcher. Data quality was maintained.
Results: The process of navigating was the core concept and defined as a process of moving through depression and having to steer one's life in different directions in order to move in and out of the stages of depression. The first stage was: *Being Different.* In this stage the men attempted to share their feelings, but were constantly rejected by society and came to believe that nobody cared or nobody would understand their feelings. The second stage, *Concealing Feelings,* refers to how the men learned to navigate out of stage one and into stage two of learning to hide their internal feelings and thoughts. The third stage, *Disconnecting,* was defined as the way the men would numb their emotional pain. As their emotional pain became more intense, the concealing no longer worked. The men used external behaviors to physically numb their pain. The fourth stage, *Hitting Bottom,* refers to the men losing hope for their future and wanting to give up on life. The men had thoughts of suicide or thoughts that death would be an option to relieve the emotional pain. The fifth stage, *Acknowledging and Confronting,* refers to the ability to acknowledge they were depressed and understand how depression was affecting their lives. The sixth stage, *Healing With Others*, refers to the point the men were able to share their thoughts and feelings with other and began to heal with others by sharing their experiences.
Implications: These findings provide implications for both assessing and treating men with depression. This study will provide nurses and other health care providers with the clinical knowledge necessary for early detection of depression among men who are vulnerable to the associated health risks and predict the health consequences of depression. Future research will be needed to test interventions to assist men to navigate through depression more rapidly receiving the treatment needed.

ISSUES IN MOTHERING VULNERABLE INFANTS

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EXPLORING FOOD INSECURITY AMONG YOUNG MOTHERS (15-24 YEARS) WHO ARE HEADS OF HOUSEHOLDS

Christine Stevens

MATERNAL USE OF MOOD DISORDER MEDICATION PREDICTS THE OCCURRENCE OF PRETERM BIRTH

Gwen Latendresse

DEPRESSIVE SYMPTOMS IN MOTHERS OF 3 YEAR OLD PREMATURELY BORN CHILDREN

Maryann Bozzette, Diane Holditch-Davis

EXPLORING FOOD INSECURITY AMONG YOUNG MOTHERS (15-24 YEARS) WHO ARE HEADS OF HOUSEHOLDS

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Purposes/Aims: The purpose of this study was to explore the experience of food insecurity in young mothers (15-24 y/o) who are heads of households. The specific aims of this proposal were to (1) describe the prevalence of food insecurity in a pilot sample of young mothers who are heads of households, (2) identify factors that young mothers describe as contributing to food insecurity, and (3) describe strategies that young mothers employ to plan for and manage food insecurity.
Background: Food insecurity can contribute to health disparity in young women (15-24) who are single head of households with children in two ways. First, the stress of food insecurity can lead to compounding issues of depression for these mothers. Secondly, food choices contribute to obesity, a leading cause of diabetes, heart disease, and early mortality. The young mothers need to stretch the food budget and buy food that can be filling and easily stored; many of their choices are among the inexpensive high fat, high carbohydrates foods. These young women have different individual experiences with providing food for their families, whether they receive federal assistance or not. Currently, there is a need to explore the reasons that the young women identify for food insecurity and the strategies that they use to address it.
Methods: This descriptive study utilized the food security survey (USFSS), which is an 18-item self-report questionnaire for assessing household food security. After the participants had completed this questionnaire, a semi-structured interview was conducted concerning factors contributing to food insecurity and coping strategies.
Results: Twenty-one young mothers (15-24) who were head of households and living with their children participated in the study. Findings indicate that each of the 21 women had food insecurity in the last 30 days, whether they had federal assistance or not. The results from the USFSS survey indicated that each of the participants fluctuated between low food insecurity with some days of food insufficiency for the mothers and other adults in the household. All the women reported that due to extensive strategies on their part that their children had marginal food insecurity.

The factors that contributed to food insecurity in the families of the young mothers were transportation, affordable food sources, stable affordable housing, and income. Ten out of the 21 lived in rural areas where the closest food source was a mini market or gas station market. Strategies that the young mothers used to address food insecurity were food banks, mother skipping meals so children could eat, and storing non-perishable foods in preparation for lack of income in the future.
Implications: These findings indicate that we need to move beyond the traditional ways of educating about diet and nutrition to address some of the structural barriers that influence food security and food choices. In this population, the choices about healthy food were constrained by affordable food sources, adequate income, transportation, and affordable housing.

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MATERNAL USE OF MOOD DISORDER MEDICATION PREDICTS THE OCCURRENCE OF PRETERM BIRTH

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Purposes/Aims: The primary aim of this study of 100 pregnant women was to identify which measures of maternal chronic stress have the strongest and most predictive relationships with preterm birth (PTB). Stress was operationalized by using one biological marker (corticotrophin-releasing hormone – CRH), as well as psychometric, demographic, and behavioral measures.

Background/Rationale: Despite four decades of intense research to decrease the rate of preterm birth, preterm birthrates have increased 31% since 1980. There is compelling evidence that chronic maternal stress contributes to the risk of preterm birth by instigating adverse pathophysiologic cascades during pregnancy. Capturing a comprehensive picture of chronic stress may be accomplished using a biobehavioral research approach that uses multiple measures, including biomarkers (corticotrophin-releasing hormone), psychometrics, and identification of medication use for mood disorders (i.e. depression and anxiety). While stress, depression, and anxiety are highly correlated, and 10-12% of women may be using medications to treat mood disorders during pregnancy, it is not clear how these medications impact mood during pregnancy, nor the risk of PTB.

Methods: Maternal blood samples were collected from one hundred women who were between 14 and 20 weeks of gestation. Eighty-five of these women also completed self-administered surveys. Samples were assayed by radioimmunoassay for CRH levels. Surveys assessed measures of stress, optimism, depression, coping style, anxiety, and social support, in addition to demographics and behavioral patterns (i.e. nutrition, physical activity, medication use), and domestic violence. Outcome data were obtained from labor and delivery hospital records.

Results: Associations were found between the occurrence of preterm birth and use of medications for mood disorders early in pregnancy (χ^2=13.485; p=.00) and at any time during pregnancy (χ^2=4.968; p=.08). Associations were also found between the occurrence of preterm birth and higher levels of pregnancy-related anxiety (χ^2=2.663; p=.10), as well as higher levels of CRH (χ^2=13.154; p=.00). Logistic regression identified one predictor (use of medications for mood disorders early in pregnancy) for preterm birth, indicating that these women are 10.5 times more likely (p=.002) to deliver a preterm infant than women who did not use such medications.

Implications: These results suggest that women with mood disorders (i.e. depression and anxiety) requiring medication, have a higher risk of preterm birth. While other studies have found associations between stress, anxiety, depression, and preterm birth, it is unclear whether medications for mood disorders alter the risk for preterm birth. Additional research on this issue could be illuminating.

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DEPRESSIVE SYMPTOMS IN MOTHERS OF 3 YEAR OLD PREMATURELY BORN CHILDREN

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Purpose: The purpose of this study was to examine the effects of maternal depression on mothers' perceptions of their 3 year old prematurely born children, interactive behaviors, and child outcomes.
Background: Mothers of premature infants have considerable anxiety and are at risk for developing depression. Prolonged emotional distress has implications for family dynamics, the home environment, and the type of cognitive enrichment the child receives. Maternal depression has shown negative effects on cognitive, emotional, and social development of children.
Methods: Maternal depressive symptoms were determined using the Centers for Epidemiology Studies Depression Scale (CES-D). Surveys were used to determine mothers' perceptions of their children. The quality of the home environment was determined using the Home Inventory. The children were assessed in clinics for cognitive status and language skills. Mother and child interactive behaviors were coded from direct naturalistic observations in their homes.
Results: The sample included 38 mothers and their 3 year old children. Elevated depressive symptoms were found in 18.8% of the mothers. Maternal education ($t(32)=2.00$, $p=0.05$) and being unmarried ($t(4)=4.07$, $p=.002$) were significantly related to maternal depressive symptoms. There were no significant differences in maternal perceptions of their children between depressed and non-depressed mothers, or in the assessment of the home environment. A number of behaviors observed during mother-child interactions were determined to be significantly related to depressive symptoms in the mother. A factor analysis revealed a single item of mother's touch and a construct of maternal involvement (Chronbach's alpha coefficient= 0.94) to be significantly affected by maternal depression. The factor solution for the 3 year old children revealed 4 factors affected by maternal depression: a single item of positive child mood, child cues (Chronbach's alpha coefficient=0.83), child activity (Chronbach's alpha coefficient=0 .58), and child play (Chronbach's alpha coefficient=0.83).
Implications: The effect of depressive symptoms was most evident in interactive behaviors between mothers and their 3 year old children. Exploratory factor analysis identified clusters of maternal and child behaviors that were significantly related to maternal depression. This study shows that mothers of prematurely born children may have depressive symptoms that continue into early childhood. Elevated depressive symptoms may negatively affect maternal-child interactions and subsequent development of these children.

This study was funded by NIH grant NR01894.

ISSUES IN NURSING ADMINISTRATION

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PERCEPTIONS OF NURSES' CARING BEHAVIORS BY FAMILY MEMBERS OF TRAUMA PATIENTS

Janice Hayes, Alison Merrill, Lory Clukey, Denise Curtis

INADEQUATE USE OF VENOUS THROMBOEMBOLISM PREVENTION GUIDELINES

Jung-Ah Lee, Brenda Zierler

IMPROVING MODERATE SEDATION PRACTICE WITH INTERACTIVE ONLINE NURSING EDUCATION

Alexa Doig

THE EMOTIONAL INTELLIGENCE OF NURSES: RETENTION AND PERFORMANCE

Estelle Codier, Cindy Kamikawa, Barbara Molina Kooker, Jan Schultz

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NURSING DIRECTORS' PERCEPTIONS OF NURSE MENTORING

Pamella Stoeckel

PERCEPTIONS OF NURSES' CARING BEHAVIORS BY FAMILY MEMBERS OF TRAUMA PATIENTS

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Purpose/Aims: To assess perceptions of nurses' caring among adult family members of traumatically injured patients.
Background: Nursing claims a fundamental moral commitment to caring. Some nursing theorists have posed that caring is the essence of nursing. Research on caring in trauma patients is minimal in the published literature. Research conducted on caring with injured and trauma patients have included patients that have fairly minor injuries leaving many questions about how caring is perceived in the more severely injured. This is the context of the current study of perceived caring in trauma patients. Nothing has been found in the literature on perceptions of caring by families in trauma, emergency, or intensive care situations. This is an important gap in the knowledge base. It is recognized that most nurses working in a trauma setting do a good job of managing the physical aspects of care but are less comfortable in responding to the needs of highly stressed family members. More and more this is becoming a nursing responsibility as budget cuts have reduced social work and chaplain support programs.
Methods: One hundred adult family members of moderately to severely injured trauma patients were contacted when they visited the patient in the hospital and were asked to participate. A modified version of the Caring Behaviors Inventory (Wolfe, 1084) was developed to focus on the family member's experience with the nurse. It consisted of 23 items rated on a Likert Scale of 1-3. Data collected on the instrument were triangulated with a qualitative arm of the study that used semi-structured interviews with a subset of the family members to establish validity. Factor Analysis and Cronbach's alpha were done on the Inventory.
Results: Family members rated the caring behaviors of the nurses very highly (M=2.8: range 1.91-3.0). The lowest rated items were assisting you to meet your religious or spiritual needs and knowing your likes, dislikes, and routines. The highest rated items were carefully listening to you, helping you to feel at home, helping you feel comfortable, and being pleasant with you. The instrument had internal consistency with a Cronbach's alpha of .988. The findings were consistent with the qualitative arm that concluded family members perceive communication and positive interpersonal communication as being caring and abruptness as being non-caring.
Implications: Family members of moderately to severely injured patients perceive nurses as caring and associate that with good communication about the patient. The modified Caring Behaviors Inventory is quick to use and is reliable and valid.

INADEQUATE USE OF VENOUS THROMBOEMBOLISM PREVENTION GUIDELINES

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Purpose: Venous thromboembolism (VTE) is one of the most common clinical disorders in hospitalized patients in the United States. The purpose of this study was to describe current practices on VTE prophylaxis in hospitalized surgical patients. **Background**: The evidence to support the use of prophylaxis to prevent VTE has been available for years, yet VTE remains a problem in hospitalized patients. The Centers for Medicare and Medicaid Services (CMS) in partnership with the National Quality Forum and the Joint Commission have developed measures for reporting VTE prophylaxis in hospitalized patients. Financial incentives and disincentives are also being provided by CMS as a mechanism to improve the reporting of VTE prophylaxis. In 2009, CMS will stop paying for VTE when it is acquired during a hospitalization. **Methods**: This study was a descriptive study to evaluate the current practice on VTE prevention. We conducted retrospective chart reviews on a random sample of 100 surgical inpatients at an academic medical center during a 6-month period. Inclusion criteria was adult inpatients (≥18) who underwent any major surgery (procedure time > 3 hours). The American College of Chest Physicians' 2004 Guidelines including surgical risk stratification and recommended prevention strategies were used to assess adequate use of VTE prophylaxis. VTE episodes were documented within 3 months after surgery.
Results: Approximately half of the eligible patients received pharmacologic prophylaxis (51%, 49/95). Among those, inadequate doses of prophylaxis were used in 45% (22/49) of the patients (over dosing in patients with moderate risk or under dosing in patients at highest risk). Neither pharmacologic prophylaxis nor mechanical compression devices were utilized in 9 eligible patients. In a 3-month follow-up of VTE episodes after surgery, 13 patients underwent a diagnostic study (venous duplex scanning on lower extremities or lung scanning) to rule out VTE and among those 11 patients received VTE prophylaxis. One patient who was diagnosed with pulmonary embolism did not receive any prophylaxis before or after surgery.
Conclusions: Preventive measures for VTE including both pharmacologic and mechanical prophylaxis were underused in patients undergoing major surgery. This study confirmed the inadequate use of prophylaxis in current clinical practice. The data from this study will be disseminated to providers, administrators, and the Patient Safety Committee. An effort to decrease the incidence of VTE through increasing appropriate use of VTE prophylaxis and assessment is ongoing.

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IMPROVING MODERATE SEDATION PRACTICE WITH INTERACTIVE ONLINE NURSING EDUCATION

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Aims: To evaluate a web-based education program for nurses who administer moderate sedation for invasive procedures such as endoscopies.
Background: Complications of moderate sedation administration include inadequate or over sedation, loss of airway, as well as drug induced apnea and hypotension. There is no universally accepted approach to educating clinicians in the safe and effective use of potent anesthetics used in moderate sedation. Therefore, a multimedia, web-based educational program for moderate sedation training based on American Society for Anesthesiologists and JCAHO guidelines was developed. Principles of Cognitive Flexibility Theory were used to design interactive education modules with nurses as the target audience. The modules developed for this Phase 1 project included a review safe practice guidelines, drug administration principles, as well as simulations for describing the complex pharmacokinetics and pharmacodynamics of commonly used analgesics and anesthetics.
Methods: Thirty-eight registered nurses were randomly assigned to one of two education groups. The only difference between the groups was the mode of training since both groups received the same didactic information. The control group received a booklet consisting of text and figures, while the experimental group received the web-based education program. Both groups were given pre-tests before and post-tests after completing the education session. Immediately following the post-test, an evaluation of nurse performance was conducted in a high fidelity patient simulator laboratory. In the simulator evaluation, nurses were asked to care for sedated patients undergoing procedures in four simulated scenarios. Dependent variables for the simulator evaluation included pre-test and post-test scores, as well as an observed performance score. The checklist for the performance score was developed by the investigators using a modified Delphi method. At the end of the simulations, nurses completed usability surveys and the NASA Task Load Index.
Results: There was an improvement from pre-test scores to post-test scores for both groups. Participants' composite performance scores from the Delphi checklists for the simulations were 118.6 ± 23.9 and 107.1 ± 22.1 for the online and didactic education groups, respectively ($t(74)=2.71$, $p<.03$). Post hoc analysis of time spent in the moderate sedation therapeutic window during the simulated endoscopic procedure was significantly longer for those trained in the computer-based group (17.0 ± 2.4 minutes versus 15.4 ± 2.4 minutes for the control group, $t(37)=1.86$, $p<.05$). No difference in mental workload during the simulations, as measured by the NASA Task Load Index, was found between groups.
Implications: Interactive web-based training can play an important role in promoting patient safety during procedures requiring moderate sedation. The web-based moderate sedation education improved nurses' understanding of drug pharmacology and safe moderate sedation practices. It appears that the nurses who received the interactive training modules, which included pharmacology simulations, were better able to translate their training into improved clinical performance. Web-based training, if implemented appropriately, is an advantageous mode of training because of the ability to target large numbers of nurses in a cost effective manner.

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THE EMOTIONAL INTELLIGENCE OF NURSES: RETENTION AND PERFORMANCE

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Purposes/Aims: The purpose of this quantitative study was to explore the relationship between Emotional Intelligence (EI) of nurses and organizational outcomes such as retention and performance.

Background: Emotional Intelligence, operationalized in this study by the four branch model of EI, consists of the following abilities: (1) the ability to perceive emotions in self and others, (2) the ability to use emotions to facilitate reasoning, (3) the ability to understand emotions in self and others, and (4) the ability to manage emotions in self and others. In professions outside nursing, plentiful research has demonstrated significant correlation between EI and positive organizational outcomes such as performance, organizational commitment, reduced burnout, and job retention. Little such research has been done in nursing. A pilot study in 2006 demonstrated evidence that clinical staff nurse performance correlated with EI (Codier, Kooker, & Schultz, 2008). Using the 4-branch ability model of EI, the present study was designed to replicate and expand upon the pilot study, using a population of 350 nurses from a wide range of roles beyond clinical practice nurses.

Methods: Using the MSCEIT, a rigorously tested instrument with high validity and reliability, nurses EI was tested and a range of organizational self report variables collected related to performance and job retention. Gender, ethnicity, specialty, role, etc. were correlated with EI.

Results: Total EI in clinical staff did not correlate with performance level, but sub score results did. Overall EI scores were higher than in the pilot study but descriptive analysis demonstrated similar patterns. Significant gender differences were not demonstrated. EI Scores of clinical staff and managers revealed variable correlations, and organizational outcomes such as reported commitment and anticipated length of anticipated employment differed among varying levels of performance.

Implications: To achieve improvement in clinical and organizational practice in nursing within the context of a challenging practice environment, new approaches are needed that specifically link performance outcomes with specific desired organizational outcomes such as improved commitment and organizational retention. The results of this study suggest that EI may provide a new architecture for understanding this crucial work across a wide range of roles and practice settings.

Codier, Estelle, RN, PhD, Kooker, Barbara Molina, DrPH, APRN, Schultz, Jan, RN, PhD. (2008) *Nursing Administration Quarterly (Lead article),* 32:1.

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NURSING DIRECTORS' PERCEPTIONS OF NURSE MENTORING

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Purposed/Aims: This paper reports the findings of a study that examined nursing directors' perceptions of nurse mentoring in their facilities. The literature reveals distinct differences in definitions of mentoring and how it is utilized. The study questions focused on nursing directors' perceptions of the concept of mentoring, and how and why it was implemented. Nursing directors' past experiences with mentoring were analyzed.

Rationale/Conceptual Basis/Background: With the current nursing shortage, mentoring is viewed as an approach to recruitment, retention, and empowerment of nursing staff (Valencia-Go, 2005). Bally (2007) noted that "Formal nursing management must understand the connections between mentoring and organizational culture; and emphasize the importance of mentoring in their work environments" (p. 145). The conceptual framework for the study utilized Bandura's Social Learning Theory, Benner's Novice to Expert, and Schön's Reflective Practice Theory.

Methods: The research design was a qualitative study that utilized the key informant approach as a means of gathering nursing directors' perceptions of nurse mentoring. Eight hospital nursing directors from a Western metropolitan city participated in in-depth interviews using open-ended questions to ascertain how they defined nurse mentoring, and how mentoring was operationalized in their facilities. Interviews were transcribed, analyzed, and coded for themes using a content analysis approach. Trustworthiness of the study was maintained through an audit trail, reflective notes, member checking, and peer review.

Results: Results of the study showed that nursing directors differ in their definitions of mentoring and how they operationalize mentoring in their facilities. Formal and informal mentoring relationships were found and were viewed differently. There was inconsistency in the use of the terms used to describe a mentor. They expressed positive attitudes about nurse mentoring, but expressed vague and ambivalent approaches to operationalizing mentoring. Past experiences with mentoring influenced directors' perceptions. Mentoring was not fully utilized as a method of recruitment and retention or as a support for associate degree nurses returning for a baccalaureate degree.

Implications: This study suggests that clarity in defining mentoring is needed in order to facilitate future research and effectively implement nurse mentoring programs.

Bally, J. (2007). The role of nursing leadership in creating a mentoring culture in acute care environments. *Nursing Economics,* 25(3) 143-149.

Valencia-Go, G., (2005). Growth and Access Increase for Nursing Students: a Retention and Progression Project. *Journal of Cultural Diversity*, 12(1).

ISSUES IN THE HEALTH OF CHILDREN & FAMILIES

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FISCAL BURDENS: FAMILIES OF CHILDREN WITH CHRONIC PULMONARY CONDITIONS IN A RURAL STATE

Marie Lobo, Patricia Marshik, Susie Kinyanjui

FACILITATED TUCKING: RELIEVING STRESSFUL RESPONSES IN JORDANIAN PRETERM INFANTS

Hala Obeidat, Lynn Clark Callister, Inaam Khalaf

SIBLING RELATIONSHIPS IN FAMILIES RAISING A CHILD WITH A DISABILITY

Kristen Nielsen, Barbara Mandleco, Susanne Olsen Roper, Amy Cox, Tina Dyches

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X MEN, HARRY POTTER, & SPIDERMAN: CHILDREN TALK ABOUT DISEASE CAUSATION AND INHERITANCE

Martha Driessnack

DISCOVERING CHILDREN'S PERCEPTIONS AND MISCONSTRUCTIONS OF CHRONIC ILLNESS

Becky Christian

FISCAL BURDENS: FAMILIES OF CHILDREN WITH CHRONIC PULMONARY CONDITIONS IN A RURAL STATE

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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 health care can be difficult due to distance or a lack of providers. The out-of-pocket (OOP) expenses associated with this are not well-documented. This paper describes the financial burden of caring for a child's chronic illness when families live in a rural environment.
Purpose/Aims: Describe the fiscal burden for families living in a rural state who are caring for a child with a chronic pulmonary illness**.**
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 Southwest. 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 fiscal expenses. 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/o). 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%), and bronchopulmonary dysplasia (2%). The average distance traveled to the PPC was 104.9 miles (a range of 0.5 to 480 miles). OOP expenses were largest for increased costs of utilities, 28 families reported spending an average of $149 on additional utilities in the past month. Other average OOP costs in the past month were trips to the pulmonary clinic (~$63 per trip), meals associated with health care trips ($53), prescriptions ($26), and over-the-counter medications ($17). Forty-four families made renovations to their homes spending an average of $2,389.
Implications: This study revealed a wide range of economic costs of caring for a child with a chronic pulmonary condition in New Mexico. Findings may be used to influence the development of health policies that affect families who travel long distances to seek health care for their children.

Funded by a grant from the Robert Wood Johnson Center for Health Policy at the University of New Mexico.

FACILITATED TUCKING: RELIEVING STRESSFUL RESPONSES IN JORDANIAN PRETERM INFANTS

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Purpose: The purpose of this randomized controlled trial using a cross-over design was to examine the effectiveness of facilitated tucking during heel stick blood draws on relieving stressful responses of preterm infants in a Jordanian newborn intensive care unit (NICU).

Background: Preterm infants in NICUs are exposed to a high number of painful procedures. Repeated and sustained pain has adverse consequences on the neurological, behavioral, cognitive, and learning-oriented development of preterm infants. Systematic and comprehensive pain assessment should be done, considering pain as the fifth vital sign. Facilitated tucking (FT) is the gentle motoric containment of the infant's arms/legs in a flexed midline position close to the infant's trunk in a side-lying or supine position. FT will support motoric boundaries in the preterm infant, maintaining a secure controlled response, thus facilitating self-regulation and normalizing their physiological and behavioral responses to pain and stress, thus maintaining a state of equilibrium. In conjunction with other non-pharmacological nursing interventions, FT can help adaptation to the extra-uterine environment.

Methods: Infants acted as their own controls. Based on a power analysis and statistical consultation, the sample consisted of 30 preterm infants between 30-35 weeks gestation (X=37.77 weeks gestation), birth weight 1.060-2.303 kilograms (X=1.649kg). The infants were observed twice during each heel stick blood draw. One heel stick was done with the infant in any position according to NICU care routine, the other was done using FT. The Premature Infant Pain Profile (PIPP) measured the preterm infant's pain responses. Paired t-tests were used to determine the efficacy of FT for reducing pain during heel stick blood draws.

Results: There were significant differences in PIPP scores for FT and non-tucking positions (t=19.139, p=.000). Regression analyses examined the relationship of gestational age and birth weight on predicting preterm infants stressful responses to heel stick blood drawing. Gestational age was a negative predictor (B=3.442).

Implications for Clinical Practice: FT is an effective non-pharmacological nursing intervention that can be utilized either alone or in combination with pharmacological interventions to manage procedural pain in preterm infants in NICUs. In this context nurses also need to cluster care, minimize handling to reduce exposure of preterm infants to painful procedures, use FT to relieve pain in this vulnerable group, administer effective and timely pharmacologic and non-pharmacologic pain management strategies, and continually evaluate the care plan to support preterm infants.

SIBLING RELATIONSHIPS IN FAMILIES RAISING A CHILD WITH A DISABILITY

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Purposes/Aims: To discover information about fathers' and mothers' perceptions of sibling relationships in families raising a child with a disability (CWD), specifically examining differences in those perceptions according to specific disorders (autism, DS, orthopedic condition (OC), and diabetes), the age and gender of the sibling and CWD, and parent gender.

Background: Relationships among siblings are an integral part of child development and greatly influence family processes. However, information regarding sibling relationships in families rearing a CWD yields ambiguous findings, is limited, and much of the research has used mothers' or siblings' own ratings of their relationships rather than also including fathers. Another concern about previous work is some studies focus on sibling relationships in families raising a child with a "physical" disability, whereas other studies focus on sibling relationships in families raising a child with an "intellectual" disability, or one that primarily affects mental and intellectual processes. Yet scant research exists on families raising children with specific physical and intellectual disorders and then compares those sibling relationships across groups. In addition, even though some studies compare the effect of living with a CWD on the siblings, the focus has been on sibling outcomes and problems, rather than a focus on the sibling relationship itself.

Methods: After Institutional Review Board approval, families (n=108), living in the Intermountain West and raising children with autism, Down syndrome (DS), diabetes, or an orthopedic condition (OC) were recruited from camps, clinics, conferences, and intervention programs. After signing the consent letter, both parents independently completed the 28-item Schaefer Sibling Inventory of Behavior, which ranked sibling behaviors in relation to kindness, involvement, empathy, and avoidance. Mothers also completed a demographic questionnaire. Descriptive statistics, t tests, chi-square, correlations, ANOVA, MANOVA, and MANCOVA were used to analyze the data.

Results: Mothers and fathers both rated siblings of children with all disabilities as highly empathetic and rarely avoidant. However, mothers ranked all siblings as more empathetic than did fathers, and older siblings as more avoidant than younger siblings. On the other hand, fathers of children with DS and autism ranked siblings kinder and more involved than siblings of children with OC or diabetes; fathers also ranked male siblings kinder than female siblings.

Implications: Even though sibling relationships in families raising a CWD appear to be fairly positive, further research is indicated since this study found differences in sibling relationships according to the type of disability and gender and age of the sibling. In addition, since mothers and fathers had different perceptions of sibling relationships, studying those differences would be important so intervention efforts related to sibling relationships may be improved and individualized according to the type of disability. Finally, since older siblings tended to be more avoidant than younger siblings, interventions aimed at understanding older siblings' tendency to avoid the CWD would be important.

X MEN, HARRY POTTER, & SPIDERMAN: CHILDREN TALK ABOUT DISEASE CAUSATION AND INHERITANCE

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Background: Children's naive theories of biology include basic constructs for understanding disease, including causation and/or inheritance. Naive theories begin to develop as early as 7 years of age and typically are formed by age 10. These early theories, and the lay beliefs that arise from them, are often resistant to change. Research exploring health literacy indicates lay beliefs often influence adults' understanding of and receptiveness to new health information. Engaging children during the period (7-10 years) in which they begin to develop foundational understandings and beliefs about disease provides a rich opportunity to learn more about lay beliefs and the context in which they begin to develop.
Purpose/Aims: The purpose of this study was to: (1) explore young children's ideas about disease and inheritance and (2) identify common sources of influence that emerge in their explanations.
Method: IRB approval was obtained. Recruitment was conducted through a large metropolitan YMCA. Following consent/assent, data collection was completed in one-to-one sessions on site. Children, ages 7-10 years old, were asked to talk about disease causation and/or patterns of inheritance and how they came to know this information. Resultant data were analyzed using qualitative description and content analysis.
Results: Twenty-seven children participated. Maximum variation sampling was used to ensure distribution of participants across age, sex, socio-economic status, and geographic heritage. The analysis of the children's explanations revealed how informal family conversations and media exposure combine and surface in children's early understandings of disease causation and/or inheritance. Family members, other adults, peers, and the media were commonly referenced sources. Of particular interest was the pattern of understanding provided by *X-Men, Harry Potter,* and *Spiderman* that surfaced in the children's explanation of disease causation and inheritance.
Implications: Children today are growing up at the intersection of the genome era and information age. Asking about their expanding networks and information sources provides health care providers with insights into the social worlds that influence their early understanding of disease, its causation, and/or its inheritance. These insights may inform educational interventions for young children. They also may provide insight into adult lay beliefs, the social contexts in which they develop and are reinforced, and why they are so resistant to change.

This study was funded by the 2008 American Nurses Foundation/WIN Research Grant.

DISCOVERING CHILDREN'S PERCEPTIONS AND MISCONSTRUCTIONS OF CHRONIC ILLNESS

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Purpose: Three grounded theory studies of children and adolescents with chronic illness will be used to explore perceptions, understanding, and personal meaning of chronic illness.
Background: Children and adolescents with chronic illness acquire an understanding and develop a personal meaning of their chronic illness and prognosis. Parents, families, and health care providers contribute to these impressions, which children then filter through their limited cognitive ability and manage through selective disclosures and concealment to minimize differences from peers. However, children's perceptions about chronic illness may be discordant with those of parents and health care providers.
Methods: Bronfenbrenner's socioecological developmental framework was used to guide this research. Three grounded theory studies of children and adolescents with chronic illness will be used to explore perceptions and misconstructions about chronic illness. A purposeful sample of 55 children and adolescents (6 to 22 years) with Cystic Fibrosis (CF) was used across three studies and theoretical saturation was achieved. In-depth interviews (1 to 2 hours) were used to explore the meaning and perceptions about chronic illness with children and adolescents. Strategies of reflection and paraphrasing were used to clarify meaning and to confirm accuracy and credibility of data. Critical life events memory timelines were used to visually display chronic illness events. Data analysis was conducted with constant-comparative method using open, axial, and selective coding to identify core categories, dimensions, and relationships.
Results: Children and adolescents characterized their perceptions of chronic illness across three qualitative studies, as *discovering a different life course* by: (a) *discovering a sense of difference* (school-age children), (b) *reducing a sense of difference* (early-to-middle adolescence), and (c) *discovering the chronic illness course* (late adolescence). These perceptions lead to a social construction of the sick self and a different reality, including an expectation for early death, which may not be embedded in fact. Further, children's and adolescents' impressions revealed hidden truths and multiple realities about the social consequences of chronic illness in their everyday lives.
Implications: Discovering these multiple realities of children and adolescents with chronic illness revealed hidden truths embedded in the children's and adolescents' perceptions about growing up with chronic illness. Understanding how children and adolescents perceive their chronic illness is critical for developing interventions to address the social consequences of chronic illness and improve quality of life.

Funding: [1] Center for Research on Chronic Illness, NINR, NIH (#2P30NR03962); [2] Biomedical Research Grant, NIH; [3] University Research Grant.

ISSUES IN WOMEN'S HEALTH

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MAMMOGRAPHY DECISION MAKING PROCESSES OF RARELY OR NEVER-SCREENED WOMEN

Mary Anne Purtzer

PROPHYLACTIC MASTECTOMY: DECISION MAKING AND POST-PROCEDURE REFLECTIONS

Maria Rubolino-Gallego

PERIMENOPAUSAL WOMEN'S INTENDED AND ACTUAL RESPONSE TO BONE HEALTH INTERVENTIONS

Ann Olson, Judith Berg

COPING AND QUALITY OF LIFE OF MEXICAN AMERICAN BREAST CANCER SURVIVORS

Mary Lopez

SEXUAL DESIRE DURING THE MENOPAUSAL TRANSITION AND EARLY POSTMENOPAUSE

Nancy Woods

MAMMOGRAPHY DECISION MAKING PROCESSES OF RARELY OR NEVER-SCREENED WOMEN

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Introduction: The purpose of this study was to discover theory of decision making processes rather than factors contributing to lack of mammography screening. Breast cancer is a significant cause of mortality and morbidity. There is a strong association between survival and early detection through regular mammography. Low-income women underutilize this life-saving screening resulting in a disproportionate cancer burden. To understand mammography screening decision making processes of disparate groups, a qualitative study was conducted.
Method: Grounded theory was utilized as it is consistent with the focus on process. Sampling included five low income, uninsured participants. Three participants were asymptomatic for breast cancer and had not had a mammogram in the past five or more years. One participant reported symptoms and family history of breast cancer with no mammogram within five years. One participant was treated for breast cancer and had no history of prior mammography. In-depth interviews were conducted with three to four recurring cycles of data collection and analysis per participant.
Results: Findings offer a new theoretical explanation specific to mammography screening decision making processes. New conceptual categories emerged: (a) intuitive dominance and intuitive confidence; (b) scarce, supportive relational resources for learning; and (c) dichotomous health care beliefs. The concept, coping with uncertainty, provides an interruption in intuitive thought patterns offering a window of opportunity for reasoned thought and an informed mammography-screening decision. Findings also offer new considerations for NANDA diagnoses, including related factors, assessment, interventions, and outcomes.
Nursing Implications: Implications are offered with the intent of engaging in a client-centered practice resulting in informed decision making, relational-based knowledge acquisition, empowerment, and potential transformation in thinking processes. Implications include: (a) emphasis on nurse/client rapport and trust; (b) client assessment in non-traditional areas, including thinking style, view of authority, health beliefs, and social support; (c) integration of a parallel nurse self-assessment; and (d) facilitation of relationship-based knowledge construction.

Partial funding for this study was provided by Susan G. Komen for the Cure, Wyoming Affiliate.

PROPHYLACTIC MASTECTOMY: DECISION MAKING AND POST-PROCEDURE REFLECTIONS

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Purpose: Explore the role of fear in the decision for prophylactic mastectomy (PM) in women who have lived the experience.
Rationale/Background: According to the American Cancer Society (ACS, 2008) breast cancer is the most common cancer, other than skin cancer, among women in the United States, and one in 8 women has the chance of developing breast cancer during her lifetime. Even though the risk of dying from breast cancer is 1 in 35 (ACS, 2008), there has been a decline in the incidence of breast cancer (National Cancer Institute [NCI], 2007) as well as a decline in breast cancer related deaths (ACS, 2008). One study demonstrated that bilateral PM correlated with a 90% reduction in breast cancer incidence and mortality over a 14 year follow up period (Hartmann et al., 1999).
Methodology: Using Van Manen's (1990) approach for phenomenologic inquiry, semi-structured audio-taped interviews were conducted with eight Caucasian women at high risk for breast cancer. The participants had all chosen to undergo either prophylactic bilateral or contralateral mastectomy. The interviews were conducted in person or by telephone. Participants were enrolled until data saturation (redundancy of themes) occurred. Constant comparative analysis and coding of interview transcripts revealed individual, shared and contrasting themes. Trustworthiness was assured by bracketing, verbatim transcription, immersion, member checking, and external validation of themes.
Results and Implications for Women's Health: Essential themes emerged with many subthemes. Two of the major themes were: decisions were made based on fear (of cancer, disfigurement, post-operative pain, and death); and the women shared their feelings now while reflecting back on the decision (relief versus regrets, losses, reconstruction, and advising others). All reported a sense of fear prior to surgery, but few expressed major regrets. Future research should focus on benefits of PM, perceptions of laypersons compared with health care providers, women having undergone bilateral versus contralateral PM, and women of various races. There is no current legislation requiring insurance coverage for PM without evidence of breast cancer, providing an opportunity for advocacy and political activism for patients with demonstrated high risk of breast cancer.
Implications for Nursing Practice: Findings will sensitize health care providers to the need for accurate information and various forms of support for women contemplating PM.

PERIMENOPAUSAL WOMEN'S INTENDED AND ACTUAL RESPONSE TO BONE HEALTH INTERVENTIONS

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Background: Osteoporosis affects more than 10 million people in the United States and an additional 34 million have low bone density or osteopenia, of which eighty percent are women. To date, focus has been on post-menopausal women and related risks for osteoporosis or treatment options. Few women are tested for bone density prior to menopause, leaving them unaware of osteoporosis risk until after the rapid bone density loss that occurs during perimenopause.

Purpose: The purpose of this study was to determine the effects of bone health testing using dual energy X-ray absorptiometry (DXA) on outcomes of intentions toward an actual engagement in bone health behaviors (calcium intake, vitamin D intake, and physical activity) among perimenopausal women.

Theoretical Framework: The Theory of Planned Behavior guided this study that included outcome constructs of *Intentions* to engage in and actual bone health *Behaviors* (calcium and vitamin D intake and physical activity) with independent variables of positive or negative *Attitudes*, perception of social pressure (*Subjective Norms*), and perceived ease or difficulty in performing bone health behaviors (*Perceived Behavioral Control [PBC]*).

Methods/Proposed Study Design: A longitudinal repeated measures experimental design was used. One hundred and fifty women were randomly assigned to a comparison group (n=75 receiving bone health information) or to an intervention group (n=75 receiving DXA and bone health information). Baseline demographic data were collected; the Prevention Intentions Questionnaire using TPB constructs and a Behaviors Scale were developed and administered to all participants at baseline, at two weeks and at two months after interventions.

Results: Thirty-two percent of women in the intervention group had low bone density. *Intentions*: ANOVA found a near-significant interaction effect F (1.57, 228.72)=2.927, p =.068 and a significant time effect F(1.57, 228.72)=35.55, p<.001. *Behaviors*: Significant interaction effect for physical activity F(1.86, 273.76)=6.124, p=.003, significant time effect for vitamin D F(1.60, 235.20)=17.53, p<.001, and a near-significant interaction between Calcium and Group F(1.89, 277.27)=3.06, p=.052. Correlation found an inverse relationship between *Intentions* and DXA scores r(74)=-.23, p=.046 at two weeks, and between vitamin D intake and DXA scores r(73)=-.25, p=.03 at two months. Regression found *Attitudes* contributed significantly in comparison and intervention models at two weeks and at two months; *PBC* contributed significantly in comparison groups at both time-points; *Subjective Norms* negatively contributed (β=-.23) toward *Intentions* in the two week comparison group model, R^2=.49, F(1,69)=59.30, p=.03. The two month comparison group model accounted for 62.0% of the variance in Intentions R^2=.62, F(1,67)=99.19, p= .04. Intentions significantly correlated with calcium intake r(147)=.40, < .01, vitamin D intake r(147)=.44, <.01, and sports activity r(147) = .33, <.05, throughout the study.

Implications for Nursing: Early detection and intervention in perimenopausal bone loss may reduce osteoporosis morbidity and may impact women's quality of life, reduce financial consequences to individuals, families, communities, and the nation. Bone density testing in pre- and perimenopausal women as an intervention holds promise as a way to reduce osteoporosis morbidity for aging women.

COPING AND QUALITY OF LIFE OF MEXICAN AMERICAN BREAST CANCER SURVIVORS

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Purpose/Aims: The purpose of this mixed method study was to examine the effects of optimism, acculturation, and breast cancer concerns on coping styles and to determine the effect coping styles have on the quality of life (QOL) in Mexican American breast cancer survivors.
Rationale/Conceptual Basis/Background: Roy's Adaptation Model and Lazarus and Folkman's Stress, Appraisal, and Coping theory was used as the framework.
Methods: A one group ex post facto correlational survey design with path analysis was used to determine the direct, indirect, and total effects of the antecedents on coping and QOL. Qualitative non-structured interviews were used to gather additional data on Mexican American women's experiences living with breast cancer.
Results: Ninety-two subjects participated through a nonprobability convenience sampling method. Participant's responses were recorded verbatim and subjected to content analysis and thematic coding. Path analysis revealed that women who were less optimistic, had lower acculturation, and increased concerns about breast cancer used passive coping styles. Passive coping styles were associated with a decreased quality of life for survivors. Qualitative narrative analysis revealed the major domain of Surviving the Fight, with subthemes of Adapting my Lifestyle, Maintaining Hope, and Remaining Vigilant.
Implications: Nurses in a variety of health care settings can use these findings to identify Mexican American breast cancer survivors at risk for reduced quality of life. Further, culturally sensitive interventions need to be designed and studied to increase the quality of life of Mexican American women living with breast cancer.

SEXUAL DESIRE DURING THE MENOPAUSAL TRANSITION AND EARLY POSTMENOPAUSE

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Introduction: Reports of increased prevalence of lower sexual desire during the menopausal transition (MT) and early postmenopause (PM) suggest an important role for endocrine changes as well as social factors during midlife.
Purposes: The purpose was to describe changes in levels of sexual desire across the MT and early PM, including effects of age, MT-related factors, symptoms (hot flash, sleep, mood), health, and social factors including perceived stress.
Rationale: Reported research indicates that women's sexual response changes with aging, but there has been little focus on women's experiences during the menopausal transition. Recently published research on women's sexual response indicates that sexual desire is a unique part of women's response, not part of a linear stagewise progression, and intimately influenced by environments as well as biology.
Methods: A subset of Seattle Midlife Women's Health Study participants who provided data during the early reproductive, early, and late menopausal transition stages or postmenopause (N=286), including menstrual calendars for staging the MT; annual health reports between 1990 and 2005; and morning urine samples assayed for estrone glucuronied (E1G), testosterone (T) and follicle stimulating hormone (FSH), were included. Multi-level modeling using the R program was used to test patterns of sexual desire related to age, MT-related factors, symptoms, health, and social factors with as many as 6,526 observations. Age was centered at 47.2 years.
Results: Women experienced a slight rise in sexual desire as they aged, but a significant decrease in sexual desire during the late MT stage ($p<0.013$) and early PM ($p<0.0001$). Women with higher urinary E1G and T reported significantly higher levels of sexual desire whereas those with higher FSH levels reported significantly lower sexual desire ($P=<0.0001$, 0.021, and 0.009, respectively). Women reporting higher perceived stress also reported lower sexual desire ($p<0.0001$), but history of sexual abuse did not have a significant effect. Those most troubled by symptoms of hot flashes, fatigue, depressed mood, anxiety, getting to sleep, and awakening during the night also reported significantly lower sexual desire (p range from <0.0005 to 0.0001), but there was no effect of vaginal dryness or early morning awakening. Women with better perceived health and those using hormone therapy also reported higher levels of sexual desire ($p<0.0001$ and $p= 0.023$, respectively).
Implications: Women who are progressing through the MT are vulnerable to lower sexual desire as they enter the late MT and early PM, experience lower E1G and T and higher FSH levels, are troubled by more severe symptoms (hot flashes, sleep disruption, and mood changes), and experience a stressful social milieu. Clinicians working with women traversing the menopausal transition should be aware that promoting healthy sexual functioning among midlife women requires consideration of their changing biology as well as ongoing life challenges.

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NURSING EDUCATION: CURRICULAR ISSUES

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CLOSING THE LOOP: A REPORT ON THE EFFECTIVENESS OF A CONCEPT-BASED CURRICULUM

Jean Foret Giddens

THE SPIRITUAL DIMENSION WITHIN NURSING CURRICULA OF BACCALAUREATE NURSING PROGRAMS

Judy Crewell

CONSTRUCTIVIST TEACHING AND THE ACQUISITION OF HIGHER ORDER COGNITION

Alison Merrill, Gene Gloeckner

PEDAGOGY TO SUPPORT DNP PARTICIPATION IN EXECUTIVE DECISION MAKING: *BUILDING THE CASE*

Elena Siegel, Mary Frances Pate

CLOSING THE LOOP: A REPORT ON THE EFFECTIVENESS OF A CONCEPT-BASED CURRICULUM

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Purpose: In the Spring of 2006, an innovative concept-based undergraduate curriculum was launched at a baccalaureate nursing program in the Southwest. The purpose of this presentation is to describe the evaluation process and findings.
Background: Specific goals of the new curriculum were to produce diverse graduates with conceptual thinking skills, committed to life-long learning, and who embrace working in teams within community and acute care environments. The conceptual foundation of the curriculum, with a strong emphasis on life-span, health-illness, and care delivery continuums, was developed with the hope of managing excessive curricular content and fostering a conceptual learning environment at the undergraduate level (Giddens, et al, 2008). A characteristic of conceptual learning environments is student-centered learning. This differs dramatically from the content driven, instructor-centered approaches typically seen in nursing education. Acknowledging the need for a more diverse workforce (IOM, 2004), new admission criteria were also implemented to facilitate the admission of students mirroring the population diversity within the community. A comprehensive evaluation plan incorporating assessment, accreditation, and benchmarking models was implemented. Surveys, standardized instruments, and focus groups were used to collect data.
Outcomes: Two years after the curriculum was implemented, data were formally analyzed. Among the first 3 cohorts, 97.5% of admitted students (N=200) graduated. Efforts to increase the diversity were successful as evidenced by 52% of graduates representing minority populations (compared to 38.4% prior to implementing the new curriculum). First time NCLEX pass rate from the first 2 cohorts was 83% compared to 90% prior to the curriculum change. Feedback from students, faculty, graduates, and external constituents has reinforced our commitment to the conceptual approach as foundational to the curriculum. Identified strengths included the conceptual approach (particularly Health and Illness courses), interactive learning activities, and clinical intensives. The findings validated that the featured concepts and exemplars were appropriate, but an identified concern was perceived repetition in the Nursing Concept courses when they were presented repeatedly using increasingly complex exemplars. Students and faculty also voiced a need for greater age-span, pharmacology, and pathophysiology content, despite the fact that these are required prerequisite courses. This perhaps points to the need for more purposeful linkages of concepts to previous content learned and stronger links of concepts within clinical courses.
Conclusions: Based on the evaluation data, opportunities for curriculum improvements were identified and are being implemented. The primary revisions included improved clarity and delivery of the Nursing Concept courses, purposeful linkages to prerequisite content, and enhancement of concepts across multiple clinical contexts. The faculty are proud about successfully increasing the diversity of our graduates, but given the first-time NCLEX pass rates, additional academic support and NCLEX preparation is needed.

Giddens, J., Brady, D., Brown, P, Wright, M., Smith, D., & Harris, J. (*2008*). A new curriculum for a new era of nursing education. *Nursing Education Perspectives, 29*(4), 200-204.

Institute of Medicine; (2004). *In the nation's compelling interest. Ensuring diversity in the health-care workforce*. Washington DC: National Academies Press; 2004.

THE SPIRITUAL DIMENSION WITHIN NURSING CURRICULA OF BACCALAUREATE NURSING PROGRAMS

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Purpose/Aims: The purpose of this study was to analyze the spiritual dimension in the nursing curricula of baccalaureate nursing programs to better understand educational practices and the experiences of nursing faculty in teaching spiritual care.

Rationale/Conceptual Basis/Background: Trends in nursing include an increased awareness of the importance of spirituality and spiritual care in the care of patients and families and the role of the nurse in providing spiritual care. Spiritual care has been identified as a component of holistic nursing care by professional organizations and accrediting agencies (American Association of Colleges of Nursing, 1998; Joint Commission on Accreditation Healthcare Organizations, 2004). Research reveals that health care professionals do not feel prepared to provide spiritual care. One identified missing link is within nursing education and the lack of, or inconsistency of, spiritual care content in the nursing curriculum, and faculty who do not feel comfortable in teaching spiritual care. Studies have demonstrated the relationship between increased practices of spiritual care with preparation in spiritual care education.

Methods: A quantitative, non-experimental, two-group comparison survey design was conducted to investigate the spiritual dimension in the nursing curriculum including spiritual care content, educational pedagogies, and instructional methods and faculty attitudes in the NLN Centers of Excellence and matched baccalaureate nursing programs.

Results: Utilizing a two-way MANOVA, no difference was found between the NLN Centers of Excellence and the matched baccalaureate nursing programs regarding the spiritual dimension in the nursing curricula. The findings revealed both groups were in agreement that spiritual care is a significant part of nursing care. Spiritual care concepts were reported to be integrated throughout the curriculum but the actual time devoted to spiritual care content ranged widely. The majority reported a lack of definitions of spirituality and spiritual nursing care. There was uncertainty as to whether faculty possess the necessary time, knowledge, and comfort level to teach spiritual care concepts.

Implications: The study results revealed the need for further research to explore the concepts and practices of spirituality and spiritual care to contribute to the body of knowledge in nursing science and to establish evidence based spiritual care nursing practice. Recommendations included the need to determine the presence, quantity, and quality of spiritual care education and to evaluate the relationship of spiritual care education and the application of spiritual care in the clinical practice of student nurses and registered nurses. Further research will contribute to the identification of content and of best practices for faculty in providing consistent spiritual care education for nursing students to help meet the spiritual needs of patients and to meet the dictates of professional standards of nursing practice.

CONSTRUCTIVIST TEACHING AND THE ACQUISITION OF HIGHER ORDER COGNITION

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Purpose: The purpose of this study was to compare the impact of brain-based constructivist teaching strategies versus a traditional lecture format on the acquisition of higher order cognition and learning.

Rationale/Conceptual Basis: Nursing students are expected to master an enormous amount of theoretical knowledge and then immediately apply that knowledge in the care of acutely ill patients. Nurses must be able to think in a flexible, dynamic manner. The knowledge and skills cannot be memorized and recalled for each situation. Rather the nurse must be able to *analyze* each situation, *synthesize* a plan or action, *apply* underlying knowledge and experience in performing appropriate interventions, and *evaluate* the results. In other words, nurses must utilize higher cognitive levels of thinking in each situation. Nursing educators are challenged to develop strategies that enhance the acquisition of these higher order processes.

The conceptual basis for this study is derived from the fields of neuroscience and cognitive psychology. It is now possible to witness changes in brain structures when individuals are given different learning tasks. Learning is defined as the growth of new dendrites. Brain-based teaching advocates hold that education should stimulate the growth of new dendrites and, hence, the enrichment of neural connections. Cognitive psychologists view learning as a constructive activity in which new knowledge is built on an internal foundation of existing knowledge through a personal interpretation of experience.

Constructivist teaching strategies have evolved to stimulate the brain's natural learning ability as the learner builds and enriches his/her knowledge base. Utilizing such strategies may enable educators to bridge the gap between neurological and cognitive sciences and classroom teaching and learning.

Methods: This was a quasi-experimental quantitative study with a 2x2x2 factorial design with repeated measures on the last factor. The independent variables were type of student (traditional versus second degree), teaching method (lecture versus brain-based activities), and within group change over time (post-test minus pre-test gain scores). One dependent variable was a between group comparison of gain scores and the second dependent variable was a within and between groups comparison of course examination scores. A convenience sample of students enrolled in medical-surgical nursing in the spring 2008 semester was used. One group (n=36) was made up of traditional nursing students and the other group (n=36) consisted of second-degree nursing students.

Four separate learning units were included in this study. Pre-tests and post-tests were given on the first two units (cardiac, respiratory). Course examinations scores from these units as well as two other units (GI, neurological) were compared. Only questions rated as higher order cognition were utilized on the examinations. In one cohort two of the units were taught via lecture format and two using constructivist activities (jigsaw, concept mapping, and interactive group work). These methods were reversed for the other cohort.

Results: There was a statistically significant difference based on type of teaching strategy used (t=-2.078, df=270, p=.039) with higher mean scores on the examinations covering brain-based learning units. There was no statistical significance based on type of student.

Implications: Constructivist designed group-work and interactive projects such as jigsaw activities and concept mapping may enhance the acquisition of higher order cognition. These should be incorporated throughout the nursing curriculum.

PEDAGOGY TO SUPPORT DNP PARTICIPATION IN EXECUTIVE DECISION MAKING: *BUILDING THE CASE*

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Purpose/Aim: DNP graduates will be called upon to articulate and *build the case* for their position, as they strive to influence the delivery of quality patient and family care. The purpose of this presentation is to describe pedagogical strategies aimed at fostering DNP students' skills to effectively engage in critical communications across clinical, organizational, political, and consumer settings. Learning activities and outcomes from three courses will be described. Ongoing evaluation of activities and program recommendations for these courses will be discussed.

Rationale/Background: *The Essentials of Doctoral Education for Advanced Nursing Practice* provides a framework for the preparation of DNP students for clinical leadership roles. In these roles, DNP graduates will be catalysts for improved health care delivery practices and health outcomes at macro and micro levels. These practice-focused nursing scholars will be required to effectively *build the case* for professional activities that fall under their influence, including recommendations for practice improvement and organizational change, evaluations of existing or proposed programs, translation of research into practice, and proposals for policy change.

Description of the Undertaking including Approach/Methods/Processes: The DNP curriculum at Oregon Health & Science University School of Nursing offers a variety of learning activities to support students' development of critical *building the case* communication and leadership skills. Three courses in particular integrate clinical and organization/business focused communications: Advanced Professional Communication, Health Care Systems: Organizations and Change; and Applied Health Care Economics and Finance. Courses focus on clarification of the problem/issue, identification of stakeholders, tailoring the message to the audience, and succinctly composing a relevant, meaningful message. Learning activities include a broad range of formal and informal written and oral forms of *building the case* communication strategies for stakeholders from the bedside to the boardroom.

Outcomes Achieved/Documented: Program and course outcomes were achieved as students demonstrated the ability to complete executive summaries, publishable manuscripts, and systems and financial analyses. Outcomes provide a foundation for subsequent DNP program courses and students' professional portfolios.

Conclusions: These courses provide underpinnings in communication and leadership for DNP graduates, as executive decision makers in increasingly complex health care environments. Students are challenged to expand their scope of influence—as expert leaders, communicators, and scholars—by developing competencies that build the business/practice case.

NURSING EDUCATION: FACULTY ISSUES

Moderator:
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RECOGNIZING ROLE STRESS IN PART-TIME CLINICAL AFFILIATE NURSING FACULTY

Kathleen Whalen

THE EXPERIENCE OF NURSING FACULTY WITH STUDENTS WHO FAIL

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Pauline Komnenich, David Hrabe

RECOGNIZING ROLE STRESS IN PART-TIME CLINICAL AFFILIATE NURSING FACULTY

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Purpose/Aim: The purpose of this study was to explore the impact of role stress on role strain among part-time clinical affiliate nursing faculty in baccalaureate nursing education settings.

Rationale/Conceptual Basis/Background: Baccalaureate nursing programs have become more dependent on part-time clinical affiliate nursing faculty to teach nursing students during clinical rotations. Clinical faculty have many reasons for experiencing work-related stress, role strain, and potential burnout. Schools of nursing must identify the types of potential role stress and role strain that may lead to job dissatisfaction and burnout and find ways to increase job satisfaction for this vital group of teachers.

Methods: This inquiry was based on a non-probability sample of 91 participants that worked in baccalaureate university settings in a western state. The research instruments included a researcher-generated background factors survey; the researcher's modified version of Mobily's (1987) *Role Strain Scale*, the *Potential Work-Related Stressors Survey* (PSS); and Bowling Green State University's (1997) abridged *Job In General* (aJIG) index.

By using a multivariate correlational research design and path analysis methodology, the researcher examined the relationships between selected background factors (number of years of experience as a clinical teacher, clinical teacher training, and holding a second job), role stress, and role strain (as measured by the degree of job satisfaction) among part-time clinical affiliate nursing faculty and tested the validity of the researcher's *Part-time Clinical Affiliate Nursing Faculty Model of Role Stress and Role Strain*.

Results: The overall means for role stress (2.54) and the aJIG (47.95) implied that the faculty experienced a low level of stress and a high job satisfaction, respectively. Significant paths were found between role stress and job satisfaction (β=-.296, p<0.05) and between number of hours worked a week with a second job and job satisfaction (β=.218, p< 0.05). In a post-hoc regression analysis, role incongruity (β=-.396, p=< 0.05) and role incompetence (β=-.278, p=<0.05) were significant in having a predictive influence on job satisfaction. In addition to rating the work-related situations listed in the PSS instrument, participants answered an open-ended question and identified other work-related situations that were all rated by the respondents as being moderate or high level stressors.

Implications: This study contributed to the advancement of nursing education knowledge by providing scientific data for predictors of role strain (as measured by the degree of job satisfaction) by pointing out the effects of role stress in the path model and role incongruity and role incompetence in a post-hoc analysis of these variables. Given the small percentage of explained variance provided by the model, further research is required to look at other paths that could contribute to role stress and role strain in the part-time clinical affiliate nursing faculty population.

THE EXPERIENCE OF NURSING FACULTY WITH STUDENTS WHO FAIL

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Purpose/Aims of Study: The purpose of this qualitative study was to explore an under-researched but common area of nursing education, that of nursing faculty's experience of student academic failure. The goal was to identify the faculty's personal experience related to determining failure status and system supports and hindrances.
Background: Nursing educators are in a unique position when working with students who fail. In the current health care and educational environment, the stakes are high for faculty, students, and the public when failure occurs. In the midst of a nursing shortage, extreme tuition and loan costs, great competition for admission in programs, litigious educational and health care environments, and the increasing complexity of nursing care, faculty are challenged as to how to identify and support at-risk students, and when necessary, allow the students to earn a failing grade. Current literature primarily focuses on clinical failures and preceptor uncertainty. There is scant literature that explores the faculty experience in depth, a necessary first step in exploring nursing student academic failures.
Methods: Because there is scant literature exploring the faculty experience, researchers designed an initial single-site qualitative study. Funding and IRB approval were obtained. When researchers informed faculty about this study, more faculty volunteered than could be interviewed. Thirteen lengthy individual semi-structured interviews were audiotaped and transcribed. Content analysis was conducted by both researchers, reaching inter-coder consistency and agreement on themes. Findings were compared to extant literature and key variables have been identified for use in further research.
Results: Seven basic themes were identified:
"Every class": While actual failures are few, at risk situations are common and serious.
"Who's fault?": Variant perspectives exist for where the responsibility for failure lies.
"Consistency vs Flexibility": Faculty state ambivalence in the use of evaluation criteria.
"Prevent and treat": Prevention strategies and handling of at-risk were strikingly similar.
"Grey areas": Evaluation in both theory and clinical were discussed as murky endeavors.
"Many hats": Both role diffusion and role strain complicate the student failure.
"Scary": Failure results in many risks for faculty despite support: psychosocial, legal, and safety.
Given the limited time, the podium presentation will be focused on the themes of responsibility and risks to faculty.
Implications: The results of this study suggest that student failure is complex for faculty. Despite acknowledgement of support, faculty report much fear and potential threats. Increased faculty skill and comfort with student failure can open up discussions for support and development of educational strategies. These results will inform a multi-site qualitative study to identify variables to be used in a national, web-based survey of faculty.

Grant: Washington Center for Nursing provided a grant of $2200 for this study in 2007.

BUILDING RN/BS BRIDGE/TRANSITION COURSES TO THE OCNE CURRICULUM

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Rationale and Background: In 2006 four associate degree nursing schools in Oregon (AD) and The Oregon Health & Science University (OHSU) School of Nursing (SON) implemented a new competency-based undergraduate program as part of the Oregon Consortium of Nursing Education (OCNE). The participating AD schools offer a shared curriculum leading to a baccalaureate degree at OHSU. Other AD nursing programs are scheduled to offer the OCNE curriculum in the future. As a part of the implementation of this new curriculum in the SON the RNBS program needed to create a bridge into the new OCNE courses for nurses who had not attended an OCNE AD school.

Purpose/Aims: The aim of the project was the creation of bridge/transition courses. This involved deconstruction and complete revision of the prior curriculum to match the new OCNE curriculum and spiraled competencies.

Description of the Undertaking: The RNBS team participated from the outset in the creation of the full OCNE curriculum and was familiar with the pre-licensure course content. The RNBS faculty met for two all day meetings and four faculty meetings with ongoing input regarding how the essential OCNE content was to be included and spiraled in each of four bridge/transition courses. Consultation came from OCNE leaders and SON Program Directors and Deans. A deconstruction of the current RNBS courses was done in order to make connections to the new spiraled concepts of the OCNE competencies. This process involved shifting and forming the new courses by challenging the traditional courses' content and pedagogy. Some of the traditional course content was retained because it matched the competencies in the new OCNE courses. Revisions included new course descriptions and course outcomes.

The goal was to keep the best of the courses determined to be essential for making practicing nurses current in the standards of best practice, while building on previously learned material. The new content areas were matched and aligned with the new competencies. The courses eliminated were Ethics, Health Policy, and Evidence-based Practice. The essential content areas that are spiraled include: evidence evaluation and evidence-based practice, clinical judgment, self-directed learning, collaboration and working in groups, effective communication, ethics, professionalism, leadership, health policy, health literacy, advocacy and voice, poverty and health disparity, access to care, and social and environmental justice. Learning activities were intentionally created that built on previous work, spiraling concepts from course to course. For example, risk factor screening, pathophysiological process, impact on a population, and policy development were carried through several courses.

Outcomes: The bridge/transition courses were created and required approvals obtained through SON Undergraduate and SON Administrative Councils. The four transitions courses are being offered for the first time fall term 2008 and will be evaluated at the end of each offering.

Conclusions: The process of course creation and transformation involved a complete commitment from RNBS faculty teaching the courses, both old and new. Creating a thoughtful process provided a supportive way to honor prior courses and teaching strategies, while being ruthless in adhering to the expected consistency required in teaching the new courses with OCNE competencies.

MEETING DEMANDS FOR 21ST CENTURY EDUCATORS

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Purpose/Aim: The purpose of this project was to enhance Arizona State University College of Nursing & Healthcare Innovation's (ASU CONHI) graduate nursing program by developing, implementing, and evaluating a comprehensive, flexible, and cutting-edge online Nurse EDucator (NED) graduate program of study. Three objectives led to an infrastructure for a paradigm shift away from faculty-centered and classroom-bound education to a learner-centered, virtual environment. A fundamentally redesigned, online, year-round curriculum (Objective 1), aggressive recruitment of minority students (Objective 2), and incorporation of handheld computers in teaching practica (Objective 3) were among key strategies in the methodology. This dynamic enhancement and expansion of NED for master's and post-master's students was designed to meet the dual demand of adequate supply and preparation of nurse educators for teaching in the 21st century. The project spanned eight specialty areas in the graduate curriculum of the ASU CONHI and thereby broadened its outreach to potential nurse educators in a variety of specialties.

Rationale/Background: Four critical elements related to the national faculty shortage (AACN 2003; 2005; 2007 and NLN 2006): (1) the increased number of part-time faculty (especially clinical faculty) and concomitant decreased number of full-time faculty, (2) the increased number of nurse faculty facing retirement age, (3) the increased number of students placed on wait lists for admission to nursing programs because of limited numbers of faculty, and (4) the lack of preparation of a large number of nursing faculty at the master's and doctoral level. This proposal addressed the need for well-prepared nurse educators and a fundamental paradigm shift from a single faculty operating in an instructor-centered, "land-based" curriculum to a team approach valuing a dynamic, learner-centered environment.

Outcomes Achieved:

- A redesigned nurse educator curriculum including technological, culturally sensitive and learner-centered pedagogies.
- Multiple pathways to achieve advanced preparation in nursing education leading to a MS degree, Graduate Certificate, or courses that can be applied to a PhD or DNP.
- Increased enrollment and preparation of culturally competent nurse educator students from minority and underserved populations.
- Enhancement of NED students' and faculty competencies to teach traditional/non-traditional students in traditional/non-traditional settings.

Conclusion: The program is now offered as a master's degree program with course options integrated into the PhD and supplemental to the DNP. It has made a substantial contribution to preparing nurse faculty for the rigors of teaching in the 21st Century. Improving educator capability to deal with the vast amounts of information in the academic and practice setting as well as better preparing them for mentoring students in this fast pace, high technology atmosphere is essential.

This project was supported in part by funds from the Division of Nursing (DN), Bureaur of Health Professions (BHPr), Health Resources and Services Administration (HRSA) in the Department of Health and Human Services (DHHS), Award No: D09HP03115.

PATIENT PERCEPTIONS & DECISION MAKING

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THE DECISION TO SEEK CARE AND TIME TO TREATMENT DURING ACUTE CORONARY SYNDROMES

Holli DeVon, Nancy Hogan, Amy Ochs, Moshe Shapiro

COMPARISON OF PSYCHOSOCIAL FACTORS AMONG ETHNIC MINORITIES WITH HEART FAILURE

Samira Moughrabi, Alvina Ter-Galstanyan, Lorraine Evangelista

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MANAGING HYPERTENSION: CHALLENGES AND FACILITATORS IN FILIPINO AMERICANS

Felicitas dela Cruz, Carmen Galang

THE DECISION TO SEEK CARE AND TIME TO TREATMENT DURING ACUTE CORONARY SYNDROMES

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Purpose/Aims: The objectives of this study were to explore factors associated with a decision to seek care in the emergency department for symptoms of acute coronary syndromes (ACS) and to describe patient characteristics associated with time to treatment in the emergency department (ED).

Rationale/Background: Multiple sociodemographic and environmental factors have been associated with urgent treatment seeking behaviors for patients experiencing ACS. However, which variables directly affect the decision to seek care in the emergency department have been less well defined.

Methods: A mixed methods, cross-sectional, descriptive design was used. The non-probability sample included 112 women and 144 men. The study was conducted on cardiac step-down units at two large urban medical centers. Reasons for seeking care and decision making descriptions were elicited during semi-structured interviews in the patient's room. Decision making factors and other patient characteristics were treated as predictor variables in an analysis of time from symptom onset to arrival in the ED using Cox Proportional Hazards model.

Results: Five categories of decision making were identified through content analyses. They were new onset of chest pain, ongoing evaluation of symptom severity, symptoms other than chest pain that worsened or were unrelieved, others making decisions for the patient, and help-seeking orientation. There was no significant difference in median time from symptom onset to arrival in the emergency department for women and men [9.5 hours vs. 6 hours (log-rank test, p=.63)]. Patients who experienced constant pain vs. intermittent pain (Hazard Ratio=1.44, p=.01) and those with ST segment elevation myocardial infarction vs. unstable angina (Hazard Ratio=1.59, p=.004) sought treatment significantly sooner. Older patients were more likely to seek treatment later (Hazard Ratio=.99, p=.02). Constant pain was the only variable identified by patients that was a significant predictor of reduced time to treatment.

Implications: Women, older patients, and patients who experience intermittent pain should be encouraged to seek emergent treatment for symptoms that may represent ACS. New evidence of patients' decision making processes and response to symptoms during ACS provide additional information nurses need to counsel patients about the potentially life-saving benefits of seeking emergent care for symptoms of ACS.

This study was funded by the National Institute for Nursing Research (R15-NR08870).

COMPARISON OF PSYCHOSOCIAL FACTORS AMONG ETHNIC MINORITIES WITH HEART FAILURE

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Background: Although major progress has been made in understanding cardiovascular disease and its risk factors for African Americans, research is still sparse in studying the burden of disease in the Hispanic population. The purpose of this study was to examine and compare the incidence of anxiety and depression in a cohort of non-Hispanic Black (NHB), Hispanic (H), and non-Hispanic White (NHW) adults with advanced systolic heart failure (HF). Additionally, as psychological distress is a common phenomenon in patients with HF, the current study also tested the hypothesis that low levels of perceived control, financial stability, and emotional support (i.e. presence of someone in whom to confide) are associated with the development of anxiety and depression. **Methods:** Data were collected from 241 patients from a single HF clinic using the Brief Symptom Inventory-Anxiety, the Patient Health Questionnaire-9 Depression Scale, and the Control Attitude Scale to report anxiety, depression, and perceived control scores, respectively. To measure financial stability and emotional support, patients were asked: (1) how well their household income allowed them to make ends meet, and (2) whether they had someone in whom to confide. **Results:** Patients reported a mean age of 57 (SD 13) years, male (70%), married (81%), retired (75%), 7% NHB, 22.8% H, 60.7% NHW, and NYHA Class III (53.9%) with mean LVEF, 31.2 (SD 5.4). Thirty-eight of the participants scored above the normative level for anxiety, and 19.9%, above the normative level for depression. In a multivariate analysis, perceived control (odds ratio [OR]=.890; 95% confidence interval [CI] =.827 -.957, p=.002) and depression (OR=1.229; 95% CI=1.143 - 1.321, p< .001) were independent predictors of anxiety. Perceived control (OR=.892; 95% CI=.814-.977, p=.014), financial stability (OR=2.511; 95% CI=1.345-4.686, p=.004), presence of someone to confide in (OR=.921; 95% CI=.873-.972, p=.003), and anxiety (OR=1.842; 95% CI=1.2982.614, p=.001) were independent predictors of depression. **Conclusion:** Ethnic differences were noted in levels of anxiety, depression, and perceived control. Our findings also indicate that low levels of perceived control, financial stability, and the presence of someone in whom to confide in are associated with anxiety and depression in HF patients. Since patient perceptions of control as well as financial and emotional support are related to dysphorias known to influence morbidity and mortality, clinicians should regularly access patients' concerns and assist in accessing appropriate services and treatments tailored to individual needs.

Funding is acknowledged from NINR T32 NR007077 Ruth L. Kirchstein Institutional Research Training Grant in Health Disparities Research in Vulnerable Population.

MANAGING HYPERTENSION: CHALLENGES AND FACILITATORS IN FILIPINO AMERICANS

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Aim: As part of a larger exploratory descriptive study, this study segment sought to ascertain the challenges as well as the facilitators perceived by Filipino Americans with hypertension (HTN) in managing their illness.
Rationale/Background: Epidemiological data show that the prevalence of HTN in Filipino Americans (FAs) closely approximates that of African Americans (AAs). However, in spite of their very high rate of HTN awareness and treatment, FAs have a higher rate of uncontrolled HTN than AAs, suggesting that FAs have significant challenges in managing their illness. Although this ethnic/cultural group has the second highest numbers among Asian Americans in the US, they remain an invisible minority. Hence, not much is known about this group's challenges and facilitators in managing HTN.
Methods: Using Kleinman's explanatory model of illness as the theoretical framework, the study conducted two separate focus groups of men (n=10) and 2 separate focus groups of women (n=17), moderated by bilingual (English and *Tagalog,* the Philippine national language) male and female moderators, respectively. Each member of the group of participants, diagnosed and treated for HTN at least 12 months prior to the study, completed a socio-demographic form and a validated questionnaire, *A Short Acculturation Scale for Filipino Americans (ASASFA)*. Focus group interviews, using semi-structured questions, were tape-recorded, transcribed, coded, and content analyzed for themes. To ensure trustworthiness of the qualitative study, member checks, peer debriefing, and an audit trail were implemented.
Results: The participants (N=27) were all first generation FAs, whose ages ranged from 42 to 73 years, and have lived in the US for an average of 25 years. Their ASASFA scores indicated that they were becoming bicultural—equally a Filipino and an American. The participants identified cultural, environmental, and personal factors that they perceived as challenges in managing their illness, especially in maintaining lifestyle changes. In addition, they acknowledged the role of social support from varying sources as facilitators in managing their illness.
Implications: These findings can bring about the development of culturally appropriate interventions that would not only weaken the challenges that beset FAs with HTN but would also strengthen the factors that facilitate the management of their illness, leading to decreased cardiovascular morbidity and mortality. The interventions can be replicated not only in other ethnic and cultural groups but also most especially in immigrant hypertensive Filipinos in other regions and continents of the world.

This study was funded in part by the NINR (3-P30NR05042-02-SI, U of Penn, School of Nursing), and the Faculty Research Council at Azusa Pacific University.

PATIENT SAFETY

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POTENTIAL MEDICATION ERROR REPORTING: NURSES' PERCEPTIONS, ATTITUDES, AND CONFLICTS

J. Kathy Magilvy, Gaya Carlton

PATIENT SAFETY PERSPECTIVES OF RETIRED REGISTERED NURSES

Arlys Williams, Lynne Andrus, Jeanette Bowman, Dana El-Hajj, Vicki Grossman, Carrie Horton, Peggy Jenkins, J. Kathy Magilvy

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EFFECTIVE TRANSLATION OF BARCODE MEDICATION ADMINISTRATION INTO PRACTICE

Troy Carlton, Kerry Barker, Ruthann Jarvis

QUALITY CARE ON ACUTE INPATIENT UNITS

Mary Blegen, Colleen Goode, Joanne Spetz, Thomas Vaughn, Shin Hye Park

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AHRQ'S HOSPITAL SURVEY ON PATIENT SAFETY CULTURE: PSYCHOMETRIC ANALYSES

Mary Blegen, Susan Gearhart, Roxanne O'Brien

SAFETY CULTURE: MULTIDISCIPLINARY TEAMWORK AND COMMUNICATION INTERVENTIONS

Mary Blegen, Niraj Sehgal, Brian Alldredge, Susan Gearhart, Robert Wachter

POTENTIAL MEDICATION ERROR REPORTING: NURSES' PERCEPTIONS, ATTITUDES, AND CONFLICTS

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Purpose/Aims: Current research in medication error (ME) reporting has focused on retrospective analysis of reported errors and the underreporting issues that hinder resolution of error occurrence. Understanding nurses' perceptions concerning reporting of potential medication errors (PMEs) may enlighten and influence change in the reporting process. The purpose of this study was to describe nurses' feelings toward reporting of PMEs in an attempt to better understand reporting issues and lessen ME occurrence in the future through sharing of ways errors were discovered and prevented.
Rationale/Background: Prevention of MEs relies on adequate and accurate information concerning their occurrence. Using existing incident reports to identify incidence of ME and potential causes is difficult given the under-reporting and the questions concerning validity and reliability of the data. Reporting systems rely on nurses to recognize and report errors; however, many errors are unrecognized and reporting behaviors vary widely among nurses depending on nurse perception of what constitutes error, fear, guilt, and the burdensome nature of reporting. Changing nurses' perceptions about incident reporting coupled with administrative shift to a systems approach to errors would allow for greater analysis and further research toward preventable actions. Fundamental to the success of decreasing MEs is a change in understanding of how errors occur.
Methods: A narrative inquiry research design using a purposive sampling strategy was used to elicit nurses' stories of near miss medication errors and their perceptions concerning reporting of such errors. In-depth audio-taped interviews were conducted with 14 registered nurses. Transcribed data were analyzed using narrative inquiry techniques to identify essential elements of their stories.
Results: Nurses' feelings toward reporting of PMEs often mirrored those experienced by nurses reporting actual MEs. Most nurse participants in this study felt the reporting of PMEs was just as important as reporting actual errors citing patient safety as a positive outcome. Tracking and trending PMEs had the potential to identify and correct ME problems, build a data base for future use, identify why a PME happened, identify number of "near misses" and identify efficient systems to catch errors. Nurses verbalized the importance of sharing information with the intent to prevent future ME occurrence. Nurse participants' negative feelings toward reporting included punitive issues concerning management and administration's handling of incident reports and the cumbersome nature of reporting as a whole. Nurses' perceptions of reporting PMEs brought to the forefront reasons why potential errors should be reported but why nurses will resist implementation of such a reporting system. This information may enlighten management and administration as to available uncaptured information concerning "near misses" that may improve patient safety along with barriers to implementation of such a reporting system.
Implications: Implications for nursing should focus on information sharing of near miss MEs through no fault potential error reporting and celebration of error discovery. Administrators must continue progress toward a culture of safety where frontline nurses and management are committed to safety, are safety conscious and freely report concerns. Nurses should feel their voices are heard and be rewarded by nursing management with positive feedback and recognition for contributing to patient safety through discovering potential medication errors, reporting triggers, or identifying potential threats to safety.

PATIENT SAFETY PERSPECTIVES OF RETIRED REGISTERED NURSES

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Rationale/Background: Research on nurses' roles in promoting patient safety, historically a primary concern for nurses, is in the early stages. Eliciting reflections of patient safety from retired Registered Nurses (RNs) provides insights into current practices of safe patient care. While historical research has been published describing nursing practice pre-1950, research reports of patient safety practices from the 1950's to the turn of the century are rare. Knowledge gained from historical safe practices can provide insights useful for informing best practices for contemporary health care.

Purpose/Aims: The purpose of this study was to describe perceptions of retired RNs on safe patient care during their early years of practice. The study aims were to (1) explore the environment of practice related to patient safety of RNs who entered the workforce between the years of 1955 to 1965 and (2) describe patient safety as defined by these retired RNs.

Methods: After IRB approval, a mentored team of doctoral students used a qualitative descriptive research design with narrative methods to explore the early years of retired RNs' practice and their perceptions of a safe patient environment. Eighteen retired RNs with a median of 43 years of nursing practice in diverse practice environments were recruited by flyers, e-mails, and snowball referrals. Three open-ended questions were asked in the semi-structured interviews: (1) Tell me about the practice environment in your earlier years of nursing practice. (2) What did you do to protect your patients from harm? (3) Please tell me a story about an experience you remember from your practice that involved safe patient care. Recorded and transcribed interviews and field notes were analyzed descriptively for codes, categories, and themes.

Results: A sense of moral obligation arising from accountability and responsibility, relationships, and assessment within the nursing care environment intrinsically motivated nurses to keep patients safe. The participants expressed accountability and responsibility in very personal terms. Teamwork and the nurse/patient/family relationship were viewed as central to safe patient care. Close patient monitoring and surveillance using assessment and observational skills were seen as key to preventing patient harm.

Implications for Practice: Current health care trends demand the provision of safe patient care but complex barriers exist within the health care system. Research is needed to explore contemporary nursing's philosophical and ethical foundations of moral obligation to keep patients safe. Additional research is also needed to delineate current health care factors that promote or impede the provision of safe patient care.

EFFECTIVE TRANSLATION OF BARCODE MEDICATION ADMINISTRATION INTO PRACTICE

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Purpose/Aim: Since the release of the Institute of Medicine report in 2000, hospitals have focused on creating systems that improve quality patient care and reduce the incidence of medication errors. Barcoded medication administration (BCMA) systems have been introduced in hospitals throughout the country which support and improve quality, patient safety, and have been shown to reduce medication errors. However, encouraging nursing staff to embrace this innovative technology and change nursing practice related to medication administration has been challenging for many hospitals. The purpose of this study is to discuss the process of implementing BCMA at a community hospital, identify changes in nursing practice and behaviors with compliance surveillance, and report outcomes after successful implementation.

Background: Research has indicated on average, a hospitalized patient is subject to an error in medication administration each day with at least 25% of all medication errors deemed preventable (Institute of Medicine, 2004). Exploring ways to reduce medication errors and other adverse drug events has become a national priority. Administration of medication is a complex process involving physicians, pharmacists, and nurses with the administration of medication process focused on the nurse. Over a third of all medication errors occur during medication administration to patients by nursing staff. Barcoded medication administration (BCMA) systems have helped to alleviate such errors by creating systems of double and cross checking of the entire medication administration process. However, these systems are only effective with successful implementation and adherence to protocols and policies governing the process and use of BCMA systems by nursing staff. Effective translation of BCMA into nursing practice based upon evidence includes creation and understanding of support system, staff education, implementation, and follow up for compliance monitoring.

Methods: Using evidence based in implementation science, a community hospital established new policies, protocols, and practice standards to govern this change. Staff education helped to establish new practice expectations. Data was collected pre- and post-implementation to measure effectiveness of intervention related to outcomes in medication administration. Compliance to new expectations continues to be measured and communicated to nursing staff.

Results: Significant differences and improvement have been noted between pre- and post-implementation and compliance with BCMA system resulted in reduced medication errors, reduced adverse drug events, and increased patient safety with medication administration process. Continued education of newly hired nurses and monitoring feedback helps to strengthen and reinforce this process.

Implications: BCMA can be successfully implemented if evidence is used to assist in implementation process. Medication administration can continue to become a safe practice if attention is focused on continued follow-up and compliance feedback to nursing staff.

QUALITY CARE ON ACUTE INPATIENT UNITS

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Purpose/Aim: The purpose of this project was to determine the impact of direct care nurse staffing hours, measured as recommended by the NQF (hours per patient day and staff mix), on patient outcome indicators recommended by the NQF (failure to rescue, pressure ulcers) and by the Agency for Healthcare Research and Quality (Inpatient Quality Indicators (IHI), Patient Safety Indicators (PSI)).
Background: Previous research studying the relationship between nurse staffing and patient outcomes has produced inconsistent findings in part due to the inability to link patient outcomes measured from discharge data with nurse staffing at the patient care unit level. This project obtained patient outcomes data and unit level staffing data for general units and separately for intensive care units to advance the knowledge in this area.
Methods: This research project used two data sets created by the University HealthSystem Consortium. The Clinical Data Set contained patient discharge data and the Operational Data Set contained nurse staffing at the level of the patient care unit. Risk adjusted outcomes were calculated using the AHRQ algorithms for IQIs and PSIs. Staffing data were calculated per patient day adjusted for short stay and observation patients. Regression with Robust Standard Errors was used to estimate the models controlling for nesting within hospitals.
Results: A total of 57 hospitals participated in the project, most of which contributed 4 quarters of data. Controlling for hospital case-mix index, technology, teaching status, and safety net status, nurse staffing on general units was related to lower rates of pressure ulcers, failure to rescue, and length of stay. Staffing on intensive care units was related with lower pressure ulcers, failure to rescue, and post-op sepsis.
Implications: Higher nurse staffing levels on both general units and on intensive care units was related to lower rates of adverse outcomes. Nursing's capacity to identify and respond to patients at risk for developing pressure ulcers, sepsis, and other complication that could cause death and disability as well as increased costs of care is of increasing importance.

Funding: Robert Wood Johnson Foundation

AHRQ'S HOSPITAL SURVEY ON PATIENT SAFETY CULTURE: PSYCHOMETRIC ANALYSES

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Purpose/Aim: This project analyzed the psychometric properties of the AHRQ Hospital Survey on Patient Safety Culture (HSOPSC) including factor structure, inter-item reliability and intra-class correlations, usefulness for assessment, predictive validity, and sensitivity.

Background: The HSOPSC was developed for the Agency of Healthcare Research and Quality and comparative data for 519 hospitals in the United States became available in 2008. This tool is composed of 42 items that are separated into subscales to measure the 12 sub-dimensions of safety culture. In addition there are 2 single item measures of outcomes. The HSOPSC's has come into common use in US hospitals. Hospital safety teams and quality improvement departments are using the HSOPSC dimension scores to diagnose strengths and weaknesses of their safety culture.

Methods: The survey was administered to 454 health care staff in 3 hospitals before and after a series of multidisciplinary interventions designed to improve safety culture. Respondents (434 before, 368 after) included nurses, physicians, pharmacists, and other hospital staff members.

Results: Factor analysis partially confirmed the validity of the HSOPSC subscales. Inter-item consistency reliability was above .7 for five subscales; the Staffing subscale had the lowest reliability coefficients. The intra-class correlation coefficients, agreement among the members of each unit, were within recommended ranges. The pattern of high and low scores across the subscales of the HSOPSC in the study hospitals were similar to the sample of Pacific region hospitals reported by AHRQ and corresponded to the proportion of items in each subscale that are worded negatively (reverse scored). Most of the unit and hospital dimensions were correlated with the Safety Grade outcome measure in the tool.

Implications: Overall the tool was shown to have moderate to strong validity and reliability, with the exception of the staffing subscale. The usefulness in assessing areas of strength and weakness for hospitals or units among the culture subscales is questionable. The culture subscales were shown to correlate with the outcomes scales but further study is needed to determine true predictive validity.

Funding: Gordan and Betty Moore Foundation

SAFETY CULTURE: MULTIDISCIPLINARY TEAMWORK AND COMMUNICATION INTERVENTIONS

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Purpose/Aim: This purpose of this project was to determine whether a multidisciplinary intervention could improve perceptions of patient safety culture on medical units in three hospitals.
Background: Following the Institute of Medicine reports on the safety and quality of health care, descriptions of patient safety culture, its importance in protecting patients, and the role it plays in potentially improving patient care emerged. Failure in two aspects of safety culture, teamwork, and communication, is a widely reported cause of patient harm. Our hypothesis is that if providers practiced more effective teamwork and communication, safety culture would improve and errors would decrease.
Methods: This project was designed, implemented, and evaluated by a multidisciplinary leadership team (nursing, pharmacy, medicine) assisted by champions from each discipline in each hospital. Team training sessions and a unit based safety team were implemented. Evaluation for the project included measuring safety culture before the intervention and then one year later. We used the Hospital Survey on Patient Safety Culture (HSOPSC) from AHRQ for this purpose.
Results: The HSOPSC survey was administered to 454 health care staff in 3 hospitals before and after the multidisciplinary interventions. Respondents included nurses, physicians, pharmacists, and other hospital staff members. The increases in scores from pre to post intervention were statistically significant ($p<.05$) for 10 dimensions: teamwork within units, supervisor/manager expectation, hospital management support, organizational learning, overall perceptions of safety, error feedback and communication, communication openness, teamwork across units, hospital handoffs and transitions, and non-punitive response to error.
Implications: The need to change the patient safety culture in health care is widely accepted. However, there is still skepticism about the potential for culture change and methods for bringing this about are being debated. The interventions in this project systematically ensured that all training activities were multidisciplinary, that they addressed the concerns that these providers had on their units, and that they were maintained over time. This approach did have an impact on Safety Climate.

Funding: Gordan and Betty Moore Foundation

PEDAGOGICAL APPROACHES TO FACILITATE NURSING STUDENT GROWTH

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THE IMPACT OF BACCALAUREATE EDUCATION UPON PATIENT CARE OUTCOMES

Marjorie Dobratz, Ruth Rea, Connie Huber, Sandra Penland

NURSING STUDENT PERCEPTIONS OF REFLECTIVE JOURNALING: A CONJOINT VALUE ANALYSIS

Thomas Hendrix, Maureen O'Malley, Catherine Sullivan, Bernice Carmon

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IMPACT OF HUMAN PATIENT SIMULATION ON NURSING CLINICAL KNOWLEDGE

Mary Ann Shinnick, Lorraine Evangelista, Kulwant Dosanjh

BECOMING A NURSE: MORAL, COGNITIVE, AND SKILL DEVELOPMENT IN NURSING STUDENTS

Glenda Christiaens

SECOND CAREER MASTER'S ENTRY STUDENTS' SOCIALIZATION OUTCOMES

Felicitas dela Cruz, Marilyn Klakovich

THE IMPACT OF BACCALAUREATE EDUCATION UPON PATIENT CARE OUTCOMES

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Purpose: While increased nurse education is associated with lower patient mortality, and while magnet hospital status is linked to improved care environments, few reports are found that explain how baccalaureate education changes nursing practice. Therefore, the purpose of this presentation is to describe the impact of nurse education upon actual patient care outcomes at Providence St. Peter Hospital (PSPH).

Background: With a goal of magnet status and with financial support from their Foundation, as part of an educational continuum, PSPH entered into a collaborative partnership with the University of Washington, Tacoma (UWT) Nursing Program in autumn 2005. The educational setting met its mission of creating community partnerships by responding to the hospital's need for a better-educated nurse workforce. The academic program met the hospital's need by restructuring their baccalaureate curriculum from a two-year to a three-year program, rescheduling classes from weekly to every other week, and providing on-site classes at PSPH in Olympia. The practice environment supported their nursing workforce by arranging work schedules, providing classroom support, and giving tuition assistance. An entering cohort of 23 registered nurse students was evaluated at the end of their first year of academic studies (August 2006), and 18 students who completed the program were surveyed post-graduation in August 2008. The 12 BSN graduates who responded to the second evaluation described the impact of their baccalaureate education upon their nursing practice. The hospital's records showed documentation that a better-educated nurse workforce does improve practice outcomes.

Outcomes: Evidence-Based Practice (EBP) protocols that were designed in the nurses' undergraduate research courses have now been implemented at PSPH (*Neutropenic Diet, Active MRSA Screening*, and *Physical Restraints in the Acute Care Setting*). New BSN graduates are currently involved in developing additional EBP projects that are addressing: *Hourly Rounding in the Oncology Unit, Probiotics, Best Practices in Pressure Ulcer Prevention,* and *Does Gum Chewing Hasten Post-Surgery Peristalsis*? Five new BSN graduate are serving on PSPH's Research/Evidence-Based Practice Council. Another new BSN graduate used an EBP approach in planning and implementing a multi-disciplinary Orthopeadic Healing Center for elective joint replacement that resulted in high patient satisfaction scores and a decreased length of stay in the in-patient unit. As supported in the second UWT evaluation, BSN graduates stated, "I now think of patient care and nursing practice as research-based," and "I am now open to evaluating my practice and to ascertain if my practice is evidence-based."

Conclusion: The demonstrated success of this unique educational-practice partnership, with documented student satisfaction and with an improved care environment, resulted in another contractual agreement between UWT and PSPH. The PSPH Foundation provided funding for a second cohort of 33 registered nurses who began baccalaureate studies in autumn 2008.

NURSING STUDENT PERCEPTIONS OF REFLECTIVE JOURNALING: A CONJOINT VALUE ANALYSIS

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Purposes/Aims: The purposes of the study were to (a) determine the critical attributes of reflective journals, (b) determine the relative importance of each attribute as perceived by students as a whole and to specific demographic subgroups, and (c) specify how these attributes could be changed to maximize student perception of the value of reflective journaling.
Rationale/Conceptual Basis/Background: Reflection is growing in importance as a means to promote a learner-centered environment, where the learner is encouraged to learn through practice. Previous studies show that many students value reflective journals, but that this is not consistent for all students. Although there have been efforts to determine the level of reflection in a journal, no study has systematically analyzed the perceptions of students related to learning through reflective journals. This study begins to fill that void.
Methods: Conjoint analysis is a market-based research analysis model where customers make choices based on their preferences. These choices are based on the individual attributes of the product under consideration and are considered jointly (conjoint). The attributes of reflective journaling identified for this project are (a) time, (b) confidentiality, (c) format, (d) feedback, and (e) student result. Each attribute was then given three levels. For example time could be 15, 30, or 45 minutes. After IRB approval, 56 nursing students were given a 20 question survey. Each question presented students with a choice of two journaling experiences from which they had to choose one (Likert scale). Preference is calculated by performing simultaneous regressions of the five independent attribute variables. Marketing Simulation software then takes the attribute preference data and filters it through demographics and provides a result containing preference shares and standard errors. Confidence intervals and p-values (Z scores) were then calculated.
Results: The model was robust and explained 78% of the variability of student preferences. All results were significant at the 0.05 level. Students prefer less time and their satisfaction increases 36% if time is reduced from 45 to 30 minutes. Students prefer confidentiality and their satisfaction increases by at least 26% through assured confidentiality. Students expect results in their behavior and their satisfaction increases by 40% if they perceive positive changes in their behavior. Students prefer one-time comprehensive instructor feedback and their satisfaction increases 11% when they receive it. Students do not prefer a structured format and their satisfaction increases 10% by moving to open formats. Less experienced students preferred less time and more structure and more experienced students preferred more time and less structure. Finally, the "English as a second language" (ESL) students had completely different (statistically significant) preferences then non-ESL students in two areas. All students wanted their behavior changed but ESL students wanted it to a greater degree and ESL students did not want instructor feedback.
Implications: By understanding what their customers' (students) value, nursing instructors can better tailor reflective journaling requirements to maximize the perceived value of journaling while simultaneously adjusting those requirements to better serve increasingly diverse student populations, especially ESL students.

IMPACT OF HUMAN PATIENT SIMULATION ON NURSING CLINICAL KNOWLEDGE

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Introduction: Currently, there is a widespread shortage of clinical rotation sites for nursing students to practice clinical skills and many schools and acute care facilities have turned to Human Patient Simulation (HPS) as an educational tool. Use of HPS is common, yet its effectiveness is unclear. Therefore, the specific aims of this study were to: **(**1) determine if HPS improves clinical knowledge and (2) determine if HPS improves self-efficacy in clinical behavior in undergraduate nursing students.
Methods: Using a one group, quasi-experimental pre/post-test design, we examined 57 Master's Entry-level Clinical Nurse (MECN) program students, who were studied in groups of 10. All students completed pre-tests (Self-Efficacy for Nursing Skills Questionnaire and Clinical Knowledge Test), participated in four medical-surgical simulations (SimMan, Laerdal), attended debriefing, then completed post-tests (same as pre-tests) and an Attitude Questionnaire. Statistical analysis included T-tests, ANOVA, and Chi-square analysis between pre-and post-test scores.
Results: Analysis of Knowledge scores post-simulation compared to pre-simulation revealed a mean improvement of 5.6 points ($p<0.001$). Analysis of self-efficacy showed a mean improvement in all measured areas of 4 points. Though improvement in scores was seen in 33 (56.9%) subjects, there was no change in 6 (10.3%) and worse scores in 18 (31%) subjects. ($p<0.001$).
Conclusion: Findings reveal more questions than answers about the efficacy of HPS. Thus, a larger, more refined study is currently underway. It is designed as a quasi-experimental, pre-test/post-test cross-over design done at three different nursing schools using 75 generic undergraduate nursing students. The goals of this study are to determine if HPS improves critical thinking in an acute care situation (detection, evaluation, and treatment of heart failure) and which aspect of HPS (student hands-on activities with the simulator or in the debriefing period with the instructor) provides the greatest gains. We will identify which factors (HPS, baseline student characteristics) have the highest impact on clinical learning. 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.

BECOMING A NURSE: MORAL, COGNITIVE, AND SKILL DEVELOPMENT IN NURSING STUDENTS

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Purposes/Aims: The aim of this study was to identify how nursing students learn in clinical settings. Three areas of human learning and development were examined: moral development, cognitive development, and skill acquisition. The specific research question was: How do nursing students describe and interpret clinical experiences that have contributed to their moral, cognitive, and skills development?
Rationale/Conceptual Basis/Background: Disillusionment and stress are causing a high attrition rate among graduate nurses and are fueling the nursing shortage. These factors combined with the changing health care environment and changing student demographics point out the need for nursing education reform. The challenge to nurse educators is to understand how students progress and change over time in the areas of clinical, cognitive, and moral development. With that understanding, students can be provided with opportunities to gain clinical proficiency that more closely meets their learning needs and styles, preparing them for the challenges of current beginning nursing practice.
Methods: This qualitative interpretive phenomenological study design was informed by Benner, Tanner, and Chesla's (1996) studies on expertise in nursing practice. Small group interviews were held consisting of senior nursing students from around the United States. Participants were asked to tell stories about something that happened in their clinical experience that stood out for them because the situation was challenging or they felt stumped, worried, or concerned about what they should do. Transcribed interviews were compared within and across semesters to identify changes that occurred over time. Recurrent themes, paradigm cases, and exemplars were examined during data analysis that highlighted students' moral, cognitive, and skill development.
Results: Although participants changed in the areas of moral, cognitive, and skill development as they progressed through nursing school, changes were subtle and students did not all change equally or at the same pace. In moral development, hands-on learning and maintaining relationships with clinical staff were their main concerns, followed by patient well being. Cognitively, participants entered nursing school as dualistic, received knowers and most left as multiplistic, subjective knowers. Finally, they developed skillful practice mainly through repeated experiences in clinicals.
Implications: To promote moral, cognitive, and skill development in nursing students, nurse educators and clinical staff should maintain positive relationships with students and focus on hands-on learning. The more experience students gain in a safe learning environment, the better prepared they will be to enter beginning practice.

SECOND CAREER MASTER'S ENTRY STUDENTS' SOCIALIZATION OUTCOMES

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Purpose/Aim: To describe the socialization outcomes of second career master's entry nursing students using the Logic Model as the theoretical framework.

Rationale/Background: In response to the critical national nursing shortage, second career nursing programs have dramatically increased. These accelerated programs, however, provide limited time for students to socialize to the professional nursing role. Limited information exists about the outcomes of these fast-paced intensive programs in socializing non-nursing college graduates into the profession.

Methods: We surveyed three cohorts (N=51) of students enrolled in the Second Careers and Nursing (SCAN) program, an accelerated master's entry in nursing educational pathway, at the end of their prelicensure coursework. The surveys included the Interpersonal Communication Assessment Scale, Pre-Professional Clinical Competency Scale, Cultural Self-Efficacy Scale, and Dempster Professional Behaviors Scale which measures autonomy. All these scales have shown reliability and validity in previous studies. We also tracked NCLEX pass rates of these students. In addition, we obtained the evaluation of the students' preceptors at the end of an intensive 300-hour internship. Furthermore, we surveyed the employers of these new nurses at the end of their first year of employment.

Outcomes: The NCLEX pass rate for the first three cohorts is 94% with 3 students in cohort 3 who have not yet taken the exam. All those who passed are now working as RNs. Retrospective pre/post results at the end of the pre-licensure component for cohorts 1 & 2, and pre/post tests for cohort 3 showed a significant increase in the students' clinical and communication competencies. Scores on the Dempster Professional Behaviors Scale, which measures the extent of autonomy, ranged from 94 to 146 with a mean of 117 (SD=13.6), indicating a high degree of autonomy. Preceptor focus group results for cohorts 1 and 2 indicated, on the whole, that the students demonstrated strong interpersonal relationship skills, good bedside manners, assertiveness, confidence, and critical thinking. Similarly, telephone interviews with cohort 3 preceptors echoed previous preceptors' observations. In addition, these preceptors indicated that the students were motivated, professional, knowledgeable, caring, empathetic, eager to learn and to pitch in. Employer surveys showed that the new employees have received recognition from supervisors or associates for promotion and/or new job assignment. They also rank them as highly competent in communication skills, ethical/moral decision making, critical thinking, leadership and patient advocacy.

Conclusions/Recommendations: Evidence suggests that the accelerated SCAN program has successfully socialized the students into professional nursing. Further research is needed to tease out the specific program components and activities that significantly contribute to the socialization of non-nursing college graduates into the profession.

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PHYSICAL ACTIVITY, OBESITY, & ADOLESCENTS

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OBESITY RISK KNOWLEDGE AND PHYSICAL ACTIVITY IN FAMILIES OF ADOLESCENTS

Elaine Rutkowski

PSYCHOMETRIC TESTING: THE PHYSICAL EDUCATION ACTIVITIES SCALE

Diane Thomason

THE COMPUTERIZED PHYSICAL ACTIVITY REPORTER: USABILITY IN MIDDLE SCHOOL ADOLESCENTS

Patricia Pearce, Justine Reel, Jacquelyn Williamson Blaz, Sarah Iribarren, Sonya Soohoo, Ryan Pettit, Matthew Gunderson

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WEIGHT BIAS IN PEDIATRIC HEALTH CARE PROVIDERS: PHOTO ELICITATION WITH FOCUS GROUPS

Terri Moser Woo

OBESITY RISK KNOWLEDGE AND PHYSICAL ACTIVITY IN FAMILIES OF ADOLESCENTS

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Purpose: To examine obesity risk knowledge among adolescents and parents while describing the relationships between adolescents' obesity risk knowledge and selected demographic variables, as well as relationship to physical activity.
Background: Despite comprehensive campaigns geared toward the individual, family, and community concerning the risks of obesity, the number of adolescents and adults who meet the criteria for obesity continues to rise. It is predicted that the current generation of adolescents will have a life span shorter than their parents for the first time in our nation's history. The lifestyle of families has been identified as one of the modifiable behaviors that could reverse this trend. To date, there have been no effective measures implemented to reverse this trend.
Methods: This is a descriptive, correlational study using mixed methods. A purposive sample of 94 family dyads (one adolescent/one parent) were measured using the following standardized tools: Obesity Risk Knowledge (ORK-10); Self-Report of Physical Activity [PACE+ (adolescents), IPAQ (adults)]. Pedometers were worn for a 3-day period by adolescent participants. No multicollinearity was found among the independent variables. Correlations were computed to describe all statistical relationships among variables. A focus group of adolescents was conducted to examine the appropriateness of the ORK-10 for use in this age group.
Results: Simultaneous regressions models were examined. Findings included: a negative correlation (statistically significant) between parents who describe their physical activity as "vigorous" and adolescent physical activity; a negative correlation (statistically significant) between parents' obesity risk knowledge and "sitting time" for parents; the ORK-10 instrument was not effective in measuring the level of knowledge related to obesity among adolescent participants.
Implications: This study has the potential to support clinical interventions for the outcome of improving the physical activity levels and knowledge of obesity risks among family members as a means of combating family obesity. Such interventions may occur between practitioners and families of adolescents in primary care settings, school-based practices, community-based settings. Several items in the ORK-10 have been identified as incomprehensible to American adolescents living in southern California due to unfamiliar verbiage and contextual confusion. Further research needs to be conducted on the ORK-10 as the findings in this study lead to skepticism regarding the usefulness of this instrument in populations outside of the United Kingdom where it was originally developed.

PSYCHOMETRIC TESTING: THE PHYSICAL EDUCATION ACTIVITIES SCALE

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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 is a national epidemic and decreased physical activity is a major contributing factor. Nationally, 69% of high school students in 2007 did not attend physical education (PE) classes on a daily basis due to psychosocial and environmental factors. Studies on adolescents' views about school PE activities are rare. Adolescent experiences and insights into development of PE activity policies and programs are desirable. Studies show that incorporating views of adolescents improves likelihood of PE program success.

Methods: Ecological and instrument-development frameworks 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 physical education inactivity. School PE-activity policies and programs continue to be implemented based on adult perceptions of the problem. Without incorporating views and participation of the adolescent population, interventions and studies will continue to take place without making 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. Further testing with different adolescent populations is planned to strengthen reliability and validity of the PEAS.

THE COMPUTERIZED PHYSICAL ACTIVITY REPORTER: USABILITY IN MIDDLE SCHOOL ADOLESCENTS

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Purpose: The purpose of this presentation is to discuss the usability evaluation of the Children's Computerized Physical Activity Reporter (C-CPAR), done with 155 middle school adolescents during a psychometric study comparing the C-CPAR, a paper-based questionnaire, and accelerometry monitoring. The usability evaluation included: (a) the time taken for children to complete the 24-hour self report of physical activity and (b) a 4-item usability evaluation the adolescents completed after each completed four C-CPAR questionnaires and four paper-based questionnaires over 5 days.

Rationale: In earlier research, the Children's Computerized Physical Activity Reporter (C-CPAR) was designed *with* children, *for* children, integrating their understanding of physical activity, as well as the content and questionnaire structure they desired to support their self reports. Evaluating the usability of the questionnaire is critical for further use of the C-CPAR.

Methods: A convenience sample of 7th to 9th grade adolescents (N=155; n=69 females and n=86 males; mean age=13 years, *sd*=0.87; range 12-15) in public school participated. The participants were ethnically diverse: Caucasian (*n*=71; 46%), Hispanic (*n*=61; 39%), African American (*n*=11; 7%), Native American (n=8; 6%), Asian (*n*=3; 2%), Pacific Islander (n=1; 0.65%), and unknown 15 (9%). Measured height and weight, plus two 24-hour physical activity recalls daily for four days were completed, while each participant wore an accelerometer over the 5 day study period. For the usability evaluation, descriptive statistics were calculated, and content analysis was done for open-ended items, with data managed in Atlas/ti software.

Results: All the children completed the C-CPAR easily. Average C-CPAR report time was 13.5 minutes for a 24-hour report. Overall usability evaluation indicated instructions and completion of the questionnaire were easy (95%), the questionnaire included the activities they wanted to report (86%), and time to report was not too long (87%). The adolescents preferred the computerized questionnaire to the paper-based questionnaire and commented on the ease of using the C-CPAR. Of the Spanish-speaking participants, only 15% opted to use the integrated Spanish version.

Implications: Usability of the C-CPAR, with preference for the computerized questionnaire (vs. paper-based questionnaire) was demonstrated with 155, ethnically-diverse middle school children. Further evaluation of the C-CPAR in schools and ambulatory care environments will be essential in understanding psychometric base and usability in other venues.

Keywords: Physical Activity, Children, Adolescents, Usability, Computerized Questionnaire

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WEIGHT BIAS IN PEDIATRIC HEALTH CARE PROVIDERS: PHOTO ELICITATION WITH FOCUS GROUPS

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Background: The prevalence of overweight and obese children is increasing, posing a challenge for pediatric health care providers designing care for this population. Overweight and obese children and adolescents experience many of the same physical and psychosocial problems as overweight adults, including weight bias. Little is known about weight bias toward children among pediatric health care providers when assessing and planning care.
Aims: There were two aims in this study: (1) To describe the attitudes and beliefs of pediatric health care providers toward children depicted as normal weight or obese. (2) To describe the ways in which health care providers demonstrate weight bias when planning health care for children depicted as normal weight or obese.
Methods: This was an exploratory study of weight bias among pediatric health care providers that used photo elicitation methodology with focus groups of pediatric providers. Focus groups were shown sketches of normal weight and overweight twelve-year-old male and female children accompanied by standardized scenarios indicating the child was visiting the provider for a well child exam and sports physical. Focus group interviews were analyzed utilizing ATLASti software and concept maps were developed for each scenario discussion.
Results: Differences in focus group discussions demonstrated provider judgment in the approach to normal weight versus overweight children and male versus female patients. *Sexuality* was discussed within the normal weight but not the overweight scenarios. *Eating disorders* was discussed within the normal weight female scenario. *Height catches up to weight* was discussed in the overweight male scenario, implying the overweight male will outgrow his obesity. *Barriers to change* such as family eating patterns, living in an unsafe neighborhood and parental attitudes toward obesity were identified in the overweight male and female scenario discussions.
Implications: Findings from this study will inform pediatric practice, education and nursing research. Efforts should be made to mitigate weight bias toward overweight girls that focuses on diet and exercise and excludes certain health promotion recommendations at this age and counter the myth that overweight boys will out outgrow their obesity.

PUSHING THE BOUNDARIES OF METHODOLOGY

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PSYCHOMETRIC TESTING OF A COLLABORATIVE BEHAVIOR SCALE

Jaynelle Stichler

UNIVERSALIST APPROACH TO TRANSLATION OF HEALTH SURVEYS

Dian Baker

ANALYZING COMPLEX DATA: ROBUST REGRESSION, FIXED EFFECTS, AND TWO-STAGE LEAST SQUARES

Mary Blegen, Joanne Spetz, Shin Hye Park

PSYCHOMETRIC TESTING OF A COLLABORATIVE BEHAVIOR SCALE

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Purpose: To develop and test the psychometric properties of an instrument to measure the collaborative behaviors of nurses in relationships with managers and physicians.
Background: A literature review revealed a number of references to collaboration, but there were few empirical studies that operationalized the concept. From a concept analysis, collaboration was characterized by three dimensions: balancing of power, integration, and interpersonal valuing.
Significance: Collaboration between nurses, nurses and management, and nurses and physicians has been reported to have significant effects on job satisfaction, job stress, organizational commitment, professional practice, and optimal patient outcomes. An instrument that can operationalize the concept of collaboration between nurses and managers and nurses and physicians is needed for future nursing research.
Methods: This study used a multi-method approach to develop and test psychometric properties. An initial 93 item, 4 point summated Likert-type scale was developed using a retroductive triangulation methodology based on the theoretical frameworks of Deutsch and Homans. The questionnaire was reviewed by expert judges and determined to have an overall content validity index of .91.
Results: Factoral validity was established using an alpha factoring technique. Varimax rotation yielded a simple structure with 73% of the variance attributed to Factor 1. Factor loadings ranged from .79 to .92. The final 20 item Collaborative Behavior Scale (CBS) - Part A (nurse-manager) and B (nurse-physician) was designed as a self-report measure used to determine the extent of respondents' perception of collaborative behaviors in relationships. Reliability was initially tested using Cronbach's alpha with item total correlations ranging from .78 to .90 and a standardized item alpha of .98. Further psychometric testing of the CBS-A had a Cronbach's alpha of .96 with an inter-item correlation of .57, and the CBS-B revealed a Cronbach's alpha of .98 with an inter-item correlation of .68 (n=188). Convergent and discriminate validity of the instrument was confirmed using a multitrait-multimethod approach which correlated the CBS with the Kilmann and Thomas' MODE Conflict resolution scale (r-=.22**). The CBS-A was correlated with the Weiss Collaborative Practice Scale (r=.41***) and the CBS-B with the Stamps Physician-Nurse Interaction Sub-Scale of the Index of Work Satisfaction Scale (r=.58***) giving further support for the convergent validity for both parts of the CBS. Discriminate validity was confirmed with the bivariate correlations between CBS-A and the Physician-Nurse Stress subscale (r=-.21***). In a second study (n=88), the nurse-nurse (N/N) collaboration version of the CBS scale revealed strong correlations with the Communication subscale (.41**) and the Culture subscale (.47**) of the Professional Practice Environment (PPE) Scale providing further evidence of convergent validity. The Cronbach's alphas for the CBS in this study were .98 for both scales. The CBS-N/N and the CBS-B were moderately correlated (r=.39**) and both were correlated with PPE (r=.55**; r=.39**). The CBS is a 4 point Likert-type scale with response options ranging from "rarely"(1) to "nearly always"(4). The higher the total score, the more collaborative the relationship. The items of the CBS-A, CBS-B, CBS-N/N are identical, but the direction set is different and the instruments have different psychometric properties.
Implications: The Collaborative Behavior Scale has application to nursing in assessing the collaborative behavior of nurses in interactive situations or to measure the effect of shared governance initiatives or Magnet journeys on collaborative behaviors and ultimately on professional practice environments.

UNIVERSALIST APPROACH TO TRANSLATION OF HEALTH SURVEYS

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Specific Aim: To develop a culturally-sensitive and linguistically-appropriate Hmong translation of the *Searching for Hardships and Obstacles to Shots* instrument using a community-based participatory research approach (CBPR).
Background: Immunization (IZ) remains one of the most effective methods for prevention of serious infectious diseases and prevention of liver and cervical cancer arising from persistent viral infections. The incidence of both these cancers can be significantly lowered through immunization. The Hmong in California face high rates of vaccine-preventable cervical and liver cancer. However, there is currently little or no information available to identify specific barriers to IZ in the Hmong community. The *Searching for Hardships and Obstacles to Shots* (SHOTS) instrument, developed in 2007 by Dr. Victoria Niederhauser, is a community-based psychometric tool that measures parental barriers to immunization. The SHOTS instrument is one tool the Hmong community may use to understand parental perceptions of barriers to obtaining immunizations for their children.
Methods: Using a community-based participatory research approach, Herdman, Fox-Rushby, and Badia's universalist six-step process was used to ensure an effective and culturally sensitive translation process. Jones et al. adaptation of Brislin's translation method and cognitive interviewing were used for instrument translation. Two data sets were collected to test the Hmong version: a bilingual group divided into those taking the survey in English (BLE, n=72) and those taking the survey in Hmong (BLH, n=72), and a Hmong only group (H, n=58) to assess ease of administration.
Results: Cronbach's alpha reliability coefficient demonstrated internal consistency for each group (BLE and BLH=.956 each data set; H=.914). Two-sample Kolmogorov-Smirnov test validated the appropriateness of the survey translation with no differences between bilingual respondents whether they took the survey in English or Hmong (two sample K-S *D* range from .084 to 1.171; *p* range (asym, 2-tailed) from .129 to 1.00).
Implications: The translation process of the SHOTS instrument into Hmong used an integrated CBPR approach combining iterative communication in a community-based partnership with the Herdman et al. universalist approach to health survey translation. By using such approaches, the Hmong translation of the SHOTS instrument provides a strong and reliable tool that the Hmong community may use to plan for future interventions related to improving immunization rates that can potentially reduce the burden of serious infections and vaccine-preventable cancer.

This study was approved by the institutional review at California State University, Sacramento (protocol 07-08-003); funding was provided by National Institute of Health Extramural Associate Research Development Award Program. The researcher acknowledges with high regard and gratitude the support of research mentor, Dr. Joy Melinkow, as well as Dr. Rafael Diaz, Dr. Victoria Niederhauser, and the entire staff at Hmong Women's Heritage Association for their support in completing the study.

ANALYZING COMPLEX DATA: ROBUST REGRESSION, FIXED EFFECTS, AND TWO-STAGE LEAST SQUARES

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Purpose: The purpose of this project was to explore ways to control statistically for complex reality and imperfect data in estimating a causal model.
Background: Cross-sectional data are often the only data available to evaluate causal models used to describe a complex reality that exists in an environment in which experimental studies cannot be conducted. Several approaches have been suggested to improve the rigor of these analyses.
Methods: This research project used two data sets created by the University HealthSystem Consortium. The Clinical Data Set contained patient discharge data and the Operational Data Set contained nurse staffing (direct nursing care hours and patient days of care) at the level of the patient care unit. Risk adjusted outcomes were calculated using the AHRQ algorithms for Inpatient Quality Indicators and Patient Safety Indicators. Staffing data were calculated per patient day adjusted for short stay and observation patients. In addition, data describing the environment in which the hospital operated were also collected and linked: RN supply and general unemployment rate in the surrounding area. Ordinary Least Squares (OLS) regression results were contrasted with OLS with robust Standard Errors, Fixed Effect Regression, and Instrumental Variable analyses (2 stage least squares). Robust Standard errors were used to correct for nesting of quarterly values for staffing and outcomes within hospitals. Fixed effect regression considered all the hospital characteristics fixed and evaluated the variance across quarters in staffing and outcomes. Instrumental variable analysis was used to estimate nurse staffing levels with exogenous predictors to control the likely endogeniety of staffing in predicting outcomes.
Results: OLS regression coefficients with and without robust standard errors were useful in estimating the model, although inferences about statistical significance differed. Fixed effects regression found few significant coefficients using only the variance across four quarters to estimate the model. The selected instrumental variables were good predictors of nurse staffing in 2 stage least squares but the STATA diagnostics suggested that staffing was not endogenous in the model.
Implications: Advanced statistical analyses are necessary in estimating complex causal models with cross-sectional data. However, with the data available to this project, the simplest of those techniques was sufficient.

Funding: Robert Wood Johnson Foundation

QUALITY OF CARE EVALUATION

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HEALTH CARE PROVIDER EVALUATION OF FAMILY PRESENCE DURING RESUSCITATION

Kathleen Oman, Christine Duran

BUILDING NEW HEALTH SERVICES AND OUTCOMES KNOWLEDGE: PREDICTING RE-HOSPITALIZATION

Brenda Fischer

QUALITY NURSING CARE FROM THE PERSPECTIVE OF HOSPITALIZED PATIENTS WITH LIFE THREATENING ILLNESS

Shigeko (Seiko) Izumi, Judith Baggs, Kathleen Knafl

CONCEPTUALIZING THE ROLES OF NURSING HOME MANAGEMENT & GENERATING A PROGRAM OF RESEARCH

Elena Siegel

HEALTH CARE PROVIDER EVALUATION OF FAMILY PRESENCE DURING RESUSCITATION

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Purpose/Aims: The purpose of this study was to evaluate FP at resuscitations at an academic medical center in the western US. The specific aims of this study were to:

1. Determine the frequency that family members are present during resuscitations, and
2. Examine the health care providers' experiences with family presence during resuscitations.

Rationale/Conceptual Basis/Background: The benefits of family presence (FP) during resuscitation are well documented in the literature and it is becoming an accepted practice in many health care settings. There is sufficient evidence about health care provider's (HCP) and families' attitudes and beliefs about FP and little about the actual outcomes after family witnessed resuscitation. The holistic framework, one that preserves wholeness, dignity, and integrity of the family unit, guided this study.

Method: *Design:* A descriptive survey study design was used to generate quantitative and narrative data. *Setting:* Data were collected for a 12 month period from April 2007 – May 2008. *Procedure:* Code records were reviewed to determine when family members were present and to identify the health care providers involved in the code. *Sample:* A convenience sample of nurses, attending physicians, resident/intern physicians, and respiratory therapists, who participated in resuscitations where family members were present, were invited by email to complete a brief electronic survey consisting of 7 scaled questions, including the opportunity to add narrative comments.

Results: There were 106 codes during the study period. Family presence was documented on 31 (29%) records; in 24 (23%) records the family section of the form was incomplete. There were 174 health care providers who were listed on the code records, and 40 names (23%) were illegible or incomplete. The identifiable 134 HCPs were invited to complete the survey and 65 (49%) responded. Fifty-five percent were RNs, 12% were resident/interns, respiratory therapists, or other (hospital managers and pulmonary fellows), and 8% were attending physicians.

Respondents indicated that family members were able to emotionally tolerate the code situation (59%), did not interfere with the care being provided to the patient (88%). In addition, team communication was not negatively affected (88%). Seventy percent agreed or strongly agreed that the family member benefited by being present during the code; benefit to the patient, as determined by the HCPs, was evenly split with 50% stating no benefit and 50% indicating positive benefit. A family facilitator was present at 70% of the codes and it was usually an RN (41%), chaplain (17%), nurse hospital manager (15%), physician (9%), social worker (4%), certified nursing assistant (2%), or a combination of people (11%). Thirty narrative comments were summarized to reflect benefits and difficulties of having families present.

Implications: These study findings demonstrate that having families present during codes does not negatively impact patient care, is perceived to benefit family members, and that a dedicated family facilitator is an integral part of the process. Continued staff support and education is necessary to effectively implement a FP hospital guideline.

This study was funded by Sigma Theta Tau International, Alpha Kappa Chapter at Large.
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BUILDING NEW HEALTH SERVICES AND OUTCOMES KNOWLEDGE: PREDICTING RE-HOSPITALIZATION

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Purpose: The overall purpose of this study was to examine the predicative capability of the Outcome and Assessment Information Set (OASIS) for acute care re-hospitalization of home health care patients.

Background/Conceptual Basis: The emerging use of large clinical and administrative databases to mine and uncover new knowledge about key relationships among current practices and the organizational structures and processes that support them (Mitchell, 2008) was integrated with the Quality Health Outcomes Model (QHOM). The QHOM was created specifically to address the question of nursing's contribution to patient outcomes and globally to guide health outcomes research (Mitchell et al, 1998). In recent years quality of services has been an increasing focus in the United States health system. For home health care the focus on outcomes has resulted in mandated federal requirements that all home health care agencies participating in Medicare collect and report patient data using a single core set of measures in OASIS. The phenomenon of re-hospitalization remains the one outcome measure that has never improved despite it being a national priority.

Method: Secondary data analysis using a logistic regression model building process was conducted on retrospective data from OASIS collected during the time period of July 1, 2006 to June 30, 2007. This study was conducted in a Medicare certified home health care organization that is part of the largest public health system in California. The sample of 1802 patients with complete episodes of care was derived from a data set of 5,523 patients. All patients were included in the analysis and logistic regression model and the disease specific independent variables included patients with a primary or secondary diagnosis of diabetes and an open skin lesion or wound. The study methodology related to the backwards method of logistic regression modeling was useful in being able to examine a large number of variables and their relationship to a dichotomous dependent variable.

Results: The OASIS variables examined in the logistic regression model that showed significance as predictors of acute care re-hospitalization included a diagnosis of diabetes, overall prognosis, rehabilitation prognosis, existing dyspnea, existing urine and bowel incontinence, impairment in currently dressing the upper body, and the ability to take own oral medications.

Implications: This study adds to the growing body of research using OASIS. Since this design and method has not been described in the literature prior to this study it has interesting implications for future research using OASIS. Home health care nursing leaders can use the findings from this study to design focused interventions and delivery models to mediate or modify the effect of the predictive variables.

QUALITY NURSING CARE FROM THE PERSPECTIVE OF HOSPITALIZED PATIENTS WITH LIFE THREATENING ILLNESS

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Purpose: The purpose of this study was to explore views about quality nursing care from the perspective of hospitalized patients with advanced life threatening illness. This presentation is based on the hybrid approach to concept development and focuses on the fieldwork phase of the process. Findings will be integrated with a literature review to develop the concept of quality nursing care for this population.

Background: Providing quality care to all patients is nurses' professional responsibility and quality improvement is an urgent issue in the current health care system. However, a clear definition of quality nursing care grounded in the patient's perspective is lacking. Most quality indicators in hospital nursing are selected by health care providers; studies exploring quality of nursing care from patients' perspectives are limited. Furthermore, these studies fail to differentiate quality of care across different patient groups, overlooking the possibility that different groups may have different expectations and beliefs regarding quality nursing care. No study has addressed conceptualizing quality nursing care for hospitalized patients with life-threatening illness from the patient's perspective. Absence of a clear conceptualization of the defining attributes of the concept is an obstacle to improve quality of nursing care for these patients.

Method: The Hybrid Model of Concept Development[1] was used to guide the process of concept development. Following a literature-based concept analysis of quality nursing care, semi-structured fieldwork interviews were conducted with hospitalized adult patients with advanced life threatening illness. Audio-recordings of the interviews were transcribed verbatim and analyzed using qualitative content analysis.

Results: Fifteen hospitalized patients (8 men and 7 women, aged 24 to 85) with advanced illness participated in the interviews. Each participant had multiple hospital admission experiences with advanced life threatening illness. From their perspective, quality nursing care contains three attributes: competence, caring, and professional attitudes. When nurses provided quality nursing care by demonstrating these attributes, patients felt good, comfortable, and safe.

Implication: Results from this study will be integrated with literature-based concept analysis to define the concept of quality nursing care for this patient group. The newly defined concept will provide direction for quality improvement efforts. In addition, the attributes in the concept will provide a framework for developing a standardized measure of quality of nursing care for seriously ill patients.

CONCEPTUALIZING THE ROLES OF NURSING HOME MANAGEMENT & GENERATING A PROGRAM OF RESEARCH

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Purpose: Nursing Home Administrators (NHA) and Directors of Nursing (DON) form the core management team in most nursing homes. Little is known about the factors that best position this team to tackle widespread industry challenges and reverse the substandard care delivery practices and poor work environments that exist in many of our country's facilities. Heavy regulation and resource constraints complicate the questions we need to ask regarding the potential for this team to efficiently and effectively engage in quality improvement efforts and innovation in these settings. The purpose of this paper is to present a conceptual model that provides directions for a program of research focused on the roles of management teams in nursing home settings and relationships between the team's performance and outcomes.

Description of Methodological Framework: The conceptual model illustrates concepts, relationships among concepts, and directions for research, including:

- industry and organizational needs for the NHA and DON roles;
- structural elements of job descriptions, job designs, and minimum qualifications for NHA and DON roles;
- situational factors associated with the way NHA and DON job descriptions are enacted, in practice, including societal, organizational, and individual factors; and
- primary outcome measures of performance (i.e., tasks and behaviors) and secondary outcome measures at resident/family, staff, and organization levels.

Process Used: The conceptual model draws from Industrial & Organizational Psychology, with well established and well recognized conceptual underpinnings and methodological approaches to developing roles, clarifying role expectations, evaluating performance, and establishing foundations to link role performance to outcomes of interest.

Linkage to Nursing Practice and Research Problem: This conceptual model is used to guide the development of a program of research focusing on the core management teams in nursing homes, as integrated dyads. The short term goal is to identify the educational, organizational, and individual factors that support and promote efficient high quality nursing care delivery practices, quality of life for residents, and quality work environments. The long term goal is to establish nursing home industry infrastructures that ensure a well trained nursing workforce capable of managing and leading pervasive high quality care practices.

Conclusions: Effective management and leadership teams are critically needed to address the ongoing quality crisis in our nation's nursing homes. This conceptual model will guide the planning and execution of a series of studies—beginning with evidence-based NHA and DON job descriptions—and serve as a foundation for leading organization and industry-level change efforts.

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SYMPTOMS & INTERVENTIONS IN CHRONICALLY ILL ADULTS

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CARDIAC CACHEXIA: THE PSYCHOLOGICAL SIDE OF THE STORY

Samira Moughrabi, Lorraine Evangelista

HEALTH BENEFITS OF MEDITATIVE MOVEMENT AND IMPLICATIONS FOR PRACTICE

Carol Rogers, Linda Larkey, Roger Jahnke

LANGUAGE REPRESENTING RECALLED AND REAL-TIME EVERYDAY BREATHING INTENSITY IN COPD

Cathy Michaels

PATIENT-CENTERED SYMPTOM CLUSTERS IN PATIENTS RECEIVING BIOLOGICAL THERAPIES

Maria Cho, Marylin Dodd, Bruce Cooper, Judy Petersen, Christine Miaskowski

CARDIAC CACHEXIA: THE PSYCHOLOGICAL SIDE OF THE STORY

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Purpose: This descriptive, correlational study was conducted to compare levels of depression among cardiac cachectic and non-cachectic patients with chronic heart failure (HF) and determine whether depression is an independent predictor of cardiac cachexia (CC). We hypothesized that cachectic patients would have higher depression scores and that depression is an independent predictor of CC.

Background: Cardiac cachexia, defined as non-edematous weight loss of at least 6% over at least 6 months, is a serious complication of HF. The syndrome is associated with progressive body wasting affecting all tissue compartments, poor outcomes, and increased mortality. Multiple clinical and biological correlates of CC have been well documented; however, little is known about psychological correlates.

Methods: One hundred and fourteen patients in a university-affiliated, multidisciplinary HF clinic (age 56 ± 13 years, ejection fraction (EF) 33 ± 12%, 68% male, 57% Caucasian) completed the Patient Health Questionnaire-9 to assess levels of depression. Clinical variables (EF, New York Heart Association class, peak VO2, body mass index), and demographic variables (age, gender, race) were obtained from the medical record and included in the analyses. T-test for independent groups and Mann-Whitney U Wilcoxon W tests were used to compare cachectic (10.5%) and non-cachectic (89.5%) subjects on parametric and non-parametric variables, respectively. Stepwise logistic regression analysis was performed to determine the independent predictors of CC.

Results: Both cachectic and non-cachectic groups were statistically comparable in relation to age, gender, medication use, comorbidities, smoking and alcohol use, and functional status. Cachectic subjects had significantly lower EF (mean=24.5 vs. 34.2, respectively, p=.009) and higher depression scores (mean=7.17 vs. 4.27, respectively, p=.018) as compared to non-cachectic subjects**.** Multivariate logistic regression analysis showed that cachectic patients were more likely to be depressed than non-cachectic patients (odds ratio 1.23**;** confidence interval 1.024 - 1.48; p=.027).

Implications: The current study is the first study to show that a relationship exists between CC and depression. The data generated from this study highlight the need for health care professionals to implement interventions to alleviate depression in patients with HF. Moreover, this study underscores the need for larger scale research that take into account levels of depression among HF patients, particularly those with CC.

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HEALTH BENEFITS OF MEDITATIVE MOVEMENT AND IMPLICATIONS FOR PRACTICE

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Purpose: This presentation is designed to (a) propose a definition of Meditative Movement (MM), including proposed characteristics and standardization recommendations; (b) provide results of a comprehensive review of Qigong (QG) and Tai Chi (TC) as representatives of MM, describing the range of health benefits and populations responding to these practices; and (c) discuss implications for application of findings for research and nursing practice.

Background: Research examining psychological and physiological benefits of QG and TC is growing rapidly. The wide range of practices described as QG or TC has similar philosophical roots and expected benefit, but reviews generally treat them as separate targets of examination. Acknowledging QG and TC as forms of MM, noting the fit to the definition, and examining outcomes related to standard elements, allows for broadening the understanding of these similar practices. MM is defined as practices that include a focus on movement or postures, focus on the mind, and focus on the breath for achieving deep states of relaxation and spiritual connection.

Methods: Key words *tai chi*, *taiji*, and *Qigong* were searched in the Cumulative Index for Allied Health and Nursing, Psychological Literature, PubMed, and Cochrane database. Inclusion criteria: (a) randomized controlled trials (RCTs); (b) testing QG or TC; (c) published in peer reviewed journals, 1993-2007; and (d) published in English. Data collected for analysis: country, type and duration of exercise, number/type of subjects, control conditions, and reported outcomes. All outcomes related to QG and TC were identified and evaluated.

Results: Seventy-eight RCTs met criteria. Nine outcome category groupings emerged: bone density (n=4), cardiopulmonary effects (n=19), physical function (n=16), falls and related risk factors (n=23), Quality of Life (n=17), self-efficacy (n=8), patient reported outcomes (n=13), psychological symptoms (n=27), and immune function (n=6). Many studies reported significant responses to these forms of MM compared to an inactive control. Failure to achieve significance generally was associated with active controls with intervention elements expected to achieve similar results, very small numbers of participants, severe chronic illness, or weak MM intervention (eg, short duration). Studies did not consistently report sufficient dosing information to allow a meaningful meta-analysis. Very few studies cited prior research with relative forms of MM that may have supported or explained results.

Conclusions: Many patient populations including various geographic regions, age groups, and disease categories have been shown to benefit from TC and QG in 9 different categories of outcomes. It is time to look beyond our current models of physical activity/exercise and embrace the MM constructs in Nursing care to help transition frail, fatigued, and chronic sufferers of pain into a more active lifestyle while reaping benefits previously thought to only accrue to those practicing more vigorous exercises.

Practice Implications: Participants will participate in discussions to plan appropriate recommendations and referrals for MM, including TC and QG, for building health among selected, most-likely-to-benefit populations.

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LANGUAGE REPRESENTING RECALLED AND REAL-TIME EVERYDAY BREATHING INTENSITY IN COPD

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Purpose: To describe and compare recalled and real-time natural language (individual spontaneous words and phrases) breathing intensity (BI) descriptors that individuals with COPD associated with moderate to severe pulmonary impairment used to represent everyday breathing intensity.
Background and Rationale: The Symptom Interpretation Model (SIM), developed by Teel et al. and based on Leventhal's self-regulation framework, models a three-stage process: input, interpretation, and outcomes. Although SIM does not address language in the interpretation stage, Leventhal implied language use with a level of symptom processing labeled semantic processing. Words shift with physiological and psychological changes, as evidenced by language research studies utilizing full text analysis. Research in language and breathing pioneered by Simon in 1989 predominantly utilized laboratory-induced dyspnea to study participant selection of researcher-determined words and phrases to describe breathing intensity. Michaels and Meek studied the language of everyday BI, but no known studies describe and compare recalled and real-time natural language associated with the symptom experience of BI.
Methods: Using an exploratory design, 5 men and 5 women with a mean age of 71 (range 62-76) participated in an interview and screening as part of a larger study. Self-reported COPD (Mean FEV1/FVC=46%, SD=12.8) and moderate to severe pulmonary impairment (Mean FEV1% pred.=44%, SD=17.0) were documented with spirometry. Participants recalled the most difficult and most comfortable everyday BI intensity experiences and performed the 6-Minute Walk Test, evaluating real-time BI with natural language as well as the modified Borg scale after each 200-foot laps. Content analysis was used to analyze themes for recalled and real-time natural language breathing intensity descriptors.
Results: Participants represented everyday BI with narratives naturally languaged using word and phrases categorized as description (e.g."*get real tight*"), activity (e.g."*couldn't keep up[(walking]"*), cause (e.g."*when I bend over, I lose my breath"*), intervention (e.g. "*just had to stop and rest*"), judgment (e.g."*just slight, a little more than before"*), observation (like emotions, e.g."*frustrating and panicking at the same time"*), prediction (e.g."*when I'm stressed I find it difficult to breathe"*) and relevance (e.g."*it's not my life, it is an inconvenience*"). Everyday BI was most frequently represented by description, and about twice the descriptors were used to represent the most difficult breathing experience compared to the most comfortable. Moreover, 6 of 10 participants represented the most comfortable breathing by describing what it is not, i.e. they referenced the most difficult BI. Observation, intervention, and cause were most frequently used to represent the most difficult breathing experience while observation, activity, and judgment were most frequently used to represent the most comfortable breathing experience. Judgment was primarily used to represent real-time BI, followed by observation and description.
Implications: This study demonstrated the holistic way in which participants with COPD and moderate to severe pulmonary impairment used natural language to describe the symptom of everyday BI. Narratives primarily represented BI as description, activity, cause, intervention, judgment, and observation of associated phenomena. Recalled BI contributed a broader range of representation than real-time BI. Continued research will demonstrate the best approach to representational assessment of symptoms for nurses to effectively coach and guide patients in everyday BI self-management.

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PATIENT-CENTERED SYMPTOM CLUSTERS IN PATIENTS RECEIVING BIOLOGICAL THERAPIES

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Purpose: The purpose of this study is to identify subgroups (classes) of patients with different symptom experiences while receiving biological therapies, and examine subgroup membership stability and change from T1 (at first dose of biologic therapy) to T2 (a month later), and to compare the subgroups on quality of life (QOL) and functional status (Karnofsky Performance Scale: KPS).

Rationale/Conceptual Basis/Background: Despite an increasing body of literature on cancer treatment-related symptom clusters and their negative impact on quality of life, no study has reported patient-centered symptom clusters and quality of life in patients receiving biotherapy over time. Concept Development (Meleis, 1997) was used.

Methods: Descriptive, prospective, cohort study design was used in an internet online survey. At T1, 188 patients with various types of cancer received biotherapies. The mean age was 52 years (SD=10.56), 83% were women, 100% had at least high school education, 76% were married, 54% worked full or part time, and 93% were Caucasian. At T2, 114 subjects returned to the online survey, and the demographic characteristics for this group were similar. The Piper Fatigue Scale, General Sleep Disturbance Scale, CES-Depression, a numeric rating scale of worst pain intensity, QOL-CA, and KPS were used. Internal consistency of all instruments ranged from .87 to .97. Latent transition analysis was used for determining group membership changes from T1 to T2.

Results: Three patient subgroups at T1 and two patient subgroups at T2 showed a statistically stable and significant model. The matrix of transition created six distinct patient subgroups: (1) mild pain and fatigue; (2) mild pain, fatigue, and sleep disturbance; (3) mild pain, moderate fatigue, sleep disturbance, and depression; (4) moderate pain, fatigue, sleep disturbance, and depression; (5) high severities on all four symptoms; and (6) high severities on all symptoms with moderate pain. The notable findings were the patients who classified to the (5) and (6) subgroups who had low quality of life scores (range 3.5 to 4.7 QOL). The patient subgroups with greater than moderate severity of all four symptoms subgroups (4, 5, and 6) showed lower functional status (range 63% to 76% KPS) than the other patient subgroups (range 85% to 95% KPS).

Implications: Patients receiving biological therapy reported similar or even higher symptom scores than patients receiving chemotherapy ± radiation therapy. Subgroups of patients who had high severity of the four symptoms need an assessment of their symptoms and an intervention to improve their QOL and functional status over time.

Funded by the Oncology Nursing Foundation.

TEAMS IN COLLABORATION

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INTERPROFESSIONAL HEALTH CARE TRAINING: PARTNERING WITH COMMUNITY AGENCIES

Caroline Ellermann, Marylyn McEwen

INTERDISCIPLINARY TEAM EXPERIENCE AT THE UNIVERSITY OF UTAH

Gerrie Barnett, Susan Hall, Lynn Hollister

PERCEPTIONS OF DISEASE CONTROL AND LEARNING ORIENTATION

Deana Molinari, Deanna Dye

COLLABORATION BETWEEN DISCIPLINARY TEAMS IN A COMMUNITY-BASED PROGRAM FOR ELDERS

Kyung Hee Lim, Deborah Vincent, Joyce Verran, Cathy Michaels, Linda Phillips

INTERPROFESSIONAL HEALTH CARE TRAINING: PARTNERING WITH COMMUNITY AGENCIES

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Purpose: The purpose of this project was to bring together health profession students from six disciplines to produce professionals who are competent to collaborate while learning within a cultural and rural frame. The specific aims were: (1) for students to learn to work collaboratively in an interprofessional team, (2) to stimulate future health care workers' interest in serving in rural communities, and (3) to increase understanding of cultural relevance to health care.

Rationale/Background: Although it has been difficult to clearly identify shared and leveled requisite knowledge and skills among disciplines in the literature, the concept of interprofessional collaboration and beliefs about the necessity of the interprofessional role in providing high quality health care has been advancing. Relevant learning for working in interprofessional teams in literature relates to: (1) students understanding their own and other professions' role and knowledge base, (2) human relationships [communication, attitude, ethics, adaptability, and understanding group work], (3) critical thinking, and (4) decision making.

Process: Partnerships were established between faculty at two universities, staff at two regional Area Health Education Centers and members of grass root community-based organizations in two Arizona rural communities to co-create a unique, culturally diverse rural learning experience for interprofessional learning. Interprofessional faculty teams developed a curriculum based on five essential concepts: interprofessional teams, health information literacy, community, rural, and culture. Local resources provided cultural tailoring and a rich context for learning. Students, faculty, and community partners participated in meaningful problem-based group learning in which all participants contributed from their disciplinary perspectives. Students lived in a rural community for four weeks; one community was on the US-Mexico border and the other community was in the Navajo Nation. During the practicum the interprofessional team: collaborated on an issue identified as priority by the community, had a rich cultural experience, and shadowed a health professional to better understand their disciplinary role and contributions in the rural community. The community agency partners were consistently available to students.

Outcomes: The students, faculty, and community reported different but equally rewarding project learning outcomes. A common theme among student, faculty, and community outcomes was high degree of satisfaction with the learning experience and the outputs; a disaster preparedness plan for the Chapter Houses and a comprehensive assessment of the older adult community. The project established new community partnerships which has opened future learning opportunities for health profession students. This project contributes new knowledge to understanding what is needed for success in building community-based interprofessional learning experiences for health profession students and community partners.

Grant Funding Acknowledgement: Arizona Area Health Education Center.

INTERDISCIPLINARY TEAM EXPERIENCE AT THE UNIVERSITY OF UTAH

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Purpose: To describe the process and student feedback of an interdisciplinary health care team experience.

Background: In 2003, The Institute of Medicine (IOM) recommended health care disciplines need to be educated using an interdisciplinary team approach to improve patient outcomes (Finkelman & Kenner, 2007). The use of a team approach increases patient safety by decreasing communication errors and increasing transparency of the different disciplines (Finkelman & Kenner, 2007). The Association of American Colleges of Nursing expects baccalaureate graduates to communicate and work effectively as members of interprofessional teams. Therefore, The University of Utah Health Sciences Center developed interdisciplinary team experiences for students in the health science professions.

Process: This project began with the development of cases for standardized patients (congestive heart disease, breast cancer, diabetes, and stroke). The standardized patients were hired and trained for their health alteration. Students in the final semester of medicine, pharmacy, physical therapy, occupational therapy, speech therapy, nutrition, and students in the 3rd and 4th semester of a four semester baccalaureate nursing program registered for the experience. Every effort was made to form teams with representatives from each of the different professions.

Students were introduced to the Faculty Facilitators (from medicine, nursing, pharmacy, physical therapy, etc.) and then divided into interdisciplinary teams of 5 or 6. Each of the students read a brief summary of the patient and then performed a limited physical assessment and interview which was observed by their teammates via closed circuit video. The team then discussed the patient's problems and developed a united plan of care. All teams were brought together with a faculty facilitator to present their plans to the other groups.

Outcome: Informal feedback from group participants was obtained to determine group attitudes toward the experience and to improve future experiences. A large majority of the participants felt the experience was positive and that the interaction they had with the other team members was good practice and reinforced that use of a team was beneficial to patient care. The participants felt the absence of one or more of the professions from the team made the experience slightly more negative. The majority expressed surprise about the knowledge and abilities of the other professionals.

Recommendations: Scheduling of interdisciplinary activities was the most difficult challenge to overcome. Planned future program improvements include refinement of case studies to ensure they have sufficient cues for all disciplines to address specific problems, thus allowing all disciplines to contribute to the plan. Finally, specific instructions and preparation of disciplines new to working with standardized patients will be instituted.

American Association of Colleges of Nursing. (August, 2008). Draft Revision of The Essentials of Baccalaureate Education for Professional Nursing Practice.

Finkelman, A., & Kenner, C. (2007). *Teaching IOM, Implications of the Institute of Medicine Reports for Nursing Education.* Silver Springs, MD: American Nurses Association.

PERCEPTIONS OF DISEASE CONTROL AND LEARNING ORIENTATION

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Aims/Purpose: The purpose of the study was to analyze the influence of disease control perceptions on individuals' learning orientation (LO).

Rationale: Patient educators desire a reliable method of diagnosing and treating patient education needs. Various mass communication technologies will enable treating people's educational needs if learning prescriptions can be developed. Learning prescriptions must consider a variety of patient characteristics such as perceptions of prognosis, disease control, stage of change, and learning orientation. Many studies indicate that personalized education produces increased learning outcomes.

Learning orientation is considered more influential than learning style when it comes to behavior change. Learning orientation considers the affective and social characteristics that control motivation, intention to learn, and control over learning. The learning orientation questionnaire quantifies environmental factors, types of instructional presentation, and levels of social interaction that support the learners' interests, values, and expectations. To date no application of learning orientation theory has been applied to patient education. The aim of this study was to measure learning orientation of patients and to compare orientations with perceptions of illness and disease control.

The theoretical foundation was intentional learning orientation theory. An adaptation of the learning orientation questionnaire was developed and tested as part of a research trajectory to develop diagnostic learning systems that enable educators to "treat" health education needs.

Methods: A convenience sample of new patients entering cardiac and balance rehabilitation clinics in Idaho and Colorado were given the health learning orientation questionnaire (HLOQ) with additional questions about illness and disease control perceptions. Both descriptive and comparative statistics were conducted.

Results: Forty-one participants with a mean age of 65.6 years responded. Responses to the HLOQ were similar to results from the learning orientation questionnaire which is normally used in academic and business settings. Descriptive statistics indicate patients possess similar learning orientations to students and workers. Findings support previous studies indicating the LOQ is suitable for all age groups. Increased perceptions of illness were associated with decreased levels of learning orientation. Significant HLOQ correlations were found with age ($p=0.03$) and motivation ($p=0.01$). Correlations were also found for beliefs that one can improve self care practices with perceptions of good prognosis and ($p=0.02$) and motivation to change ($p=0.01$).

Conclusions/Implications: Understanding how to assess patient learning is foundational to tailored health education prescriptions. Tailored education is thought to be the best way to healthy self-care practices. This tool in conjunction with health promotion theories like the Stages of Change can set the stage for mass customized learning prescriptions chronic disease patient education. Further testing with the stages of change model and experiments with face-to-face and online interventions is planned.

COLLABORATION BETWEEN DISCIPLINARY TEAMS IN A COMMUNITY-BASED PROGRAM FOR ELDERS

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Purpose: The purpose of this study was to test a hypothesized causal model of collaboration between disciplinary teams caring for elders in a community-based program, Korean Home Visiting Services (KHVS) where nurse teams and social worker teams collaborate to deliver quality comprehensive services to the elderly.

Background: Most of the elders experience physical, economic, and psychosocial changes that require comprehensive and coordinated services including health care and social welfare services. In order to provide the elderly those care services in community settings, collaboration between health care and social welfare providers is important. There is an abundance of literature discussing the various significant factors that affect collaboration. However, there is a paucity of conceptual models to identify how those factors directly or indirectly influence the process and degree of collaboration. In this presentation, a hypothesized collaboration model is proposed to explain how significant variables, personal and context, affect the process and degree of collaboration.

Methods: The proposed collaboration model was based on the System Research Organizing Model and includes four components: team members, context, process, and outcomes. A descriptive design using a causal modeling approach was used to test the collaboration model. The research settings were the public health care centers and welfare centers in five provinces of Korea. Forty nurse teams and forty social worker teams were invited to participate in this research. Data were collected from each team member and leaders involved in the KHVS using seven instruments. All team data were analyzed at the team level. Descriptive statistics were used to assess each variable of the four components. A stepwise multiple regression technique was used to test the hypothesized model.

Results: First hypothesis, team member and context variables have a direct effect on the collaboration process, was rejected. However, some team member variables directly impacted the collaboration process. Second hypothesis, team member, context, and collaboration process variables have a direct effect on the degree of collaboration, was rejected. However, some team member, context, and collaboration process variables directly impacted the degree of collaboration. Based on the research findings, the hypothesized collaboration model was revised.

Significance: This study presented some implications for further research and collaboration practice. Future research needs to determine the reciprocal influence of each construct variable, explore the roles of each leadership style, and identify intervening or extraneous variables affecting collaboration. For the collaboration practice, this research can help health care providers develop realistic and effective strategies to enhance their collaboration, which would lead them to not only assess the elderly holistically, but to also effectively plan and provide comprehensive care services to solve complex health problems of the elderly.

UNDERSTANDING MENTAL ILLNESS, PRISONS, AND THE LEGAL SYSTEM

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FORENSIC NURSES' EXPERIENCE OF RECEIVING CHILD ABUSE DISCLOSURE

Christine Finn

PRISON RECIDIVISM AND WOMEN WITH SERIOUS MENTAL ILLNESS: GENDER MATTERS

Kristin Cloyes, Bob Wong, Seth Latimer

UNDERSTANDING CULTURAL PERCEPTIONS: FOUNDATION FOR IPV INTERVENTIONS

Jan Shoultz, Lois Magnussen

MULTIFAMILY GROUP PSYCHOEDUCATION TREATMENT FOR MENTALLY ILL YOUTH

Karen Schepp, HeeYoung Lee

PATTERNS OF PSYCHOTROPIC MEDICATION PRESCRIPTION IN YOUTH PRISON: PART 1: CHAID ANALYSIS

Kristin Cloyes

FORENSIC NURSES' EXPERIENCE OF RECEIVING CHILD ABUSE DISCLOSURE

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Purpose: The purpose of this study is to describe the context in which child abuse victims have disclosed their abuse; the forensic nurse participants are the teachers and present their world in their own words from their own perspective as the professionals aiding the child victims disclose their stories.
Rationale: Children are being hurt every day. A child's self-disclosure of abuse is a critical component in initiating intervention to stop the abuse. It is not yet understood why some children disclose while others remain silent, or what factors may be helpful to prompt disclosure. The primary research question was: What is the context of child abuse disclosure? Questions addressed with the informants included: "Tell me your experience as a forensic nurse of hearing a disclosure from a child. As you think of these experiences, is there one situation that seems to be rather typical, to embody many of the characteristics of other child abuse disclosures?"
Methods: This was a descriptive qualitative study informed by narrative inquiry. Thirty forensic nurses were recruited through a flier through the International Association of Forensic Nurses and purposeful and snowball sampling techniques.
Results: Data analysis was completed throughout the study using a manual technique. In-depth audio-taped interviews utilizing open-ended questions were employed to generate data. Participants told a story about the context of child abuse disclosure from their experience. Transcribed data were analyzed using qualitative descriptive and narrative inquiry techniques. Narrative structural element analysis revealed patterns and themes that emerged across the interviews. There were six major themes identified: initial verses secondary disclosure, setting/environment, rapport, listening, believing, and false disclosures.
Practice Implications: Believing the unbelievable MUST become an integral part of our practice when caring for potential survivors of child abuse. Building rapport, providing a supportive non-judgmental/believing, caring, and open listening environment must be paramount in all of our interactions with children.

PRISON RECIDIVISM AND WOMEN WITH SERIOUS MENTAL ILLNESS: GENDER MATTERS

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Background: Two groups now constitute the fastest growing segment of the US prison population: women and the mentally ill. In 2005, 95,096 women were incarcerated in state prisons, representing a 66% increase over the last decade and roughly 7% of the current population. Seventy three percent of women in prison report experiencing mental disorder, compared with 55% of male prisoners. The vast majority of these women serves time for non-violent, drug related offenses, and most are mothers of young families who will return to their communities within 5 years. Previous program and policy analyses criticize a critical lack of gender-sensitive services and research for women with mental illness.
Purpose: Study aims were twofold: (1) to identify and describe the population of people with serious mental illness (SMI) released from Utah State Prison during the five year period 1998-2002 (N=9,245); (2) to compare recidivism rates, defined as return to prison, for this with rates for persons without SMI released from the prison in the same period. Results were compared by gender, examining how recidivism rates, severity of illness, and clinical profiles differed for men and women in the SMI group.
Methods: A systematic search of prison records and medical data identified those cases that met study criteria for SMI (N=2,112, 23% of the population). Detailed chart reviews were completed for each SMI case, collecting retrospective data related to clinical status, mental health treatment and prison resource use. Survival analysis calculated time from prison release and return across all study events (N=14,621) comparing time for SMI and non-SMI cases while controlling for demographics, degree and type of crime, and condition of release. We performed latent class analysis based on indicators of SMI found in chart data, and calculated severity of illness scores using these indicators. We compared the results of survival analysis, latent class analysis, and severity of illness scores by gender.
Results: Four hundred and ninety-eight women met study criteria for SMI. Therefore, women constitute 23.6% of the SMI sample, but only 9% of the Utah State Prison population. Overall, women stayed out of prison longer than men regardless of SMI status. Women with SMI returned to prison 155 days sooner than non-SMI women, while men with SMI returned 129 days sooner than non-SMI men. Yet while men with SMI are at highest risk for reincarceration, the influence of SMI-related factors on survival time was greater for the women in our sample than the men: SMI status demonstrates an asymmetric effect on survival time by gender. Further, women had significantly higher mean illness severity scores than men, $t(878)=3.56$, $p<.001$.Women with the highest illness severity score had shorter median survival times than their male counterparts (238 days in community vs. 275). Finally, the majority of women in our sample were assigned to one latent class associated with predominant mood disorder symptoms, few indications of psychotic symptoms, a discontinuous to steady pattern of use, limited mental health related housing, and a confirmed SMI diagnosis.
Implications: Women with serious mental illness may be at increased risk of repeated incarceration due to factors specifically related to serious mental illness. Support services that target the needs of such women could have exponential effects, considering the potential breadth of impact on the health of families and communities. Research and interventions that do not account for gender effects may lack the specificity or relevance to meet the unique needs of women with serious mental illness.

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UNDERSTANDING CULTURAL PERCEPTIONS: FOUNDATION FOR IPV INTERVENTIONS

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Purpose/Aims: The research question is, "What are the cultural perceptions, responses, and needs of selected individuals and groups served through a variety of programs that are affiliated with the three participating community health centers (CHCs) regarding IPV?" Staff at the CHCs believed they could provide more effective care for women who experienced IPV if they had information from the women whom they serve.

Rationale/Conceptual Basis/Background: The theoretical foundation for this study is Critical Social Theory, a post-modern philosophical perspective that acknowledges that while there are many truths and many voices to express those truths, some voices are privileged and others are marginalized. The use of the Community-Based Participatory Research (CBPR) approach to this study is consistent with the perspective of Critical Social Theory. An expected outcome of CBPR is the attainment of new knowledge that guides actions. Meleis (1992) suggests that individual problems cannot be separated from the broader social and political context; they are influenced and constructed by social, cultural, and historical conditions in the larger community.

Methods: This descriptive study was designed in two phases (individual interviews and focus groups) using both qualitative and quantitative methods and conducted over a two year period with three cultural groups. Both women who had and who had not disclosed that they had experienced IPV and were 18 years and older participated. Analysis of qualitative data from individual interviews and focus groups was accomplished using content analysis. Quantitative data included perceptions of the acceptability of violence and demographic data and was analyzed using descriptive statistics. The individual and group perspectives were combined and provided insights regarding the cultural group's perceptions of IPV.

Results: The preliminary findings suggest that cultural perceptions and responses differ not only among the cultural groups, but in contrast to Western notions of family, male and female roles, and family life. Protective factors that once existed in the native country of an immigrant population or in an indigenous population prior to Western contact are no longer present. Outcomes from the study are increased knowledge of both individual and group perceptions of IPV from the three cultural groups. Groups varied in their perceptions. IPV was a part of the childhood experience of many Native Hawaiian women and is commonly perceived to result in visible injury which requires emergent care. Chuukese women viewed IPV as directly related to their partners' marital infidelity; however, they believe the woman's role is to maintain peace within the family even when IPV is present. Filipino women were reluctant to disclose IPV due to fear of deportation, shame, cultural shock, lack of understanding, and fear of retribution to their family in the US and the Philippines. Some common perceptions among the three groups were identified. Women in all three groups experienced IPV and saw that it influenced not only their own lives, but their family and community. External agencies including the CHCs are important to women in identifying IPV and providing resources and support.

Implications: These findings are being used to develop culturally appropriate IPV interventions that will need to be tested within the three CHCs.

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MULTIFAMILY GROUP PSYCHOEDUCATION TREATMENT FOR MENTALLY ILL YOUTH

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Purpose: The purpose of this paper is to present the results of a multifamily group psychoeducation stress management treatment for mentally ill youth in which the aim was to increase family functioning, decrease stress, and improve family members' attitudes.

Background: Having a mentally ill family member can be extremely stressful for families, especially when the illness is schizophrenia and the person affected is an adolescent. For many youth, the symptoms begin with little or no warning, catching the youth and family members off guard with no preparation for what this illness is or how to deal with it. This period when the illness is just beginning to appear, is often known as the "first break," and is typically a crisis period for the whole family. It is well documented that it is at this time that families desperately want and need help to dealing with the crisis. The theoretical framework supported this study derived from components of theories of stress management, family functioning, and crisis intervention.

Methods: This study was a two-group randomized clinical trial with 40 families who had a youth aged 15 to 19 with schizophrenia. Subjects included the youth and their family members, anyone in the family who was involved in the care of the mentally ill youth. The multifamily group treatment included 152 family members with 93 in treatment group and 59 in control group. The treatment group consisted of 49 parents and other adults such as grandparents, 24 teens with schizophrenia, and 20 siblings. The control group consisted of 59 family members with 25 parents and older adults, 14 youth with schizophrenia, and 20 siblings. The treatment consisted of 12 2-hour sessions with 6 intense weekly sessions followed by 6 monthly booster sessions. Measures were Symptoms of Stress Scale, Family Adaptability & Cohesion Scale II, and Family Attitude Scale (alphas>.70 for each). Analysis included independent and paired t-tests.

Results: Although there was no significant difference between the groups, there were significant differences noted within the treatment group over time that were not found for the control group. The TX group showed a significant difference from baseline over the course of 12 treatments on the three major outcomes: improved family functioning (t=2.0, p=.05), improved family attitudes (t=-2.0;p=.05), and reduction in symptoms of stress experienced by the youth (t=-2.9, p=.01). The control group did not show significant improvement over time for any of the three outcomes.

Implications: The treatment was effective in helping families in the midst of crisis enhance their level of functioning and improve their attitude toward each other and decrease the level of stress experienced by the youth. Psychiatric nurses and other mental health providers are in key positions to implement stress management psychoeducation for families as part of the youth's overall treatment. The multifamily group approach to delivering the treatment is cost effective and provides the opportunity for families to support each other and learn how to provide a more therapeutic environment at home.

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PATTERNS OF PSYCHOTROPIC MEDICATION PRESCRIPTION IN YOUTH PRISON: PART 1: CHAID ANALYSIS

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Background and Significance: The number of children and adolescents serving time in secure juvenile facilities (youth prisons) has increased 44% in twenty years. In Utah, an average of 190 youth resides in secure facilities daily. Many of these youth have clinically significant symptoms of mental health disorders, and roughly 30-50% of them are prescribed psychotropic medications. Youth prisons have become a critical site for mental health intervention for at-risk youth. The primary mode of treatment in these settings is psychopharmacology, and the use of psychotropic medications has become a key point of political and clinical contention. Nevertheless, there is a remarkable lack of empirical data related to psychopharmacologic practice in these settings.
Purpose: This study was conducted in cooperation with the Utah Division of Juvenile Justice Services (JJS). This state agency administers 6 secure care facilities, where youth up to 18 years of age are incarcerated long term. The study had two primary aims: (1) to describe patterns of prescription and use of psychotropic medication in and across the six facilities; and (2) to explore provider and staff practices, attitudes, and beliefs related to psychopharmacological treatment. A long term aim is to contribute empirical data to a best practices approach to mental health treatment for youth in these facilities across the US.
Methods: This mixed methods study combined retrospective clinical data and interviews with psychiatric providers and staff working at each facility. Here we report on the analysis of chart data, interpreted within the context of interview findings. Systematic chart reviews were conducted for all youth residing in the 6 JJS secure care facilities June-August 2007 who were also prescribed psychotropic medications (N=75). Categorical and ordinal data related to patterns of medication use were collected, as well as descriptive demographic and clinical data for each case. To examine patterns of psychotropic medication prescription, understood as the effect of a set of complex clinically and culturally derived decisions, we used Chi-squared Automatic Interaction Detector (CHAID). This allowed us to explore these data for significant interactions among variables that predict antipsychotic prescription, an event that emerged as statistically and qualitatively significant.
Results: Atypical antipsychotics were the second most frequently prescribed class of medications (N=42, 56%) and quitiapine (Seroquel) was the most common specific medication (N=27, 39%). This is despite only 23% of our sample having a recorded history of diagnosis with psychotic features (such as schizophrenia, bipolar disorder, mood disorder NOS or psychosis NOS) and 13% having recorded histories of psychotic symptoms, all conditions conventionally associated with antipsychotic treatment. The variables most predictive of antipsychotic use were whether youth were prescribed multiple meds concurrently, χ^2 (1, N=42) = 15.49, p<.001, followed by whether youth had a diagnosis of ADD/ADHD, χ^2 (1, N=34) = 6.3171, p<.01. Further, antipsychotics were significantly correlated with ADD/ADHD diagnosis, p=.002.
Implications: Patterns of antipsychotic medication use indicate that antipsychotics are used in this sample primarily to manage ADD/ADHD and behavioral symptoms. Overall medication dosages, both stimulant and non-stimulant, are quite low compared with typical dosing found in community practice. While the prescription of adjunctive medications is conventional practice in the psychopharmacologic treatment of youth and adults, the correlation of antipsychotic use and ADD/ADHD is not common. Interviews with providers and staff described a prevailing stigma attached to prescribing stimulants for ADD/ADHD treatment in prison. Findings suggest that psychopharmacological practices are informed as much by culture and context as scientific theory and standards of practice.

VULNERABLE FAMILIES

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NORTHERN BRITISH COLUMBIAN MOTHERS: RAISING ADOLESCENTS WITH FETAL ALCOHOL SPECTRUM DISORDER

Suzanne Johnston, Joyceen Boyle

RELATIONSHIP OF MOTHERS WITH ASTHMA AND CHILDREN SCORES ON ASF

Susanne Cook, Karen Sousa, Judy Harris

PARENTS' EXPERIENCES FOLLOWING CHILDREN'S MODERATE TO SEVERE TRAUMATIC BRAIN INJURY

Cecelia Roscigno, Kristen Swanson

FATHERS' PERCEPTIONS OF SUPPORT DURING THE POSTPARTUM AND PPD SYMPTOMS AT 6 WEEKS

Danuta Wojnar

TRANSITION, EDUCATION, EXPERIENCE, AND CARE AT HOME (TEEACH) TRANSITION HOME FROM THE NICU

Robin Bisgaard, Roberta Rehm

NORTHERN BRITISH COLUMBIAN MOTHERS: RAISING ADOLESCENTS WITH FETAL ALCOHOL SPECTRUM DISORDER

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Purpose: The purpose of this interpretive ethnography was to understand the beliefs and practices of Aboriginal mothers in Northern British Columbia as they promoted the well being of their adolescent children who have Fetal Alcohol Spectrum Disorder (FASD).

Background: Northern British Columbian Aboriginal mothers raising adolescents with FASD face many challenges. FASD is a major health concern for Aboriginal people. "There is consensus among scientific researchers, medical and social service professionals, paraprofessionals, and lay persons that FASD is one-hundred percent preventable" (Tait, 2003, p.121). Despite this, the incidence of FASD continues to rise. Experts agree that accurately estimating the prevalence of FASD-affected children is difficult. Factors that may explain this include inadequate diagnostic capacity for FASD, inadequate access to professionals with the required skill sets, studies that are not representative of populations and sub-populations, and a lack of comparability among studies (Chudley, Conry, Loock, & LeBlanc, 2005). In Canada, it is thought that the incidence ranges between 1 and 9 cases in 1,000 live births (Stade, Ungar, Stevens, Beyanne, & Koren, 2006). In some Aboriginal communities in Northern British Columbia estimated rates of FASD are significantly higher than the national average, ranging between 25 and 200 cases per 1,000 live births (Caley, 2006; Chudley et al., 2005). Research describing incidence rates among Aboriginal people is limited and there are questions about accuracy (Tait, 2003). Existing studies on FASD have focused on diagnosis, etiology, and strategies for prevention. Despite the high incidence and the overwhelming impact of FASD, research has not focused on the subjective experiences of Aboriginal women mothering children with FASD.

Conceptual Basis: The concepts of vulnerability, marginalization, and mothering, conceptualized within the theoretical perspectives of postcolonialism, provided the framework for this study. Postcolonial perspectives were particularly relevant to this research: the explicit aftereffects of colonialism on the well being of Aboriginal women have shaped the worldview of mainstream society resulting in marginalization and stigmatization. A postcolonial perspective suggests that FASD is a problem compounded by colonization; until the underlying compounding issues are addressed, the incidence of FASD among Aboriginal people will continue to increase.

Methods: An interpretive ethnography was conducted with English-speaking Aboriginal women with one or more children between the ages of 14 and 18 years affected by FASD. Data collection included 3 sequential audio-recorded interviews with 8 women over a specific time. Interview data were enhanced by document review, intervals of observation participation, and the examination of other historically and culturally relevant data.

Results: The interpretive theory derived from the data, *Mothering from the Margins,* explains how Aboriginal mothers raise their adolescent children who have FASD. The theory provides a perspective that enables nurses to view mothers with adolescents affected by FASD in an all-encompassing manner, and unifies the experiences of participants mothering adolescents with FASD. Aboriginal mothers of adolescents with FASD continue to experience societal blame and marginalization for consuming alcohol during pregnancy.

Implications: This study extends the knowledge of how this blaming and marginalization experience plays out in the lives of both mothers and children. The findings debunk the stereotypical myth that Aboriginal mothers are not good mothers. In fact, they demonstrate how, despite all the difficulties and challenges faced by the study participants, they have showed adaptability, confidence, and care in their mothering roles.

RELATIONSHIP OF MOTHERS WITH ASTHMA AND CHILDREN SCORES ON ASF

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Purpose: The purpose was to examine the relationship between reported diagnoses of asthma in mothers and reports of asthma-like symptoms in children. The forms were completed by parents/caregivers of head start and elementary age children as part of a community asthma case detection effort.

Rationale: Asthma prevalence and diagnosis has received much attention in practice. School-based asthma case detection is a methodology to facilitate early identification, diagnosis, and treatment to avoid life-threatening exacerbations and possible permanent airway changes. The Asthma Screening Form (ASF) was completed by parents/caregivers of children. ASF has 9-items measuring 2 dimensions (symptoms/morbidity). The symptom dimension has 5 items related to frequency of respiratory symptoms. Items ask parents/caregivers to recall/report children's frequency (cough, wheeze, or shortness of breath) during past year (severe or repeated episodes; night-time occurrences; activity limitations at home; activity limitations at school or during sports; and trigger exposures). A 5-point scale is used for reporting answers. The scale varies between zero (0) (*never experienced symptoms*) to four (4) (*experienced symptoms > 2x a week*). The morbidity dimension was not used in these analyses. Mothers with asthma were identified by: Has the mother of the child ever been told she has asthma? (Yes or No)

Methods: Cross sectional analyses were performed of all children in sample with all mothers with diagnoses of asthma. The sample consisted of 2,781 children, 1,380 (49.6%) were females and 1,401 (50.3%) were male. No significant difference between gender by group (χ^2=2.5668, p=0.1091) was found. Forms were completed by parents/caregivers in English (n=1184, 37.23%) and Spanish primary languages (n=1591, 49.44%) with no significant difference by group (χ^2=0.4382, (p=0.4382). T-Test procedures were used to examine difference in age by group. Mean age for all children 3.75/median 4 yrs. There was no significant difference in age by groups (p<.0001).

Results: The mean symptom scores for children who had mothers with a history of a diagnosis of asthma (N=351) (M=3.997, p=<.0001) were significantly higher than for children whose mother did not have a diagnosis of asthma (M=1.551, p=<.0001). The significance continued when the analyses controlled for age by dividing the groups into head start (M=3.285, p=<.0001) and elementary school (M= 3.497, p=<.0001) groups.

Implications: A symptom score of >3 in children without a diagnosis of asthma is currently used to facilitate early identification, diagnosis, and treatment of possible asthma. When significant relationships between scores >3 and mothers' positive histories of asthma exist, it raises questions as to what phenomenon is occurring. Perhaps scores >3 are due to increased sensitivity to the symptom questions? Or perhaps, the child is exhibiting symptoms which the mother perceives as 'normal'? Further investigation is needed on the population and the instrument to seek an explanation.

PARENTS' EXPERIENCES FOLLOWING CHILDREN'S MODERATE TO SEVERE TRAUMATIC BRAIN INJURY

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Aims: The purpose of this descriptive phenomenological investigation was to depict the common experiences of a group of parents whose children were diagnosed with moderate to severe traumatic brain injury (TBI) within the prior five years.
Rationale: Moderate to severe TBI is the leading cause of a heterogeneous range of impairments in children. Changes in the child's functioning can strain their entire family's emotional, physical, social, and economic well being. Little is understood, however, about the common social factors that influence this progression because few qualitative investigations of the impact of children's TBI on family functioning have been conducted.
Methods: IRB approval was obtained and maintained. Maximum variation purposeful sampling techniques were used to select children with moderate to severe TBI. At least one of each child's parents was interviewed to learn about their experiences parenting a child post-TBI. Participants included 42 parents of 39 children from 13 of the 50 United States. They participated in two semi-structured interviews within the first five years after their child's injuries. First interviews were always in person and occurred within 4 to 36 months after injury (M=15.5 months, SD=9.8 months). Second interviews (N=33 parents of 39 children) occurred from 12 to 15 months following their first interviews and were done in person or by phone. Second interviews allowed for validation of the proposed descriptive model and updating of parents' experiences. The parent model was revised based on participant feedback.
Results: Parents' experiences initially involved adjusting to their child's tenuous health condition and grieving the loss of the child they once knew. Parents with severely injured children were emotionally overwhelmed by their child's injuries and the unsupportive encounters they sometimes experienced following their children's injuries. They felt ill prepared to grasp the amount and type of information they were expected to understand and overwhelmed as they struggled to manage the functional changes in their children. The essence of parents' experiences were described as: (1) grateful to still have my child, (2) grieving for the child I knew, (3) running on nerves, and (4) grappling to get what your child and family need. Parents reported many social barriers as a consequence of others' insensitivities to their children's and families' plight.
Implications: More qualitative inquiry is needed to understand how the knowledge and attitudes of others, regarding TBI, influence social interactions with traumatically brain injured children and their parents, and ultimately how these interactions affect the family's health and well being. Education is needed to help others understand and support families of children following TBI, in a caring and unbiased manner.

Acknowledgement: This study received funding from: an NINR Ruth L. Kirschstein Predoctoral Research Fellowship (1 F31 NR009599-02); Psi Chapter of Sigma Theta Tau; American Nurses Foundation Martha E. Brill Scholar Award; University of Washington School of Nursing Hester McLaws Scholarship Fund; University of Washington LEND training program (TG # 6 T73 MC 00041-11-03); University of Washington Gatzert Child Welfare Fellowship; and an Integra Lifesciences Corporation Grant.

FATHERS' PERCEPTIONS OF SUPPORT DURING THE POSTPARTUM AND PPD SYMPTOMS AT 6 WEEKS

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Purpose/Aims: The purpose of this mixed methods study was to explore new fathers' perceptions of care and support during the transition to parenthood and depressive symptoms at 6 weeks postpartum.
Rationale/Background: The birth of a child gives rise to new family dynamics as couples adapt to parenting roles and turn their focus from each other to their newborn. Although childbirth is a joyful time for most couples, approximately 13%-20% of women and 5%-10% of men develop symptoms of postpartum depression (PPD) (Goodman, 2004). There is substantial knowledge about the experiences of PPD in women and a range of treatments are available. Little is known about the triggers of PPD in men and how men experience and deal with feelings of sadness during the postpartum period.
Methods and Setting: This was a mixed methods study. A prospective correlational design was used to determine the relationship between the men's perceptions of care and support during the transition to parenthood and PPD symptoms at 6 weeks. Outcome Measures administered at enrollment included: Supportive Behavior Inventory (SBI) Brown (1986), Caring Other Scale (COS) (Swanson, 1999), Caring Professional Scale (CPS) (Swanson 2001), and the Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987). EPDS was also administered at six weeks. Descriptive phenomenological method (Colliazi, 1978) was used to conduct and analyze in-depth interviews with men who had symptoms of PPD at six weeks (interview findings are not reported here). To attain statistical power of 0.80, significance criterion alpha=.05, and effect size r=0.3, and allow for 25% attrition, a sample of 110 men was recruited subsequent to IRB approval. Participants were enrolled in the first postpartum week between January and September 2008. They were in committed couple relationships, had no history of mental health problems, and their partners gave birth to healthys infant at term.
Results: Out of N=110, 15 men did not complete the study for unknown reasons. Participants' ages ranged from 20-51 years with the majority (39%) in the 30-35 years group; 62.9% were married, 37.1% were engaged or in a common in law relationship. They were partnered from 2 months to 14 years with the majority (52%) partnered between one and five years. Seventeen (15.4%) men lived alone while the rest lived with their partners. Participants' annual family income varied from less than $25K (11%) to $80K and above (38%). The majority (51%) had income ranging from $30K-$60K. Statistical analysis showed that no participants had PPD symptoms on enrollment; yet, 11 (11.5%) scored beyond cut off point for PPD on EPDS scales at 6 weeks. PPD symptoms in men were significantly correlated with income ($r=-.28$, $p<0.01$), SBI partner: sharing experiences ($r=-.33$, $p<0.01$), helpfulness ($r=-.38$, $p<0.05$), taking him seriously ($r=-.44$ $p<0.01$), believing in him ($r=-.42$, $p<0.01$); and SBI others: understanding ($r=-24$, $p<0.01$), taking him seriously ($r=-.28$, $p < 0.01$), tolerating his ups and downs ($r=-.26$, $p<0.01$), appreciating him ($r=-.33$, $p<0.01$), and believing in him ($r=-.45$ $p<0.05$). Furthermore, COS items: striving to understand ($r=-.31$, $p<0.05$), and doing things to show she cares ($r=-.35$, $p<0.05$) were significantly correlated with symptoms of PPD in men. Men were highly satisfied with support they received from health care practitioners during childbirth and postpartum periods and CPS scale items were not significantly correlated with PPS.
Implications: New fathers may not show depressive symptoms during the excitement of childbirth and early postpartum but may subsequently become depressed. Yet, men's emotions do not tend to be the focus of care. Findings of this exploratory study provide support for further research and the need for routine screening of both parents for symptoms of PPD. Free of charge tools, such as EPDS scales, may be used in clinical practice during the routine postpartum follow-up for screening both partners and, where appropriate, initiating further assessment and care.
Limitations: The sample was of convenience and participants came from one geographical location.

Acknowledgments: Funding for the study was obtained from the Seattle University CON Intramural Funds and Seattle University 2008 Summer Faculty Fellowship.

TRANSITION, EDUCATION, EXPERIENCE, AND CARE AT HOME (TEEACH)
TRANSITION HOME FROM THE NICU

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Purpose: (1) Explore and analyze the meaning of the transition home for the first time for parents of infants with technology dependence or medical fragility. (2) Identify successes and challenges as parents prepare for home and once they are home. (3) Describe strategies to improve the transition home from the NICU.

Background and Significance: More infants than ever are surviving the neonatal period and are discharged home with complex conditions that require ongoing skilled care and monitoring. This care is most often provided by parents. Parents in the NICU experience many physical and emotional challenges and must become competent in providing the care needed at home.

Subjects/Design: Parents of sixteen infants were interviewed prior to discharge home and again at home after 1-2 months. The NICU is a busy 51 bed tertiary teaching facility. The infants required ongoing care including technology and sophisticated monitoring of conditions at home.

Methods: An ethnographic field study based on a Symbolic Interaction framework utilizes in-depth interviews and participant observation. Open-ended interviews were conducted with the parents in the NICU within 48 hours of discharge and again at home after 1-2 months. Analysis includes summaries, coding, development of categories and over-arching themes, and document analysis.

Results: The Neonatal Intensive Care Nursery experience for parents is often a roller coaster ride of emotions and experiences across the continuum of the hospitalization. The fast paced, highly technical environment of the NICU provides life sustaining support of the infant yet as discharge approaches, the environment is also where the family is educated regarding the ongoing condition and special care required at home. Little consideration is given to the parent readiness to learn during the hospitalization. Parents experienced moments of panic when equipment and medications were not the same as those used in the hospital. Regular visiting, providing hands-on care, and learning the individualized care their infant will need over a period of time versus in a rushed environment were identified as helpful strategies in the learning process and transition home.

Implications: Increased awareness of the parent experience and learner readiness can help guide the timing and appropriateness of parent education and training regarding the care of the infant. The discharge process should include anticipation of the home environment, equipment, supplies, and medication in the hospital education process. Anticipating the technology and real life experiences including travel are areas where nurses can educate parents for a smooth transition home. Parents also need anticipatory guidance regarding the normal aspects of the transition to home.

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ADDRESSING PUBLIC HEALTH & SOCIETAL CONCERNS

CONSULTATION STRATEGIES BETWEEN NURSES AND SOCIAL WORKERS IN CHILD WELFARE

Max Veltman, Misty Wall

FACTORS AFFECTING DECISION TO COME TO WORK DURING A NATURAL DISASTER

Judy Davidson, Ani Sekayan, Rene Smilde, Donna Agan, Linda Good, David Shaw

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A WELFARE-TO-WELLNESS-TO-WORK PROGRAM

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PSYCHOSOCIAL WORK FACTORS AND SHOULDER PAIN IN HOTEL ROOM CLEANERS

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CHALLENGES IN THE WORKPLACE ENCOUNTERED BY INDIVIDUALS WITH SCLERODERMA
Janet Poole, Cindy Mendelson, Saralynn Allaire

CONSULTATION STRATEGIES BETWEEN NURSES AND SOCIAL WORKERS IN CHILD WELFARE

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Purpose: The purpose of this presentation is to describe strategies to promote interdisciplinary consultation between nurses and social workers working in the child welfare system, specifically foster care.

Rationale/Background: With the growth and complexity of the population of children in the foster care system, interdisciplinary collaboration is critical. Child welfare agencies are increasingly employing nurses to work cooperatively with social workers in promoting the health and well being of foster children. Operationalizing such collaboration can be challenging given the demands of the overburdened child welfare system and differences in professional cultures.

Description of Project: A goal of the Boise State University – Region 3 Health and Welfare Foster Care Project is to assist social workers in managing clients with complex health needs. To address this goal, a formal system of consultation was developed and implemented between nursing faculty and agency social workers, using in-person, telephone and internet contact. The Region 3 Health and Welfare Department employs 42 social workers who have the highest client/social worker ratio in the state. A transdisciplinary model was used, including both role release and consultation.

Outcomes: To date, nurse-social work consultation has been implemented in 12 cases. Nurses have been utilized by child welfare staff during home visit/assessments, health education, and reinforcement of medical plans. Nurses have also provided consultation on complex cases that require hospitalization and during discharge planning. Reactions to the new consultation system have been positive among the nurses, social workers, and foster parents, and children.

Conclusions: The development of a formal consultative process between nursing and social work in the child welfare to enhance the management of the complex health needs of foster children can serve as a model in other settings. Evaluation is ongoing to assess the effect of the consultation program on client outcomes, foster family stability, cost savings, and professional job satisfaction.

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FACTORS AFFECTING DECISION TO COME TO WORK DURING A NATURAL DISASTER

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Purpose/Aims: The purpose of this study was to identify factors which influenced the decision to come to work versus stay at home during a natural disaster.
Rationale/Background: Natural disasters threaten the ability to staff the hospital. The response to fire disasters is poorly understood. The recent 2007 San Diego wildfires formed the impetus for this study. The Schwartz Center rounds is a program conducted to provide a forum for hospital practitioners from all disciplines to come together and discuss emotional and ethical issues related to the provision of health care. The facilitators of this program have experience providing focus groups on emotional issues. During the fires, most staff were faced with the decision of whether to come to work or stay at home. The situation posed internal conflict and a moral dilemma. Call in rate for the first day of the disaster was 10.6% vs. 0.60% (a 17 fold increase).
Methods: After institutional review board approval, the Schwartz rounds was conducted as a focus group using phenomenological research methods within 2 weeks of the wildfires. The focus group was facilitated by a psychologist using minimal probes. Notes were transcribed, manually coded for themes first independently and then as a research team. Themes were then reduced and analyzed for interrelationships. A paper trail was maintained of the coding process. Member checking was performed to validate findings.
Results: Greater than 50 people attended the rounds. Eight participants provided testimony to their experience. A decision tree was constructed from the results (available at time of presentation). Three sub-themes were identified: tension, the caring culture, and the need to help. Immediate factors in decision making were: family vulnerability, personal safety, and fire proximity. Modifiable factors were identified: past experience, perceived importance, organizational relationship, caring connection. Employees experienced tension between obligations to family, community, and organization. Employees were afflicted with tension between competing demands, despite the desire to help**.** This study further validates that the response to disaster is individualized based upon contextual issues such as family, safety, vulnerability, connectivity, perceived importance, past experience, and time.
Implications: Leaders may impact staffing during a disaster by ensuring employees understand they have an important role during the disaster. Leaders need to recognize that a caring connection may increase the likelihood of staff attendance to work. Concerns for pets, children, and dependent adults affected decision to work. Organizational efforts to provide family/pet support may improve staffing.

A WELFARE-TO-WELLNESS-TO-WORK PROGRAM

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Purpose/Aims: The purpose of this study is to examine participants of a community-based welfare-to-wellness-to-work program called Wellness WORKs!: The Basics. The aims of the study are to: (1) describe the characteristics of the recipients of the Wellness WORKs!: The Basics program; and (2) identify strategies that the recipients have successfully implemented to maintain employment.
Background: Failure to address the significant impact on welfare recipients' health secondary to earning ability and access to health care is an urgent public policy issue. Studies that describe and analyze current strategies to maintain health and success in the work place are limited. In response to this crisis, this community-based study examined participants in a welfare-to-wellness-to-work program. This program consists of holistically-based wellness classes and activities founded by a nurse educator.
Method: This cross-sectional, exploratory study investigates and describes a welfare-to-wellness-to-work program located in one county in the western United States. Adults (n=35) aged 23-57 years old, who participated in the program from 2001-2007, completed a demographic/health survey and were interviewed. Interviews at the Wellness WORKs!: The Basics facility, using open-ended questions, were conducted and analyzed using content analysis. Demographic data were analyzed using descriptive statistics. Subjects were recruited from the Wellness WORKs!: The Basics program.
Results: From open-ended, semi-structured questions, the study identified key themes related to the program. Content analysis of the data revealed significant insights about the program's curriculum, positive changes for the participants, obstacles and challenges they confronted, employment success, and a motivational tool. Participants gained overwhelming benefit from the program and enhanced their functioning as individuals, family members, and parents.
Implications: Nurses, social workers, and others can use these findings to develop effective welfare-to-wellness-to-work programs. This study demonstrates the valuable contribution a program can make that incorporates a health promoting curriculum for welfare recipients prior to employment.

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PSYCHOSOCIAL WORK FACTORS AND SHOULDER PAIN IN HOTEL ROOM CLEANERS

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Aims: To determine, among hotel room cleaners, if there was a relationship between psychosocial work factors [job strain, iso-strain, and effort-reward imbalance (ERI)] and severe shoulder pain, after controlling for selected socio-demographic, behavioral, anthropometric, biomechanical, and hotel factors.

Background: Hotel room cleaners have physically demanding jobs that place them at high risk for work-related shoulder pain (WRSP). Biomechanical factors have been associated with a high prevalence of WRSP. Psychosocial work factors, such as job strain (high psychological demand in combination with low decision latitude), iso-strain (job strain with low coworker and supervisor support), and ERI (high effort with low rewards), may also play a role in WRSP. Little is known about psychosocial work factors and WRSP in this primarily female, immigrant, low wage group of cleaners.

Methods: Nine hundred and forty-one of 1,276 (74%) eligible hotel room cleaners from 5 unionized hotels in Las Vegas completed a questionnaire survey in 2002. Of this sample, 493 with complete data for the shoulder pain outcome, the 3 key psychosocial independent variables (job strain, iso-strain and ERI), and 17 covariates were included in logistic analyses using Stata, Version 9.2.

Results: Fifty-six percent (n=274) reported severe shoulder pain in the prior 4-weeks. The sample was primarily female (98%), Latina (78%), married/partnered (69%), born outside of the USA (85%), with an average age of 41.18 (SD 9.67). On average, participants had worked as a room cleaner 7.74 (SD 5.41) years, 40.26 hours (SD 11.00) per week, and made 19.35 beds/day (SD 6.72). In fully adjusted models, job strain and iso-strain were not associated with severe shoulder pain. ERI was significantly associated with severe shoulder pain: Those with an ERI score greater than 1.0 had 3 times the odds of reporting severe shoulder pain, after adjusting for age, years of education, caregiving at home, current smoking and alcohol, height, number of years worked as a room cleaner, number of hours worked/week, number of beds made/day, physical workload, and work intensification and ergonomic indices (adjusted odds ratio 2.98, 95% CI 1.93-4.59, p=0.000).

Implications for the Discipline of Nursing: These findings will aid occupational health professionals in developing "healthy work" policies to prevent WRSP. Creative job design and an enhanced reward system for hotel room cleaners may help to achieve a better balance between effort and rewards of work.

The American Association of Occupational Health Nurses Foundation supported this study, in part.

HEALTH CARE UTILIZATION BY HOMELESS HCV-POSITIVE ADULTS

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Purpose: To assess general health care utilization, and in particular, HCV-related health care visits by HCV-positive homeless adults.

Background: HCV infection is prevalent among homeless adults, with rates of infection ranging from 17% to 44%. Homeless adults often neglect preventive health care, prioritizing financial, addiction, and housing needs over health concerns. Determining whether homeless adults follow through with referrals for general health care as well as for HCV management and care is important when designing interventions for reducing their health outcome.

Theoretical Framework: The Comprehensive Health Seeking and Coping Paradigm (CHSCP) model (Nyamathi, 1989) served as the theoretical framework for the study. The CHSCP has been used extensively to guide research on homeless men, women, and youth, and is a useful framework for conceptualizing factors that influence health behaviors and health outcomes among individuals.

Methods: The health care utilization patterns of 106 HCV-positive homeless participants, who were randomized into one of three vaccine completion intervention programs, were reviewed for both general health care and HCV-related visits during the 6-month period between randomization and follow up. At entrance into the study, all participants who tested positive for the HCV antibody were given referral information for HCV follow-up care at one of several local homeless health care community clinics. At completion of the intervention, participants were asked if they had had any health care related visits in the previous 6 months, how many, where, and for what reason.

Outcomes: The sample of HCV-positive homeless persons consisted of 83 males and 23 females; mean age was 45 years with 62% being African American. Nineteen HCV-positive participants reported a total of 77 general health care visits during the 6-month study period. Only 2 participants obtained HCV-related health care visits. Fifteen participants reported outpatient visits and 4 reported both outpatient visits and hospital admissions. Health care visits were categorized as follows: respiratory system (flu, bronchitis, lung testing); cardiovascular system (CAD, hypertension, pedal edema, anemia); diabetes; medication related; musculoskeletal-related; mental health; and other (stab wound). Logistical regression analysis showed that concurrent alcohol use and substance abuse were not related to whether or not participants received health care visits. Participants obtaining health care visits were distributed evenly between the three intervention program groups. The two HCV-positive participants belonged to different intervention program groups.

Conclusion: The majority of homeless HCV-positive adults did not seek health care as referred for HCV management. Further research should focus on reasons for not obtaining health care.

HEALTH DISPARITIES IN FACTORS CONTRIBUTING TO OVERWEIGHT IN CALIFORNIA ADOLESCENTS?

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Objective: The purpose of this study is to explore differences in overweight related health behaviors in gender and ethnicity and factors contributing to overweight among 12-17 year olds in California.
Theoretical Framework: The ecological model supports the multi-factorial nature of the overweight epidemic in the ethnically diverse adolescent population of California. Variables selected in the study were based on the ecological model.
Significance: Several physical and psychological health consequences are associated with childhood overweight. Overweight tracks from adolescence into adulthood, approximately 70% of overweight adolescents will be obese adults. Racial/ethnic difference in the prevalence of overweight in adolescents have been reported, however, little is known about racial/ethnic differences in the factors related to overweight among adolescents in California. Understanding factors related to overweight based on gender and ethnicity will help in developing culturally-sensitive and gender specific interventions.
Design: Cross-sectional study design using California Health Interview Survey (CHIS) data.
Method: Using 2005 CHIS data, obtained from a RDD telephone survey administered biennial, includes 3,315 adolescents, self identified as Latino, Asian, or White. Adolescents reported on weight, height, gender, ethnicity, adult education attainment, household income, physical activity, sedentary activity, breakfast consumption, and family meals. Univariate as well as multiple logistic regression models were used to describe the relationships between the independent variables and increased body mass index (BMI).
Findings: Overall 30.2% of males and 20.9% of females in this study were overweight (>85th percentile for age and gender). Approximately 37% of Latinos were overweight compared to 22.2% of Whites and 19% Asians. Latinos were more than twice as likely to be overweight when compared to Whites and Asians (2.07, 2.53). Younger adolescents (12-13 yo) were 1.3 times more likely to be overweight compared to 16-17 year olds. Adolescents whose family's income is less than 200% of the Federal Poverty Level (FPL) are twice as likely to be overweight compared to those above the 200% of the FPL. White females were more likely to be overweight if they had a lower SES (3.3), whereas Latina females and White males were more likely to be overweight if they skipped breakfast (2.1, 1.6) or had parents with low level education attainment (4.5, 2.1). Only decreased physical activity is a risk factor for overweight in Asian males (2.4).
Conclusion/Implications: Results suggest gender and ethnic variations in factors contributing to overweight in the California adolescent. Disease states seen in children related to overweight status include precursors of type 2 diabetes, cardiovascular disease, sleep disorders, and metabolic syndrome. Current research continues to explore the strong correlation between genetic predisposition and variations in metabolic function in certain ethnic groups. In order to impact the current overweight epidemic it is important as clinicians and researchers to develop interventions that address the unique needs of an ethnically diverse adolescent population. Future research should examine change of body composition over time and factors related to increased excess weight in early childhood based on ethnicity and gender.

Funding: Support from the UCLA Center for Health Policy Research, UCSF Century Club, Sigma Theta Tau International Chapter Lamba Gamba.

THE RELATIONSHIP OF SOCIAL SUPPORT ON OBESITY IN MIDDLE SCHOOL CHILDREN

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Purpose: The purpose of the study was to describe the relationship between social support for healthy eating and activity and healthy weight in middle school adolescents by gender and ethnicity.

Background: Obesity in youth has become a national epidemic and is worsening despite efforts to address the serious health and social consequences. Research suggests that social support by parents and peers may help adolescents in making healthy eating and activity choices, but gender and ethnic differences have been reported in the literature.

Methods: A secondary data analysis of baseline data from an intervention study was used to determine relationships between social support and BMI percentile for race and gender. Social support was measured by the abbreviated Social Support and Eating Habits Survey and Social Support and Exercise Survey. Demographic characteristics of the sample were analyzed using Chi-square and t-test. Pearson's correlation was used to examine the relationship between BMI percentile and social support variables. A convenient sample of 258 middle school students in an urban mid-South community participated in the study. Abbreviated versions of the Social Support family eating (α=.776), Social Support family exercise (α=.909), Social Support friend eating (α=.777), and Social Support friend exercise (α=.876) Scale were used to measure social support from peers and family.

Results: The results showed significant differences in social support variables for females compared to social support in males in this population. In males, BMI percentile was significantly correlated with family social support for exercise (r=.177; p<.05) and social support from friends for healthy eating (r=.178, p<.05), demonstrating that more obese males are likely to get support from both family and friends for healthy eating and exercise. In females, social support from family for healthy eating significantly correlated with BMI percentile (r=.412, p<.01), demonstrating that more obese females are more likely to get social support from family for healthy eating. In nonwhite teens, BMI percentile significantly correlated with social support from family for healthy eating (r=.158, p<.05). In white teens, BMI percentile significantly correlated with family support for healthy eating (r=.401, p<.01), family support for exercise (r=.354, p<.05) and friend support for healthy eating (r=.340, p<.05).

Implications: These findings demonstrate that social support in females is different from that of males, suggesting effective obesity intervention programs targeting social support should be gender specific. In addition, the findings suggest differences in social support for ethnic groups that should be considered when developing obesity programs for specific populations. Social support to address culture and ethnic lifestyles that contribute to greater rates of obesity must have priority in obesity prevention research.

"TEAMS" STUDY—HOW DO THE DIETS OF MIDDLE SCHOOL STUDENTS MEASURE UP?

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Purpose: The purposes of this study were to (1) describe the diets of middle school students; and (2) identify the strengths, weaknesses, and health correlates of the diets of middle school students.
Rationale/Background: The long-term goal of the four-year Teen Eating and Activity Mentoring in Schools (TEAMS) study is to improve the health of middle school students and prevent development of obesity during adolescence. The project responds to the need for prevention and treatment efforts to address the obesity epidemic among youth by applying the theories of the Ecology of Development and Self Determination to individual, family, and environmental interventions in four middle schools.
Methods: Assessments and interviews were completed in Fall 2007 on 103 middle school students enrolled in the TEAMS study. Each student was measured for height and weight using NHANES protocols, from which body mass index (BMI) and BMI percentile were calculated. Each student also completed a 24-hour dietary recall with trained personnel; parents completed demographic forms from which gender and free or reduced lunch data were obtained.
Results: Of the sample tested in Fall 2007, 48 (46.6%) were male and 55 (53.4%) were female. Forty-five youth (43.7%) were receiving free or reduced cost lunch. Fifty (48.5%) of the youth were within the recommended BMI percentile range, while 19 (18.4%) were overweight and 33 (32%) were obese. Reported mean caloric and fat intake were within recommended levels. Protein intake was greater than twice the recommended level (78.8 grams vs. 34.3 grams), and mean carbohydrate intake was twice the recommended level (263.4 grams vs. 130.0 grams). Nearly all youth met recommended dietary allowances (RDAs) for B vitamins, while there were large deficits in intake of vitamin C (59, 57.3% deficient), and vitamin A (58, 56.3% deficient). Additional descriptive and correlational statistics of the middle school diets will be reported.
Implications: Over 50% of this cohort of middle school students was overweight or obese, exceeding the national average of 36% of youth who are in those categories. The dietary analysis revealed dietary deficiencies, as well as nutrients that were within recommended levels. Deficits should be addressed in individual and population-based instruction about nutritional needs. Youth and parents in the experimental cohort of the TEAMS study have received interventions that address these dietary findings.

This project is supported by National Research Initiative Grant no. 2006-04637 from the USDA Cooperative State Research, Education, and Extension Service Human Nutrition and Obesity Program.

IMPROVING THE OCCUPATIONAL HEALTH AND SLEEP QUALITY OF NIGHT SHIFT WORKERS

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Purposes/Aims: To determine if teaching night shift workers at Utah Valley Regional Medical Center about coping mechanisms to aid their sleep will improve their occupational health and self perception of quality of sleep.

Hypothesis: That night shift workers will report better occupational health and sleep quality after learning sleep coping mechanisms.

Rationale/Background: The hospital operates on a 24/7 basis. This requires workers to work shifts. Shift work is defined as work hours that are scheduled outside of daylight hours. Working during the night time hours results in altered circadian rhythm, alters daily routines, and influences physical and mental health. In addition, difficulty falling asleep and obtaining quality sleep during the day is a common problem of shift workers. Lifestyle training teaches night shift workers coping strategies to improve their reactions to the night shift. Recommendations for night shift workers include sleep breaks, bright lighting, temperature, nutrition, shift rotation, and overtime. However, these approaches have not been well studied and need to be more thoroughly investigated to determine their effectiveness for night shift staff.

Description: The research will take place at a 395 bed tertiary care hospital in the Intermountain West. Subjects will be included in the study if they are employed at least 24 hours a week during the hours of 6:00 p.m. and 6:00 a.m. The design will be a repeated measures (pre/post-test) with an intervention. The subjects will complete a baseline online survey of their sleep quality and occupational fatigue in December 2008 followed by an educational intervention in January 2009. Following the baseline and intervention, the subjects will complete an evaluation in March 2009. The sample size will be approximately 1000 subjects. It is expectd that at least 50% of those who are eligible for the study will complete the survey (500 subjects).

Instruments: The Pittsburg Sleep Quality Index (PSQI) will be used to assess the subjects perception of their sleep. This 19 tool scale has internal consistency and a relaibility coefficent (Cronbachs alpha) of 0.83 for its seven components. The Occupational Fatigue Exhaustion Recover Scale (OFER) will be used to measure work related fatigue and recovery. The OFER is a 15 item scale with 3 subscales: chronic fatigue, acute fatigue, and intershift recovery. Each of the questions is rated on a Likert scale from 0-6. The OFER instrument was developed following a pilot study of 247 female nurses and 232 male quarry workers. The tool was validated with 770 nurses using factor analysis. The subscales have high internal reliability (>0.84), face, construct, and discriminant validity. Structural Equation Modeling analysis confirmed the role of recovery in mediating the relationship between acute and chronic fatigue measured with the OFER.

Proposed Data Collection/Analysis: The data will be collected online using an electronic survey. The results will be downloaded into a statistical software program (i.e. SPSS). Descriptive statistics will be done on the demographic data collected (age, gender, unit worked, job category). A repeated measures analysis of variance (ANOVA) will be used to detect differences in the pre-test and post-test groups in relation to their overall PSQI and the three subscales of the OFER. The significance level will be set at .01 to correct for multiple tests. Pearson r correlations will be used to compare demographic information with PSQI and OFER subscales.

Results/Conclusions: The proposed research was approved by the IRB in October 2008. The results of this research will provide needed research on the effects of education and training of night shift workers in sleep and fatigue management.

CHALLENGES IN THE WORKPLACE ENCOUNTERED BY INDIVIDUALS WITH SCLERODERMA

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Purpose: Scleroderma (SSc) is an autoimmune connective tissue disease that affects thousands of Americans. Symptoms of SSc, including pain, finger ulcers, contractures, Raynaud's phenomena, and decreased pulmonary function, make it difficult for individuals with scleroderma to perform daily tasks, including work, yet there is no information about the barriers to work that they experience. The purpose of this qualitative study is to identify adaptations made by persons with scleroderma to continue to work and challenges.

Background: Survival of patients with SSc has greatly increased over the past 20 years, most likely due to earlier diagnosis and therapy that is more effective. Yet, despite this apparent medical success, SSc patients are not a healthy population, but rather are living longer with a chronic condition, complicated by multiple exacerbations and by remissions, but also by chronic disability that affects a high proportion of patients. Not being able to continue to work can contribute to poor physical and psychological well being and be an economic burden on the individual and society.

Methods: Thirty participants with SSc who are employed at least 8 hours per week and report difficulty working due to the perceived symptoms from SSC are being recruited from a variety of sources to ensure that the sample is representative of the demographics of scleroderma and includes a variety of occupations.

Participants will complete a survey tool that contains lists of potential health work problems and a demographic questionnaire. Participants will be also be interviewed by telephone about specifically how SSc affects their ability to get to and from work, get around at work, manage the physical and mental demands of the job, work with others, handle the work environment, perform essential job functions, manage work and home, job satisfaction, and about any adaptations they have made.

Descriptive statistics will be calculated for the demographic characteristics and number of health work problems. Data analysis of the open-ended questions will include content analysis of the responses to individual questions. A data matrix that includes the interview questions and the responses will be created to visually display specific responses and to facilitate analysis of the data by question.

Implications: Knowledge of the work barriers people with SSc experience and how they overcome these barriers is a first step towards helping persons with SSc obtain suitable job accommodations. Once modifiable factors are identified, intervention or education can be implemented to reduce the work disability, and thus, reduce health care and work loss costs for persons with SSc.

Funded by The American College of Rheumatology Research and Education Foundation Health Professional Investigator Award issued to Janet L. Poole PhD OTR/L.

CONCEPTUAL & METHODOLOGICAL ISSUES

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ARABIC DISASTER PREPAREDNESS EVALUATION TOOL (DPET) PSYCHOMETRIC PROPERTIES

Murad Al Khalaileh, A. Elaine Bond, Renea Beckstrand, Abbas Al-Talafha

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CAM HEALTH LITERACY: DEVELOPMENT OF A CONCEPTUAL MODEL

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MEASURING CAM HEALTH LITERACY

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Bonnie Gance-Cleveland, Mary Mays, Lynn Gilbert, Kevin Gilbert

THE EVOLUTION OF GENETICS RESEARCH BY NURSES

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Purpose/Aim: To examine the types of articles focused on genetics that have been published in *Biological Research for Nursing* over the past 10 years.
Rationale/Conceptual Basis/Background: Over the past decade, remarkable advancements have been made in the area of genetics. When this work first took off in the 1990s, doubts were expressed about the role nursing could play in genetics.
Methods: Past issues of *Biological Research for Nursing* were reviewed and articles related to genetics were summarized. These articles were then classified into five broad categories: nursing role, animal study, review, methods, and human study.
Results: Twenty-one articles were identified categorized into the five categories:nursing role (n=5), animal study (n=2), review (n=5), methods (n=5), and human study (n=4). The journal volume of each article by category is as follows: nursing role (1, 3, 3, 3, 9), animal study (2, 3), review (4, 6, 6, 8), methods (5, 8, 9, 9), and human study (3, 9, 9, 10, 10). The evolution of nursing's role in genetics and genetic research can be seen by examining these articles and the sequence of their publication. Ten years ago, nurses were writing about what their role in genetics might be. Early on, two studies were done using animal models of disease, genetic obesity and genetic disorders of iron metabolism; however, these two experimental studies were not focusing on genetics directly. More recent volumes show a movement toward review articles and then to methodological papers and finally to those involving human genetics.
Implications: Nursing's role in genetics research has evolved over the past ten years. We propose that this progression is logical in that nurse scientists must first review the literature and then compare and contrast methodologies before being able to engage in clinical research studies. This analysis demonstrates the movement of nurses into the mainstream of genetic research.

A DISCIPLINED ANALYSIS OF CALIFORNIA POSTMORTEM CARE POLICIES

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Purpose/Aims: The purpose of this pilot study is to provide a description of the phenomenon of postmortem care derived from postmortem care policies from acute care hospitals throughout the state of California. The aim of the study is to gain an in depth understanding of issues addressed within postmortem care policies, the scope of care prescribed by these policies, and areas of controversy pertaining to postmortem care.
Rationale/Conceptual Basis/Background: Death is one of the most significant events in the life of an individual and a family. Hospitals are a common place of death for many Americans. However, a scarcity of literature exists on the procedure of postmortem care. Postmortem care is an understudied area of nursing practice and it is unknown how facilities address transcultural, religious, philosophical, or end-of-life patient and family centered care after death. Further inquiry is needed to build on the body of knowledge related to postmortem care and to better inform clinical nursing practice.
Methods: A descriptive phenomenological approach will be used. Postmortem care policies will be obtained from acute care facilities throughout California willing to share these for the purpose of the study. All identifying data will be removed. Two researchers will be involved in the analysis process. Analysis will involve independent and simultaneous activities (data dwelling and independent coding) as well as collective and collaborative activities (discussion and reflection, uncovering similar meanings, and coming to consensus). Each policy will be analyzed independently using this process. Common themes from all available policies will be clustered, and the process will be repeated.
Results: Results are pending as this is a project in progress.
Implications: The implications of this pilot study are uncertain. The anticipated implications are the ability to obtain a rich description of the phenomenon of postmortem care among California Acute Care hospitals in order to gain a greater understanding of commonality and differences in practice. Future directions of research may be geared towards identification of best practices in postmortem care as well strategies to educate nursing staff and students in this important process.

A PROPOSED THEORETICAL MODEL OF DECISION MAKING PARTICIPATION, DECISIONAL CONFLICT, REGRET, SATISFACTION, AND QOL IN ADULTS WITH CANCER

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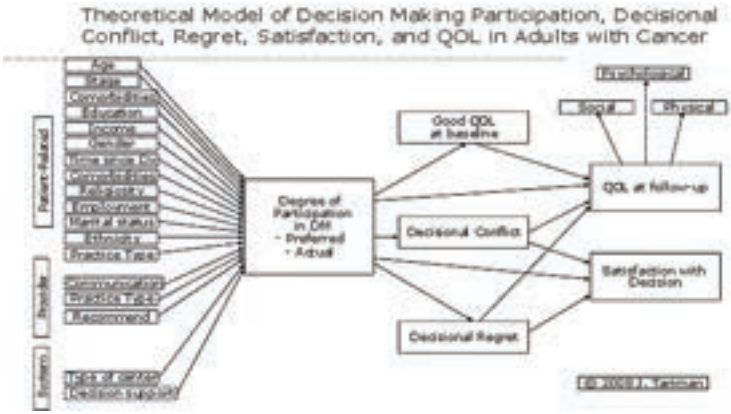
Purpose/Aim: To develop a theoretical model of decision making participation, decisional regret, decisional conflict, satisfaction with decision, and quality of life (QOL) in adults with cancer.
Rationale/Background: The treatment decision making process in adults with cancer is not clearly understood. This is due in part to the limited studies which systematically examine the mediating and moderating factors that influence the decision making process.
Methods and Analysis: Computer-based searches using Pubmed, PsycInfo, and CINAHL databases were conducted. Critical appraisal of 41 studies on decision making preferences of adults with various cancers (prostate, breast, colorectal, ovarian, lung) was performed. Correlational data among socio-demographics, level of participation, decisional conflict, decisional regret, satisfaction with decision, and QOL variables were obtained and systematically analyzed.
Outcomes Achieved/Documented: The majority of decision making studies have examined the relationship between socio-demographic factors and patients' level of participation (passive, collaborative, active), both preferred and actual roles performed during decision making. Decision satisfaction and QOL were two main outcomes of decision making research commonly recognized by many clinicians. Based on these findings, a theoretical model of decision making, decisional conflict, decisional regret, satisfaction with decision, and QOL was developed as shown in figure 1.
Figure 1. Proposed Theoretical Model of Decision Making Participation, Decisional Conflict, Regret, Satisfaction, and QOL in Adults with Cancer



Conclusions/Recommendations: Decisional regret and decisional conflict are important negative outcomes of decision making that can be potentially negated by decision support interventions. Theoretical testing of the model presented in this paper is warranted to help identify the mechanisms that can improve outcomes of decision making.

PREFERRED AND ACTUAL LEVEL OF PARTICIPATION DURING TREATMENT DECISIONS IN PERSONS WITH CANCER: A SYSTEMATIC REVIEW

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Purpose: (1) Systematically examine and present both the preferred and actual levels of participation in decision making among adult patients with cancer. (2) Compare and contrast the various methods used in the measurement of patients' preferred and actual level of participation.
Rationale/Background: Patients are involved in health care decisions more than ever. The process of treatment decision making continues to be investigated particularly among patients with breast and prostate cancers and increasingly in patients with colorectal, gynecological, and other cancers. These increases in decision making studies can be attributed to the initial empirical evidence that individuals who exercise control over decisions regarding their treatment have better outcomes (i.e. satisfaction with decision, better psychological adjustment).
Methods and Analysis: A systematic review was performed to identify studies which examined preferred and actual level of participation, and the match between preferred and actual roles in decision making among patients with cancer. Pubmed (1966-July 2008), PsycInfo (1967-July 2008), and CINAHL (1982-July 2008) databases were searched to access relevant medical, psychological, and nursing literature. The key terms used were decision making, oncology, patient participation, and role preferences. The search was limited to articles concerning adults and English language only.
Outcomes Achieved/Documented: Eleven studies involved patients with breast cancer, four studies with prostate, three studies with various types of cancer, two studies with colorectal cancer, one study with lung cancer, and one study with various gynecological cancers. Twenty out of the twenty-two studies utilized the Control Preferences Scale tool to elicit the patient's perceived or actual role in decision making. The other two studies utilized an investigator-developed treatment decision making questionnaire. Psychometric properties of the CPS scale were adequate; no report on psychometric properties of the investigator-developed treatment decision making questionnaire.

All studies revealed discrepancies between preferred and actual or perceived role in decision making. Across all cancer types, the majority of the studies found that patients wanted more involvement than what they were able to actualize. Only three (all with prostate cancers) out of twenty-two studies reported that patients wanted less involvement than what was actualized. Patients with various cancers have also reported less involvement than what they originally preferred. These groups of patients wanted a more shared to active role and less passive role. Similarly, majority of patients with breast cancer also wanted more actual involvement than what they originally preferred.
Conclusions/Recommendations: The limited concordance between patients' preferred and actual role assumed during decision making have indicated that we need to raise the sensitivity of the clinicians regarding patient's participation in health care decisions. Clinicians should be trained on how to improve their communication skills that can promote a patient's communication of needs and desires.

ARABIC DISASTER PREPAREDNESS EVALUATION TOOL (DPET) PSYCHOMETRIC PROPERTIES

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Purpose: The purpose of this study was to translate the English language version of The Disaster Preparedness Evaluation Tool into Arabic and to determine the psychometric properties of the Arabic version, including reliability, validity and factorial structure.
Background: World-wide numbers of natural and man-made disasters have increased significantly in recent years. Since disaster strikes without warning, all health care providers, especially nurses, must prepare appropriate skills and resources for disaster procedures and management during the three phases of disaster: pre-disaster, during disaster, and post-disaster.
Methods: The Disaster Preparedness Evaluation Tool was translated into Arabic using Beaton's guideline for translation. Face validity and content validity of the Arabic version of the tool were tested by experts in the field. Data was collected through self administered questionnaires distributed to 600 Jordanian Registered Nurses who work in Ministry of Health hospitals and two University hospitals.
Results: Statistical analyses for the collected data were performed via SPSS, version 15. Principal component analysis resulted in three factors that explained 64% of the variance in knowledge, skills, and post-disaster management. Cronbach's alphas for these subscales ranged from .864 to .94, which supported their internal consistency.
Implications: These results support the reliability and validity of The Disaster Preparedness Evaluation Tool as a measure of knowledge, skills, and post-disaster management. It can be used with confidence with an Arab nursing population to measure their preparedness for disasters.

CAM HEALTH LITERACY: DEVELOPMENT OF A CONCEPTUAL MODEL

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Purpose: To describe the process of developing a conceptual model of health literacy in relation to the use of complementary and alternative therapy (CAM) and to describe the components of the MSU Conceptual Model of CAM Health Literacy.

Background: For today's health care consumers, adequate health literacy is necessary to understand and evaluate the volume of information regarding allopathic health care. It is perhaps even more important for evaluating CAM approaches, the use of which has grown exponentially in the last ten years. Individuals are less likely to receive professional instructions and advice for health care decision making and action-taking regarding CAM. Studies have found that often there is limited communication among consumers and providers about the vast array of therapies available for health promotion and illness treatment, thus the use of CAM therapies is often self determined. These products are less regulated or controlled by governmental agencies or allopathic providers, raising questions of quality and safety. The Institute of Medicine noted that there has been very little research on how American consumers obtain, understand, and evaluate information about CAM.

Description: Using the literature and prior work regarding CAM, the team developed a working definition of CAM health literacy: the essential information about CAM needed to make informed self management decisions regarding health. Likewise, the team identified the antecedents to CAM health literacy (environment, information seeking, health/illness trajectory, and general health literacy), the concepts that comprise CAM health literacy (dose effect, safety, and availability), and the overall outcome (informed self-management of health). The MSU Conceptual Model of CAM Health Literacy was refined based on input, through the use of e-mail and teleconferencing, from a panel of national experts on CAM, health literacy, and CAM use.

Outcomes: Through the generosity of experts, the MSU Conceptual Model of CAM Health Literacy was revised and clarified. The voluntary participation of a panel of experts was critical to the successful refinement of the model, clarification of the definitions of concepts, and identification of the empirical indicators.

Conclusions: This more solid and refined conceptual model is being used to develop an instrument to measure CAM Health Literacy with a focus on biologically based products.

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MEASURING CAM HEALTH LITERACY

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Purpose/Aims: The goal of this study is to develop a psychometrically sound instrument to evaluate health literacy about complementary and alternative therapy (CAM). The specific aims are to: (a) develop a measure of CAM health literacy with a focus on biologically based products, and (b) conduct initial psychometric evaluation of the instrument. The new instrument will focus on older rural residents who may be or are self-medicating a chronic health condition that has been defined within the allopathic framework.

Background: For today's health care consumers, adequate health literacy is necessary to understand and evaluate the volume of information regarding allopathic health care. It is perhaps even more important for evaluating CAM approaches, the use of which has grown exponentially. Individuals are less likely to receive professional instructions and advice for health care decision making regarding CAM. Studies have found that often there is limited communication among consumers and providers about the vast array of therapies available for health promotion and illness treatment, thus the use of CAM therapies is often self determined. These products are less regulated or controlled by governmental agencies or allopathic providers, raising questions of quality and safety. The Institute of Medicine noted that there has been very little research on how American consumers obtain, understand, and evaluate information about CAM.

Methods: The methods will be based on DeVellis' guidelines for scale development. The research team has developed the MSU Conceptual Model of CAM Health Literacy which was refined and clarified with assistance from experts who critiqued the model. Work on developing a pool of potential items for the instrument will commence in winter and spring 2009. The remaining steps in the scale development process will involve reviewing items by experts and consumers followed by revision, administering the preliminary instrument to a development sample by telephone interview, followed by exploratory and confirmatory factor analysis, evaluation, and revision of the instrument. A validation assessment will be conducted with a separate sample after constituting the nearly final instrument.

Results: The proposed study will contribute to the research team's program of research by providing a measure of CAM health literacy for use with older rural dwellers with chronic health conditions. Data from this study, together with results of the team's prior work will contribute to the development of an educational intervention for individuals in this population. 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.

Implications: The proposed study will contribute to a fuller understanding of health literacy as it relates to CAM. Informed use of CAM can increase health and illness management options and encourage well-reasoned decision making regarding self care.

IDENTIFICATION OF OSTEOPOROSIS-RELATED FRACTURE RISK IN VIETNAMESE WOMEN: A NEW WHO TOOL

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Purposes/Aims: The purpose of this study is to compare DEXA-scan results to the projected hip fracture risk by using the new World Health Organization (WHO) online FRAX™ tool in a population of Vietnamese women. Specifically, the study seeks to explore the differences between the two methods in initiation of medical therapy. This project is currently nearing completion and is in partial fulfillment of the DNP degree at the University of Utah.

Rationale/Background: Osteoporosis has been recognized as an important public health concern around the world. Osteoporosis results from reduced bone mineral density and is a major risk for bone fracture. The WHO criteria, based on bone density data norms obtained in the early 1990s from healthy 20- to 30- year old United States Caucasian women, are used in the diagnosis of osteoporosis and in setting the threshold for initiating medical therapy. The DEXA-scan is the gold standard radiological method for identifying osteoporosis through measuring bone density. Osteoporosis is considered present when the results are 2 standard deviations below the WHO criteria but does not take into consideration ethnicity, physical characteristics, age, or medical history. Recently, the FRAX™ tool has been developed by WHO to evaluate fracture risk of patients using models that integrate the risks associated with clinical risk factors, such as ethnicity or physical characteristics, as well as bone density. The tool is modeled from studying population-based cohorts from Europe, North America, Asia, and Australia.

Approach/Methods/Processes: Fifty-six postmenopausal Vietnamese women who were currently patients at the Community Health Centers, Inc., Salt Lake City, Utah were included in the study. IRB approval was obtained. A chart review was completed, gathering demographic (age) and physical (height and weight) characteristics, social parameters (smoking and alcohol history), focused medical history (glucocorticoid use, personal fracture), recent DEXA-scan T-score, and family history of osteoporosis-related fracture. Also noted is whether medication was initiated based on DEXA scan T-score. The data for each subject identified will then be entered into the on-line FRAX™ tool and the ten-year projected risk for hip and other major osteoporotic fracture calculated.

Outcomes Achieved: The project is nearly complete; committee presentation date is scheduled for 10/31/08. The author is currently summarizing: clinical risk factors, number of patients diagnosed with normal bone density, osteopenia, osteoporosis, and initiation of treatment based on the DEXA scan results alone. A comparison will then be made between the results of DEXA scan alone versus the project 10-year fracture risk using the online FRAX™ tool.

Conclusions/Recommendations: The goal of the study is to explore whether initiation of medical therapy differs from the results of the DEXA scan alone versus the projected 10-year fracture risk, based on the online FRAX™ tool. The FRAX™ tool is a population-based tool, allowing the clinician to make evidence-based decisions for their patients.

FRAX™ tool URL: http://www.shef.ac.uk/FRAX/

CONCEPT ANALYSIS OF SOCIAL SUPPORT AS RELATED TO BREASTFEEDING

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Aim: The aim of this investigation is to conduct a concept clarification of social support utilizing Walker & Avant's method of concept analysis and to provide an in-depth concept analysis of social support as it relates to the woman's breastfeeding experience.
Definition of Concept: Social support defined specifically for breastfeeding is a well-intentioned act directed toward the breastfeeding mother by a person with whom she has a personal relationship resulting in a positive response from the mother.
Internal Consistency of the Concept: Critical attributes of social support in breastfeeding are: positive tangible or intangible aid given freely by family or friends, reciprocal and mutual relationship between provider of aid and breastfeeding mother, aid viewed as positive by mother, interaction between provider and mother, and a supportive environment. Antecedents to breastfeeding social support include critical life transition of birth, lactation difficulty, guilt, confusion, doubt, feelings of inadequacy, insecurity, and knowledge deficit (Moore & Coty, 2006). Consequences of breastfeeding support may be successful breastfeeding, desire to breastfeed, shared understanding, increased self-efficacy, identity as mother strengthened, increased self-esteem, less guilt, knowledge, and increased intimacy with provider of support.
Logic Linking Concept to Practice: Social support is a partially-developed concept that is referred to extensively in nursing theories and praxis. The concept of social support is also used by various other disciplines such as sociology, psychology, and medicine. Breastfeeding literature and research often discuss assessment and importance of social support for breastfeeding. Since current breastfeeding initiation and continuation rates in the United States are below Health People 2010 goals, it is important to clarify the concept of social support in relationship to initiation and continuation of breastfeeding.
Conclusions: This review of the literature and concept clarification of social support and social support specifically related to breastfeeding provides useful information to direct nursing practice. Borderline cases are common and are a target area for intervention. The borderline case illustrates that more is needed than verbal support of breastfeeding. It identifies a need to work with partners and family to identify concrete ways to support the breastfeeding mother. The contrary case presents a major challenge for nursing. Change through nursing intervention is difficult to achieve if family is not present or if there are larger relationship and family dynamic issues in an unsupportive relationship.

This concept analysis also identifies areas for further research. A historical analysis of changes in social support for breastfeeding over time may reveal outdated methods or methods that need further development or improvement. Investigations of social support during breastfeeding from developmental and cultural lenses are warranted. Optimal environments for supportive breastfeeding need further investigation as well as timing and type of support throughout the lactation experience. Investigation of the interaction of relationships, environment, and psychological and emotional factors to breastfeeding support may provide further insight into social support during breastfeeding. This analysis also provides a foundation for development of a theoretical model of optimal breastfeeding.

Reference: Moore, E. & Coty, M. (2006). Prenatal and postpartum focus groups with primparas: Breastfeeding attitudes, support, barriers, self-efficacy, and intention. *Journal of Pediatric Health Care, 20(1),* 35-46.

RECRUITMENT STRATEGIES FOR VIDEO-RECORDED STUDIES

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Purpose: The purpose of this project was to identify effective recruitment methods to enhance willingness of participants to be videotaped in a Family Practice setting.
Rationale/Background: A comprehensive review of research that used video recording as the primary means of data collection reveals that detailed reporting of methods used for recruitment is lacking. Further, the average non-participation rate reported in video-recorded studies was 19%. Patient reasons for refusal included patient time constraints, visits for emotional or gynecological problems, and embarrassment about being watched.
Methods: This project was part of a larger research study conducted at two Family Practice Clinics, serving University employees as well as local underserved patients. Rapport with clinic personnel was initially achieved by visiting both clinics to explain the purpose of the research study and to discover staff ideas about how to minimize the impact of this study on clinic operations. Two nursing undergraduate research assistants recruited patients and providers for one month at each clinic. At the beginning of each day, a research assistant obtained written consent from the provider assigned to a camera ready examination room. If a provider refused participation, the research assistant worked with the medical assistants and nurse manager to consent a different provider. Next, the research assistant spoke to the providers' scheduled patients prior to their visit, explaining the study and obtaining written consent for videotaping.
Outcomes: All but one eligible provider agreed to participate in the study (95%). Of 253 eligible patients approached, 18% refused to participate in the study. Of those that declined participation, 47% did so because of the sensitive nature of their visit, 20% were uncomfortable being filmed, 10% did not meet study criteria (i.e. they were non English speaking, or under age 18), 10% reported time constraints, 10% gave no reason, and 22% gave miscellaneous reasons (such as fear that the insurance company may gain access to records, anger at the clinic, fear of becoming a "statistic"). In addition, patients who waited longer than an hour in the waiting room were less willing to participate.
Conclusion: Patient barriers to recruitment included visits of a sensitive nature (emotional and gynecological issues), and patient time constraints. We recruited patient participants with a patient centered, "opt-in" approach, emphasizing the value of their participation. Rapport with the clinic staff was a key component to successful recruitment of both patients and providers. At the end of the study a pizza lunch was provided for each clinic as a "thank you" and to promote future good will. Further, clinic managers were honored at a large local nursing honors banquet as a way of providing professional recognition for their contribution to this study. Future recommendations include achieving clinic personnel buy in by being respectful of clinic patient flow and taking care not to disrupt clinic operations. An unexpected benefit of developing a relationship with clinic staff was that two Medical Assistants accepted an invitation to join a student nursing group and have since been admitted into an undergraduate nursing program. In summary, this study found that collaboration between clinic and research personnel enhanced patient and provider recruitment, paved the way for future collaboration, and even encouraged two people to adopt nursing as a career.

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USING DIGITAL PHOTOGRAPHY TO TELL THE STORY OF SELF-MUTILATION

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Purpose: The purpose of this paper is to explore the use of a photo-elicitation technique (visual ethnography) during an ethnographic interview to explore the phenomenon of self-mutilation among adult males who are incarcerated.

Specific Aims:

- To explore the meaning self-mutilation possesses for adult males in a correctional setting.
- To investigate in greater depth the motivational factors that influence self-mutilation.

Background: Behind the walls of many correctional institutions adults males repeatedly engage in self-mutilating behavior. Self-mutilation among adult males can be brutally disfiguring, physically debilitating, emotionally exhausting, or result in a fatality. Self-mutilation is at epidemic proportions among correctional settings nationwide. Successful mental health assessment and treatment of this population are difficult due to scarce research/evidence and understanding of the purpose this behavior serves among incarcerated adult males.

Methods: The use of a photo-elicitation methodology can assist in bridging the psychological issues with physical realities by triggering in the mind a motive, memory, or artifact. It opens the opportunity for insight from the perspective of the participants. From images to words, photographs used during an ethnographic interview evoke narratives that can be used to construct a story about self-mutilation from an individual frame of reference, offering insight into the meaning of self-mutilation, motivational factors, and key characteristics. Photographs of unidentifiable wounds and scars (from legs, arms, torso, & back) will be used as visual cues for dialogue and interpretation of meaning between the researcher and participants.

Results: Results are pending and preliminary results may be emerging in the spring.

Implications: The application of photo-elicitation can contribute to the knowledge base for self-mutilating characteristics such as type, motivational aspects, and risk factors. It may also identify precipitating factors for self-mutilation among adult males in a correctional setting, and enhance the intervention capacity of health care and mental health providers in correctional facilities who assess and treat adult males engaged in self-mutilating behavior.

EVALUATION OF THE EXAM ANALYSIS

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Purposes/Aims: This study focused on evaluating the usefulness of The Exam Analysis process in helping students improve their success on nursing examinations.
Rationale/Conceptual Basis/Background: The Exam Analysis process is a diagnostic and prescriptive program in which a student and an instructor identify the reason(s) why the student failed to answer specific questions correctly on an exam. Problems related to incorrect answers are categorized into five problem areas and specific interventions are suggested to resolve the identified problems.
Methods: Pre- and post-Exam Analysis scores were compared. The frequency of presenting problems and the level of significance in the pre- and post-scores were analyzed using the SSPS statistical package. Feedback from the students, regarding the usefulness of The Exam Analysis and the prescribed interventions, were obtained using a descriptive survey.
Results: Paired exams for eighty-five students were included in the study. Scores were compared on the initial examinations before having an Exam Analysis, with scores on the final examination, in the same course, following an Exam Analysis. There was a significant increase in average performance from the initial exam (77.4%) to the final exam (80.6%) t (106)=3.63, p<.0001. In comparing the percentage of problems contributing to poor grades, in five categories, it was found that lack of knowledge and poor exam taking skills were significantly more important than were English language skills, exam anxiety, math skills or other problems. Participants ranked increased knowledge related to improved study skills, improved exam taking strategies and decreased exam anxiety as the most important outcomes of The Exam Analysis.
Implications:

1. Nursing student exam performance can be improved with The Exam Analysis process.
2. Repeating the study with a larger sample would provide further basis for generalization.
3. Individualized faculty-student interaction promotes student learning & validation.

QUALITY OF LIFE OF BREAST CANCER SURVIVORS IN HAWAI'I

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Purpose: This descriptive cross-sectional study describes the quality of life and explores the needs of breast cancer survivors living in Hawai'i.
Background: Breast cancer continues to be the most frequently diagnosed cancer among American woman, claiming more than 40,000 lives each year. With more focus on breast cancer prevention and early detection, the number of breast cancer survivors are increasing, with over two million breast cancer survivors currently living in the United States (Center of Disease Control [CDC], 2004). Similar to the national statistics, Hawai'i's breast cancer survivor rate is also increasing. While approximately 800 women are diagnosed annually with breast cancer in Hawai'i, seven out of every ten cases are detected at an early stage, contributing to a high survior rate (ASC, 2005). Traditionally health care professionals have focused on the acute episode of diagnosis and treatment of breast cancer patients while little attention has been given to the needs and quality of life of breast cancer survivors.
Methods: A convenience sample of women breast cancer survivors was recruited at Susan G. Komen for the Cure Survivors' Conference and Race for the Cure to participate in the study. After obtaining informed consent, the participants were asked to complete the City of Hope, 46-item Quality of Life (QOL) Instrument - Breast Cancer Version. The domains of the survey included physical, psychological, social, and spiritual well being. Participants who responded on the survey that they wanted to participate in a focus group were telephonically contacted. Three focus groups were established according to years of survivorship after diagnosis: Group 1, 1 year or less; Group 2, 2 - 5 years; and Group 3, greater than 6 years, were interviewed by the PI using Ferrell's Quality of Life semi-structured questions to obtain information on the coping strategies and needs of breast cancer survivors. The recorded interviews were transcribed and coded by a team of graduate students who then came to consensus on the emerging themes.
Results: The mean age of the 47 breast cancer survivors who completed the survey was 56 years (range 38-75 years) with mean survivorship of six years. The mean stage at diagnosis was Stage 2. Forty-five percent of the survivors had at least two years of college and 85% were of Asian-Pacific ethnicity (22.5% Native Hawai'ian, 22% Chinese, 15% Filipino, & 12.5 % Native American). There was not a significant difference between the three groups on the QOL scores (F=0.331; df=2, 40; p=0.720). The overall QOL score was 5.61 $\pm$ 0.82 with longest survivor's group scoring highest in spiritual well being and the shortest survivor group scoring lowest in physical well being. "Time matters," "family matters," and "spiritual rebirth" were the main themes that emerged from the group interviews. All groups verbalize making changes to their lifestyle that created more family time. The longer survivors found the use of healing touch and other holistic nursing interventions very useful to their recovery.
Implications: Findings of this study of Hawai'ian women suggest a need for greater attention to genetic counseling and integration of complementary medicine interventions.

TESTING WOMEN'S PROPENSITIES TO LEAVE THEIR ABUSIVE HUSBAND USING STRUCTURAL EQUATION MODELING

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Background: Domestic violence in Korea is a long-standing cultural problem that was not openly discussed until 1998. Traditionally married women in Korea have not been able to leave their abusive situation because of valued kinship and family structures. Many Korean women are beginning to recognize that what they considered normal treatment is actually domestic violence. As a consequence, they are becoming less tolerant of abuse and more likely to desire to leave the abusive relationship. Very little empirical research on domestic violence in Korea exists and there are no studies that test a theoretical model for Korean women's response to abuse.

Objective: This study was designed to test a theoretical model that predicts married Korean women's response to abuse. Of particular interest were identifying relationships, directions, and magnitude among the severity of abuse, *Hwabyung* (a culture-bound syndrome), abuse intolerance, psychological relational power, and socio-structural power.

Methods: Multi-group structural equation modeling (SEM) was used to test relationships between variables chosen from the sociostructual and psychological relational power (PRP) to explain intolerance to abuse. Married Korean women (n=184) from three geographic locations in Korea (Seoul, Pusan, and Daejon) who self-identified as being abused physically, psychologically, sexually, or financially participated in the study.

Results: There were significant relationships between psychological relational power, abuse, and *Hwabyung*, with low power being related to higher levels of abuse and *Hwabyung*. There were also significant relationships between abuse, *Hwabyung,* and abuse intolerance. However, the multi-group analysis revealed that the relationship of abuse and *Hwabyung* with intolerance only existed for low educated women. Overall the multi-group model adequately fit the sample data (Chi-square=92.057; df=50; *p*=.000; NFI=.926; CFI=.964; RMSEA=.068; Hoelter's CN=152), demonstrating that education was a crucial factor in women's attitude toward the unacceptability of abuse and propensity to leave the marriage.

Conclusions: Older women with lower education level perceived more PRP, which significantly contributed to women's propensities to leave their abusive husband. *Hwabyung* was a mediating factor that contributed to women's intolerance to abuse.

Implications: This study supported understanding cultural assumptions that guided Korean women's beliefs and behaviors about abuse intolerance, suggesting effective intervention programs should be education specific and resource availability that could clarify the variations in Korean women's response to abuse intolerance.

TOWARD A SYSTEM FOR ETHICAL RESEARCH INVOLVING PRISONERS

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Background: Major pharmaceutical companies, the US military, and other sponsors have a history of conducting a wide variety of research on prisoners—a captive, vulnerable, and easily accessible population. Up to the early 1970s, approximately 90% of all pharmaceutical research was conducted on prisoners. These individuals were also subjected to biochemical research, ranging from testing diet drinks to studies involving chemical warfare. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research was formed as knowledge of the exploitation of prisoners began to emerge. In 2007, the Institute of Medicine (IOM) evaluated the need for a new ethical framework for prisoner research and for the enhancement of regulatory safeguards. The additional safeguards could lead to beneficial research, helping to find answers to the most intractable problems in institutions, such as HIV/AIDS, hepatitis C, tuberculosis, mental illness, and substance abuse.
Methods: Review and synthesis of the professional literature related to research involving prisoners, federal regulations, and guidelines in the United States, incorporating the author's experience with presenting these arguments while conducting prison research and as a member of a Human Research Review Committee.
Results: Realizing a balance between the promotion of beneficial research and safeguarding prisoners is challenging and politically contentious. Although the history of prisoner exploitation cautions against allowing research, modern science may be able to improve understanding of the recalcitrant problems faced by prisoners, including mental illness and the treatment of substance abuse, and the efficacy of programs intended to help prisoners successfully transition back into the community. Such research benefits prisoners and the broader community because 95% of prisoners will eventually be released from prison. A comprehensive and rigorous continuum of safeguards is required to protect this vulnerable population against abuse. The IOM believes the following would provide such a system of safeguards while allowing responsible research: expanding the definition of prisoner; ensuring universal, consistent ethical protection; creating a national database of prisoner research; shifting from category-based to risk-benefit approach to research review; updating the ethical framework to include collaborative responsibility; and enhancing systematic oversight of research.
Implications: With the proper safeguards in place, social science research and clinical trials could both benefit the public and provide access to high-quality medical care for suffering prisoners. Unequivocal prohibition of research based on a reprehensible history of exploitation would leave prisoners without the benefits of modern science that could enhance the quality of their lives and those conditions unique to prisoners. With systematic oversight, human dignity and scientific progress need not be incompatible.

CONTEXTUAL MODEL OF RURAL CANCER SURVIVORSHIP HRQOL: A FRAMEWORK TO GUIDE THE INQUIRY

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Purpose: The purpose of this presentation is to review Ashing-Giwa's contextual model of HRQoL and apply the model to rural cancer survivorship health related quality of life (HRQoL).

Description of Framework: HRQoL is a commonly used framework to assess the impact of cancer and its treatment on cancer survivorship. Ashing-Giwa's (2005) contextual model of HRQoL provides a framework that expands on the traditional HRQoL frameworks to enhance cultural and socioecological responsive research. The model was primarily informed by her "cancer survivorship research with the intent of applicability to other diseases and all ethnic groups. The model allows for examining lived socioecological and cultural contexts therefore it is trans-ethnic and trans-cultural." The Contextual Model of HRQoL was informed by: (1) the traditional HRQoL model, (2) the bio-psychosocial model, (3) qualitative and quantitative studies with survivors, (4) the cancer and cancer survivorship literature, and (5) the multicultural and psychological literature.

Internal Consistency of the Framework: Ashing-Giwa's contextual model provides a structure to guide the conceptualization and operationalization of rural cancer survivorship HRQoL. Components supported by rural health and cancer survivorship HRQoL literature are identified and organized into the structure of Ashing-Giwa's macro context (which consists of social-ecological, health care, and cultural contexts) and micro context (which consists of cancer specific medical factors, health efficacy, general health and co-morbidity, and psychological well being dimensions) as it applies to rural cancer survivor.

Logic Linking Framework to Research Problem: Traditional HRQoL models have been useful in understanding the multi-dimensional nature of cancer survivorship. As more documentation becomes available about the health outcomes of cancer survivorship and the impact of rurality on these health outcomes a framework that acknowledges and organizes relevant dimensions for the population of rural cancer survivors can facilitate the inquiry. Without a relevant organizing framework for inquiry research design and targeted interventions may be limited in illuminating the HRQoL of rural cancer survivors.

Conclusions & Utility of Framework: Cancer survivorship research has expanded in the last two decades. However, only a modest amount of this research has been conducted with rural cancer survivors. This research can benefit from a framework that operationalizes the relevant dimensions through which to explore risk factors for poor HRQoL and disparities in HRQoL outcomes for rural cancer survivors.

CONCURRENT VALIDITY OF THE ACTIWATCH-64 AND POLYSOMNOGRAPHY IN OLDER WOMEN

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Purposes/Aims: The aim of this study is to examine the concurrent validity of sleep assessments from Actiwatch-64 (AW-64, Mini-mitter, Bend, OR) with polysomnography (PSG), the current gold standard of sleep measurement. The study is a secondary analysis of data from a clinical trial of valerian in older women with insomnia.

Background/Rationale: Actigraphs, small wrist-worn devices, measure activity as a proxy for sleep and wake behavior based on the premise that sleep is accompanied by minimal physical activity. Because actigraphy measures body movements rather than directly measuring brainwave sleep patterns, the validity of actigraphy may vary in different populations and under different conditions. The accuracy of actigraphy in distinguishing sleep from wake behavior decreases under conditions in which participants lie motionless and awake, as often occurs in insomnia. Additionally, measures of validity differ between specific actigraph devices that vary in their physical properties and use different mathematical algorithms in the associated software to calculate measures of sleep and wake. The few studies that examined AW-64 validity have shown inconsistent findings, with correlations on sleep outcomes from AW-64 and PSG ranging from weak (.30) to strong (.83). Only one study reported minute-to-minute agreement of actigraphy with PSG, finding high sensitivity (92%). Findings from the current study will add much-needed data on the validity of the AW-64 for assessing sleep, specifically in older women with insomnia.

Methods: Concurrent actigraphy and PSG recordings were obtained during nine nights of an efficacy study of the herb valerian. Participants were 16 older women (mean age 69.4 ± 8.1 years) with insomnia. Sleep parameters (sleep latency, total sleep time, sleep efficiency, and wake after sleep onset) were scored using Actiware 3.4 and statistical analyses were done using SPSS 15.0. Epoch-by-epoch agreement was represented by the percentage of PSG sleep (sensitivity) and wake (specificity) correctly detected by AW-64 as well as overall agreement for all epochs. Predictive values for AW-64 sleep and wake (the probability that AW-64-identified sleep and wake were correct by PSG criteria) were also calculated. Validity of the calculated sleep parameters was analyzed using Pearson's correlations and Bland-Altman graphs. Bland-Altman analyses allow exploration of whether the difference between two measures varies over the scale of measurement; i.e., whether or not discrepancies are greater as sleep becomes more disturbed.

Results: Analyses are currently in progress.

Implications: Findings from this study will provide data on the validity of the AW-64 sleep assessments that will guide the use of actigraphy for sleep assessment in future studies of insomnia in older women.

This research was supported by NIH grant numbers AT002108 (CAL), T32 NR07039 (DMT), and NR04011. Pharmavite donated the valerian softgels for this study.

BEYOND SETTING: MEANING OF HOME AS CONTEXT FOR DEALING WITH CHRONIC ILLNESS

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In the past fifty years, a significant portion of health care for people with chronic illness has shifted from hospital to home. Though research in health care usually locates patients and families within some setting such as home or hospital, *home* as a substantive theoretical construct is largely absent. It is often no more than background artifact. The lack of theoretical definition of home, as well as the neglect of home as an essential theoretical element or dynamic research variable, has precluded the development of effective interventions or policy to help people manage chronic illness.
Aim: The purpose of this theoretical work is to analyze the concept of *home* and its meaning as it pertains to individuals and families dealing with chronic illness. It represents a foundation work to develop practice theory that includes the concept of home as a useful substantive variable rather than simply as a demographic descriptor.
Method: Using search terms of "home," "meaning of home," "place," and "chronic illness," the following databases were employed: MEDLINE, CINAHL, PsycInfo, Social Sciences Abstracts, and Family & Society Studies Worldwide. Works were limited to those published from 1980 to 2008 in peer-reviewed journals. Articles were divided according to theoretical works and empirical studies, and graphically portrayed according to characteristics. Each was then analyzed according to whether or how the concept of *home* was defined and how it was used. Through methods of critical appraisal, the concept was analyzed from the articles. Because of the nature of the concept and its portrayal in the literature, themes were also synthesized from the works.
Results: The concept of home was analyzed as both place and existential experience. In addition, related themes included the significance of home as place for healing, discourses of formal versus informal care, medicalization of the home in formal caregiving, shifts in costs of care, when home is not a haven, silent shadows of gender or age of patients and caregivers, and cultural perspectives of the meaning of home in managing chronic illness.
Conclusions: The work is a beginning effort to define the concept of home and to systematically review the use of the concept in research related to the management of chronic illness. Definition and themes that emerge from this study provide the seminal foundation to launch a metasynthesis of qualitative studies on the meaning of home, to develop useful practice theory, and subsequently to design and test appropriate interventions for nursing practice to improve health and manage chronic illness.

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COMPARISON OF THE PSQI AND SLEEP DIARY MEASURES OF SLEEP IN ADOLESCENTS

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Purpose: The purpose of this study was to explore associations among reported sleep diary and the Pittsburgh Sleep Quality Index (PSQI) measures of sleep in a sample of healthy adolescents.

Background: Adolescents are prone to various sleep/wake disturbances that can affect their sleep. Impaired sleep in adolescents is linked to increased risk of poor school performance, negative moods, obesity, and unintentional injuries and death. It is challenging to accurately measure total sleep time (TST) and sleep onset in this population in the clinical setting.

Methods: The sample included 87 healthy adolescents (42.5% males; mean ± SD age = 15.6 ± 1.4 years; range = 14-18 years) recruited from the community and a local high school. Exclusion criteria included a previous diagnosis of narcolepsy, significant medical or psychological problems, and those taking medications known to affect their sleep. Students completed the PSQI, a self-rated 24-item assessment of last month's sleep quality, and a 7-day sleep diary was initiated. The study was conducted from October 2006 to April 2007, excluding school breaks, standardized testing periods, and the week following the transition to daylight savings time. Because some of the data did not meet the appropriate assumptions, parametric and nonparametric procedures were used for analysis (α=.05).

Results: Average PSQI global scores were 4.95 $\pm$ 2.4; 34.5% of the adolescents endorsed poor subjective sleep quality (PSQI global score > 5). The major sleep variables of interest included TST (hours) and sleep onset (minutes). The mean reported TST from PSQI and sleep diary were 7.49 $\pm$ 1.2 and 7.52 $\pm$ .87 (hours), respectively; reflecting a relatively short nocturnal sleep period. The mean reported sleep onset from PSQI and sleep diary were 16.71 $\pm$ 13.6 and 14.97 $\pm$ 14.2 (minutes), respectively. Paired t-test showed no statistical difference in reported TST between PSQI and sleep diary (t=.247, p=.81). Wilcoxon Rank Sum test revealed no statistical difference in sleep onset between PSQI and sleep diary (z=-1.79, p=.07).

Implications: The findings suggest that decreased TST and poor sleep quality are common problems in this age group. The self-reported PSQI and 7-day sleep diary are comparable measures of TST and sleep onset in a group of adolescents. By using such sleep measures, clinicians, especially school nurses, can identify and develop individual and family interventions designed to improve the sleep patterns of adolescents. Further research comparing the PSQI to more objective measures of sleep, such as wrist actigraphy, in a larger sample is warranted.

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TECHNOLOGY TO IMPROVE DATA COLLECTION

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Purpose: The purpose of this presentation is to describe the use of mobile computer technologies to improve the quality of research data collected from children and teens.
Background: Critical public health problems among children and teens, such as obesity, depression, and substance abuse deserve extensive research on potential prevention and intervention strategies. Current data collection methods are a significant barrier to this research and its translation into practice. Although a variety of physiologic measures and psychometrically sound measures of health-promoting attitudes and behaviors exist for children and teens, virtually all of them are traditional paper and pencil surveys. These instruments impose significant burden on subjects and staff, and often exclude those who do not read well, who are not native English speakers, or who have perceptual-motor disabilities. In addition, the problem is compounded by the time intensive calculation of physiologic measures and comparison to age and gender specific norms (BMI% and BP%). Further, the transcription of the data into computer databases for statistical analysis imposes significant burden on investigators and is the source of substantial error unless detailed quality control procedures are used. These issues of subject and investigator burden make it impossible for most clinicians to translate research interventions into practice and outcome management protocols. Thus, methods are needed for collecting age-appropriate data from children and teens in a manner that is engaging, employs multiple modes of interaction, and takes advantage of computer technologies for acquiring data in real time.
Methods: Computer-based clinical tools for calculating and processing physiologic data and a battery of computer assisted interviews assessing beliefs, attitudes, health history, personal adjustment, developmental assets, acculturation, and risk behavior have been created to assist researchers with real-time data collection from children and teens.
Results: Programming of the computer tools has been completed and evaluation of their feasibility and psychometric properties is in progress.
Implications: Data collection techniques that reduce subject burden, decrease investigator workload, and eliminate transcription error not only improve the quality of research, but also facilitate rapid translation of research findings into practice.

Support: This project is supported by a grant from the Institute for Social Sciences Research, Arizona State University, #FG5-4019-15.

CRITICAL THINKING PROCESS MEASUREMENT

OVERVIEW: CRITICAL THINKING PROCESS MEASUREMENT

Deana Molinari, Kathleen Olsen, Lois Marquette

MEASURING THINKING: ONE ACT AT A TIME

Deana Molinari

MEASURING PRE-NURSE AND SENIOR STUDENTS' THINKING

Deana Molinari, Kathleen Olsen

A TOOL TO ENHANCE CLINICAL THINKING

Lois Marquette, Kathleen Olsen

CRITICAL THINKING PROCESS MEASUREMENT

Overview: Critical Thinking Process Measurement

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The symposium provides an overview of the Perceptive/Affective and Cognitive Critical Thinking Process (PAC) model testing undertaken in a long term study of nursing students and expert nurses.

Before critical thinking can be useful to the nursing profession, the concept must be defined and differentiated from clinical reasoning. Furthermore, the concepts must be done allowing for remediation and uniform understanding of the concept.

The Perceptive, Affective, and Cognitive Critical Thinking Model provides a definition, teaching strategies, and evaluation methods. The model was developed in 1998 by Deana Molinari, Joanne Abbeglan, and Debora Mills at Brigham Young University. The definition, framework, and measurement methods have been used in classrooms for 10 years. A 4 year research study addresses the model's ability to measure thinking acts, the feasibility of teaching thinking, and the ability of teaching the model to increasing the number of thinking acts used in clinical decision making.The symposium will discuss the baseline results of a four year model testing study begun in 2007.

The overview will provide the model's history, philosophy, components, and purpose. Comparison of concepts with other critical thinking theories demonstrates the need for a process theory. Mention of past research studies will demonstrate the model's capabilities. Software capable of measuring student thinking will also be introduced. An overview of the present long term research study will be provided along with an introduction of the studies to be presented. Research studies using the same methodologies on different samples include: A pre/post educational intervention of pre-nurse students, a baseline study of senior students without an intervention, a medical/surgical study without an intervention, and a one-time measurement of expert nurses.

MEASURING THINKING: ONE ACT AT A TIME

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Purpose: Describe the thinking of expert nurses.
Rationale: As part of a four year model testing study, expert nurses were asked the same questions as 5 different classes of student nurses will be asked. The goal was to find out how experts think and to compare the results with nursing students in various stages of development. To see if the model could be used with both novices and experts. The study identifies the challenges in measuring thinking.
Methods: A qualitative descriptive study using apriori concepts listed in the model were used to count frequencies and assess types of thinking acts. The way the categories were used was compared with other studies. Expert nurses were requested to answer 8 questions while analyzing five case studies. Nurses were asked to list all questions they would ask in each situation and identify information resources required to make decisions.
Results: Nurse work experience ranged from 14 to 37 years and mean age was 47.9 while 66% possessed national certifications. Nurses demonstrated using a thinking framework. They approached each case similarly, manipulating their thinking framework to address questions. Nurses responded to questions according to their expertise. For example, case managers responded differently than pediatric nurse specialists to the same question, indicating there is more than one way of thinking about clinical issues. Participants addressed the case study as only one point in time rather than the focus of the question, whereas students addressed the questions as the only item of concern. RNs considered patient life and health history and anticipated future life and health issues like discharge planning, pain possibilities, and home care needs. They anticipated problems and tried to prevent them. Experts explored possible treatments. Experts utilized patient observation as thinking resource students did not. Experts did not list single thinking acts but summarized issues into categories. “Lab tests and medical imagining may need to be done.” Ethical issues were addressed. “Care must be taken to be objective with an assessment.” Participants questioned the authenticity of patient responses; for example, “although she rates her pain as a 3, she is obviously in pain.” Demonstrated thinking about themselves within an interprofessional team while students referred to others as authorities. Expert nurses did not report self-assessment of perceptive, affective, or cognitive issues. Frequencies of thinking acts will be provided.
Conclusions/Implications: Experts thought differently from students. They used continuums of time, acuity, professional involvement, and past/future needs. The lack of self-assessment requires further exploration. Why didn’t the nurses report self-assessment thinking? Are experts so confident they did not self-assess skills or knowledge? Does the lack of self-assessment pose liability issues? Exploration of experts’ clinical thinking frameworks may provide insight in how to teach students to think along continuums rather than focus on present contexts.

MEASURING PRE-NURSE AND SENIOR STUDENTS' THINKING

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Purpose: A study to examine thinking acts in pre-nursing students and senior nursing students.

Rationale: The baccalaureate generalist is prepared to use clinical/critical reasoning to address simple to complex situations (AACN, 2008). Nursing schools must look at the development of thinking processes as nursing students progress across the curriculum. Therefore, this comparison study, utilizing two studies, synthesized two research questions: Study 1: Can a short thinking process instruction make a difference in the number of thinking acts in pre-nursing students? Study 2: How do senior nursing students think who have not been taught a specific thinking process? Comparison Study: How do thinking acts in pre-nurse students differ from senior nursing students' thinking acts?

Methods: Pre and Post instruction surveys were used. Students answered two essay questions about what information they would need to solve a health care case scenario. Pre-nurses were provided one hour of instruction about critical thinking processes in six 10 minutes blocks. They then received the post survey. The senior nursing students did not receive instruction so they completed one survey. Student responses where analyzed using qualitative descriptive methods in the framework of The Perceptive, Affective, Cognitive (PAC) Critical Thinking Process Model. Institutional Review of Human Rights approved all studies.

Results: Ninety-three responses from a convenience sample of 104 pre-nursing students were analyzed. The most common type of information gathered was facts about the patient. The second most common type was perceptions of pain and its acuity. Reflections about the meaning of the data were made but students did not analyze the quantity and quality of the information. Pre-nurses failed to weigh the risks of alternative decisions, prioritize alternatives, or conduct cost/benefit analyses. Pre-nurses increased the frequency of thinking acts; such as, cognitive, external, reflection, commitment and actions after intervention. Pre-nurses rarely considered the context of the case study scenario. Fifty senior students' responses reflected more on clinical data. Seniors did not analyze the quantity or quality of the information they gathered before making decisions. Seniors asked more patient questions requiring cognitive responses than affective and perceptive information. Even though the case study contained ethical issues, no students gathered information about personal perceptions, emotional responses, their skill level, or knowledge limitations.

Intra group and intergroup comparisons support: Seniors demonstrated more cognitive questioning ($p=<.00$) and more reflection ($p=.017$) than pre-nurses while the pre-nurse class asked more perceptive questions ($p=.001$). There was no significant change in internal evaluation of facts, perceptions, or emotions following the critical thinking process intervention.

Conclusions: Pre-nursing students appeared to be aware of the basics of pain assessment but did not justify their plans and decisions. Seniors seemed to skip basic principles of information gathering regarding pain assessment while demonstrating knowledge of more complex treatment protocols. Pre-nurses relied upon the opinions of authority figures rather than reflecting on information gathered. Seniors applied diagnosing and treatment protocols while pre-nurses applied assessment procedures. Both groups applied protocols rather than use an information gathering and processing thinking model. Seniors propensity for applying care protocols rather than analyzing information hampered their ability to justify decisions.

A TOOL TO ENHANCE CLINICAL THINKING

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Purpose: Medical/surgical students learn to apply critical thinking skills to clinical challenges. This paper will present an analysis of medical/surgical students using the PAC model and present the history and use of a clinical thinking tool meant to structure student clinical decision making.

Rationale: Students need to develop a framework for making clinical judgment. Students were taught to think using a tool which focuses on gathering information. Faculty use the tool to help students process the information for clinical decisions. Faculty developed the tool to enhance student information gathering and processing for hypothesis making and testing. The tool promotes clinical decision justification.

Methods: As part of a baseline analysis for a long term study of critical thinking, a qualitative descriptive study of 74 student responses to a case study before and after a medical/surgical course was conducted. No intervention about critical thinking was provided to this class. Comparison with other class results was also conducted.

The faculty worked to increase clinical reasoning by developing and improving a tool to guide the types of information students gathered and processed. Dr Bobbi Branch, a critical thinking researcher, proposed the structural aid based on concept mapping Beitz, J. (1998) and evolving into a clinical organizing framework. The tool covers aspects of holistic care: pathophysiology, medical history, signs and symptoms, diagnostic tests with significance, interventions, medications, Gordon's health assessment criteria, patient education needs, nursing diagnoses, interventions, and rationales. The tool requires an analysis of outcomes: evaluation of individual interventions and diagnosis outcomes. The final part of the tool calls for self-reflection. The tool structures data collection, clustering, synthesis, and analysis. Students use colors to link concepts and synthesize material. Faculty examines student papers at the end of each term.

Results: The clinical reasoning tool was used by 350 students over five years and with about 35 nursing faculty. Students report initially disliking the amount of weekly work required. Several students have reported after graduation the most effective method of learning clinical reasoning was the clinical thinking tool. Faculty found the tool provides data for early teacher intervention. The course focuses on psychosocial issues, feelings and holistic linking data into meanings, interventions, and evaluations. Analysis of student thinking using the PAC model uncovered only one significant difference between pre/post-testing: Reflection ($t=2.807$, $p=0.006$).

Conclusions: Juniors demonstrate introspection and reflection. They question their competence and their knowledge. Learning clinical thinking takes time and effort. Explicitly teaching information gathering and processing skills before clinical courses begin and providing structured clinical thinking tools may aid novices frame the skills needed for patient care.

CULTURAL ISSUES: HEALTH & ILLNESS EXPERIENCES

WOMEN'S EMPOWERMENT: THE BANI HAMIDA WOMEN'S PROJECT

Dalal Bashi Moh'D, Lynn Clark Callister, A. Elaine Bond

DETERMINANTS OF EXCESSIVE GESTATIONAL WEIGHT GAIN IN HISPANIC WOMEN IN LOS ANGELES

Ruth Mielke

FACTORS INFLUENCING LATINO GAY MEN'S SELF-PERCEPTION

Peter Andrew Guarnero

ENHANCING HEALTH CARE FOR REFUGEES: IMPROVED COMMUNICATION

Kim Martz, Mikal Black, Terri Soelberg, Pam Springer, Cathy Deckys, William Loome

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A CROSS-CULTURAL COMPARISION OF THE USE OF HOME HEALTH CARE SERVICES

Myunghan Choi, Janice Crist, Seon Hae Woo

HEALTH CARE ACCESS AMONG WOMEN PRISONERS

Diane Hatton, Anastasia Fisher

WOMEN'S EMPOWERMENT: THE BANI HAMIDA WOMEN'S PROJECT

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Purpose: The purpose of this presentation is to describe the Bani Hamida Women's Weaving Project in Jordan and its role in empowering women. This program is an exemplary initiative which demonstrates ways in which United Nations Millennium Development Goals #1 and #3 can be met.

Background: Women's empowerment has emerged as a pressing global issue. Eradicating poverty, promoting gender equality, enhancing the education of women, and the improvement of the health and well being of women and their families are highlighted as important outcomes of Millennium Development Goals #1 (the alleviation of poverty and malnutrition), #2 (the promotion of education), and #3 (the reduction of gender inequities). Micro-credit programs can assist women to generate resources for sustainable income and serve as powerful strategic models to empower women.

Description of the Project: The Bani Hamida Women's Weaving Project was established in 1985 and is now part of Her Majesty Queen Rania's Jordan River Foundation. Bani Hamida is a quasi-settled Bedouin tribe located along the Dead Sea in the Hashemite Kingdom of Jordan's desolate and arid mountains. Makawir, the largest village, is 30 kilometers (18 miles) away from its nearest neighbor and is extremely rural. The weaving project has provided income of over $1.5 million for the women of the tribe and has been financially stable since the late 1980s. Women run all local production operations and have gained skills in accounting, production, leadership, and other aspects of business. One positive outcome is that many of the women have learned to read and are now promoting education for their children. The field officer director of the foundation has noted that *"We are liberating women. We are enabling women to solve their problems."*

Conclusion: Innovative programs such as the Bani Hamida Women's Weaving Project which are developed within socio-cultural context of women's lives have many demonstrated benefits and long term positive outcomes. Micro-credit initiatives foster the empowerment of women, serving to enhance the health and well being of women and their families.

DETERMINANTS OF EXCESSIVE GESTATIONAL WEIGHT GAIN IN HISPANIC WOMEN IN LOS ANGELES

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Purpose/Aims: The purpose of this study is to identify biological, psychosocial, and behavioral determinants of excessive gestational weight gain in Hispanic women receiving prenatal care in Los Angeles. This study will also demonstrate how information from a tool intended for individual perinatal case management of low-income women may be used to generate data on a population of Hispanic women in Los Angeles.
Rationale/Conceptual Basis/Background: Within the obesity epidemic, the fastest increase in overweight and obesity is among women of childbearing age. A key contributor to this trend is excessive weight gain during pregnancy resulting in postpartum weight retention and lifelong obesity. Women of ethnic minorities are not only more likely to have a higher pre-pregnancy body mass index (BMI; kg/m^2), but are also at greater risk for postpartum weight retention. As Hispanic women are part of the fastest growing ethnic minority in the United States, have the highest birthrates of all women, and are studied least often, focused attention to determinants of excessive gestational weight is critical. Orem's Self-Care Deficit Theory provides the conceptual framework utilizing concepts of (a) Basic Conditioning Factors (age, parity, pre-pregnancy BMI, acculturation, education, and prenatal stress); (b) Self-Care (maternal food-intake behaviors, general prenatal self-care behaviors); (c) Self-Care Requisite (achieving adequate gestational weight gain); and (d) Self-care Deficit (excessive gestational weight gain).
Methods: The study design will be a secondary data analysis using prenatal chart review and selected responses to items from the Los Angeles County Department of Public Health form—the Comprehensive Perinatal Services Program (CPSP) Prenatal Combined Assessment/Reassessment Tool. Chronological sampling of Hispanic women with singleton pregnancies initiating prenatal care prior to third trimester from November 2007 to July 2008 will be done. Data will be obtained by chart extraction from charts of women with adequate or excessive gestational weight gain weight gain who have had a CPSP Prenatal Combined Assessment/Reassessment Tool completed and who have delivered term infants (prenatal care to 36 weeks). Face and content validity of items selected from the form will be determined by comparison to validated tools and subjected to judge panel analysis by content experts. Education, prenatal stress, and acculturation are hypothesized to influence weight gain through influence on prenatal self-care and maternal food intake behaviors. Biologic variables (pre-pregnancy BMI, age, parity) are hypothesized to have a direct influence on excessive gestational weight gain and may have an indirect effect on excessive gestational weight gain through maternal food intake and prenatal self-care behaviors. Descriptive statistics will be used for the sample description and variables. Comparisons between women with adequate and excessive gestational weight gain will be done using bivariate analysis and multivariate analysis. Path analysis will be used to describe the relationships among all of the variables.
Results: This is research in process. If available, data to date will be presented.
Implications: Identification of the determinants of excessive gestational weight gain in Hispanic women is essential in order to design strategies that will promote adequate gestational weight gain and reduce the risk of lifelong obesity.

FACTORS INFLUENCING LATINO GAY MEN'S SELF-PERCEPTION

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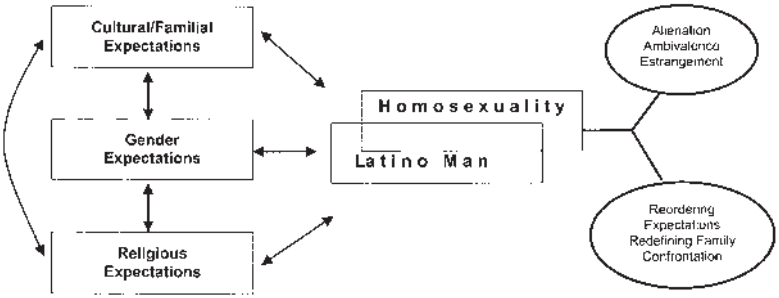
Statement of the Problem: In a group of Latino gay men, the factors that influence self-perception were examined.
Design and Methods: The study was a secondary analysis of a cross-sectional study of several groups of Latino gay men. The sample consisted of 28 men who self-identified as Latino and gay. The secondary analysis was driven by several questions that sought to identify issues that influenced the participants understanding of themselves as Latino gay men. The data was coded using the coding system developed by Glaser and Strauss (1967) and Strauss and Corbin (1990, 1998).



Summary and Interpretation of Findings: A model entitled *A Model of Influences of Family and Community Factors on Latino Gay Men Self-Perceptions* was constructed. The lives of this group of Latino gay men were influenced by three factors or expectations: cultural-familial, gender, and religious. These factors coupled with homosexuality affected the lives of the men who participated in the study. The clash between homosexuality and cultural-familial, gender, and religious expectations led to either alienation from family and community or confronting familial or community homophobia.

ENHANCING HEALTH CARE FOR REFUGEES: IMPROVED COMMUNICATION

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Background: There are an estimated 40,000 Somali refugees within the United States. The Somali Bantu are a distinct tribe of Somali, Africa who have been the targets of violence, including beatings, rapes, and murders, in their country and are in need of protection through resettlement. Boise, ID is now the home to approximately 261 Somali Bantu individuals. Health disparities due to communication barriers related to language or culture have been identified as significant regarding access to and quality of health care (Escarce, 2007).

Purpose: The goal of this project is to deepen relationships with the Somali Bantu community and begin to identify health communication barriers between members of the Somali Bantu community and their health care provides present in Boise, Idaho. This will lead to the development of a community advisory board within the Somali Bantu community who will partner with BSU Department of Nursing to continue efforts to enhance communication between health care providers and the Somali Bantu community.

Methodology: The philosophical approach for the project is Community-Based Participatory Research. Giger & Davidhizar's Transcultural Assessment Model is the conceptual model for this project. This descriptive study will utilize observation, formal and informal interviews, and focus groups with refugees and other key informants knowledgeable of the population. Informed consent will be obtained utilizing a culturally and linguistically appropriate method approved by the Boise State University's Institutional Review Board.

Anticipated Outcomes: Barriers faced by refugees in conveying and receiving medically important information to and from providers will be identified. The barriers will be presented at a community advisory partnership board to continue efforts to enhance communication between health care providers and the refugee population.

Implications: Development of a strong, trusting relationship with the Somali Bantu community will be essential in identifying and addressing the patient provider communication barriers this population experiences in accessing quality care. Utilizing the Community-Based Participatory Research approach facilitates a trusting partnership for community driven approaches to high quality health care for this at risk population.

Funding for this project is provided by an HHS Region X Office of Minority Health Award and a BSU Department of Nursing Internal Grant.

A CROSS-CULTURAL COMPARISION OF THE USE OF HOME HEALTH CARE SERVICES

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Objective: The purpose of the study is to identify predictors of home health care service use by Anglo, Mexican American, and South Korean elders to decrease disparities.

Background: Home health care is the fastest growing discipline of the health care system. Identifying factors of the use of home health care service is essential in determining the quality of home care services in the US. Studies have been reported that cultural, contextual, and socio-structural factors have an impact on the use of home care services.

Methods: The data analysis focused on providing a meaningful and parsimonious explanation for observed relationships and determining predictors of the use of home care services. First, internal consistency of the instruments using Cronbach's alpha was conducted. Second, χ^2 tests and ANOVA were conducted to examine demographic differences. Third, we used correlation coefficients to determine the strength, association, and direction of linear relationships among variables in the model. Last, we conducted linear regression analysis using conditional forward stepwise to identify predictors of home care service use across different ethnic groups. SPSSWIN (version 16.0) was used to analyze the data. A convenient sample of Anglo elders (n=57), Mexican American elders (n=56), and elders in South Korea (n=83) participated in the study.

Results: For Anglo elders, the need for home care services was the only predictor of the use of home care services (β=.422, t=3.518, *p*=.001), explaining 6.4% of variance of the model (Adjusted R square=.164, F=12.373, *p*=.001). For Mexican American elders, service awareness (β=.435, t=3.704, *p*=.001) and lower education (β=-.295, t=-2.510, *p*<.015) were significant predictors, explaining 27.5% of the variance of the model (adjusted R square=.275, F=11.037, *p*=.000). For South Korean elders, service awareness (β=.318, t=3.032, *p*=.003) and marital status (living alone) (β=-2.223, t=-2.129, *p*=.036) were the significant predictors, explaining 11.2% of variance of the model properly (Adjusted R square=.112, F=6.156, *p*=.003). Need for home care services, service awareness, lower education, and marital status were significant predictors of the use of home care services among Anglo, Mexican American, and South Korean elders in this study.

Implications: We recommend that optimized clinical interventions maximize the awareness of home care services and decrease disparities in the use of home care services by considering diverse elders' marital status and perceptions of need and awareness of services.

HEALTH CARE ACCESS AMONG WOMEN PRISONERS

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Purpose/Aim: This poster presents findings from a study using community-based participatory research (CBPR) that examined how women prisoners' accessed health care in jail and prison.

Background: The past twenty-five years have witnessed an unprecedented increase in the number of women in US jails and prisons. Women now represent the fastest growing segment of the jail and prison populations. Female rates of incarceration reflect ethnic/racial disparities in the US with African American and Hispanic women incarcerated at disproportionately higher rates than their White counterparts. Women prisoners are often poor and have a high incidence of serious health concerns, including HIV, Hepatitis C, TB, MRSA, and sexually transmitted infections. They also have higher pregnancy rates than their non-incarcerated cohorts in the general population as well as histories of violence, depression, substance abuse, and other mental illnesses.

Method: This exploratory study used focus groups in a qualitative, CBPR design. Throughout the project, the investigators maintained contact with Community Advisory Board (CAB) members from a local grass roots agency that assists women in the transition from jail or prison to the community. A co-researcher from this agency participated in each phase of the project. Thirty-one women released from jail or prison participated. Their average age was 38; years of education were 12; and average number of children was 2. Participants reported having an average of 6 incarcerations in a local jail and 1 incarceration in prison. Fifty-five percent of the sample was non-White.

Results: Participants reported a myriad of physical, mental, and social health concerns. They reported difficulties in the management of chronic illness including hypertension, asthma, diabetes, addiction, and other mental illnesses. They described the problems that surround pregnancy for prisoners and maintenance of adequate hygiene. These health concerns were exacerbated by a health care system that required co-payments, interrupted routine and follow-up care, and placed a burden on prisoners as well as their families. Participants received minimal preventive care.

Implications: The findings highlight the detrimental impact of limited health care access on women prisoners' health. Participants indicated they often endured health problems or sought care as a last resort only after a problem worsened because they lacked health care access. Recommendations for future research include studies that further examine health care access for this vulnerable population both during and after incarceration.

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DEVELOPING A SCHOOL OF NURSING FOR THE 21ST CENTURY: EXPERIENCE FROM TWO NEW PROGRAMS

CREATING A RELATIONAL PROGRAM IN NURSING AT UCI, EXPERIENCES FROM AN ADMINISTRATOR, FACULTY, AND STUDENT

Ellen Lewis, Ellen Olshansky, Jill Berg, Jennifer Manss

EXPERIENCES OF THE FIRST FACULTY AND RESEARCHER AT THE PROPOSED BIMSON

Tara Sharpp, Debbie Ward

TRANSFORMING HEALTH CARE THROUGH NURSING EDUCATION: LAUNCHING A NEW SCHOOL OF NURSING

Heather Young, Debbie Ward, Tara Sharpp

CREATING A RELATIONAL PROGRAM IN NURSING AT UCI, EXPERIENCES FROM AN ADMINISTRATOR, FACULTY, AND STUDENT

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Purpose: This presentation will focus on the challenges in launching a nursing program from the ground up (baccalaureate to PhD) for a faculty member.
Background: An associate professor in the Program in Nursing Science at UC Irvine, who has taught in a variety of nursing programs across the country, is now embracing the unique challenge of juggling the many roles of nursing faculty in the development of a new nursing program.
Description of the Undertaking: In addition to creating the infrastructure of a new discipline on a university campus and forming new research collaborations, faculty must also implement a range of courses, from didactic to clinical experiences for students.
Outcomes/Conclusion: In these difficult economic times and with the shortage of nurse faculty, a founding faculty member will discuss how innovative one can be while trying to meet campus and discipline-specific mandates. She will also focus on the atmosphere that has been developed among the faculty in which open communication and discussion is very much encouraged in an effort to have all voices heard as this School of Nursing is developed.

EXPERIENCES OF THE FIRST FACULTY AND RESEARCHER AT THE PROPOSED BIMSON

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Purpose: The purpose of this presentation is to describe the role of a faculty member and a postdoctoral fellow in starting a new School of Nursing.
Background: Each member of a new nursing program has an important role to play in designing the future of the school. This presentation will highlight the experiences of two members of the founding team at the Proposed Betty Irene Moore School of Nursing at the University of California, Davis.
Description of the Undertaking: The first postdoctoral fellow has the opportunity to promote visibility of the school through publications and research in the community. Also as a recent graduate of a doctoral program, the postdoctoral fellow has the unique opportunity to offer insight about specific curriculum elements to enhance fit with current students. The first faculty member has the considerable responsibility to offer her insight about curriculum design and the format of the school. An expert in public policy, the founding faculty member can offer knowledge about how to design a program that will create nurses equipped to care for the patient of the 21st century.
Outcomes/Conclusions: The first postdoctoral fellow and faculty member will describe their personal experiences thus far, including their role in the Inaugural Design Summit with noted key leaders in nursing from around the country. They will also welcome discussion from other researchers and faculty members in the audience.

TRANSFORMING HEALTH CARE THROUGH NURSING EDUCATION: LAUNCHING A NEW SCHOOL OF NURSING

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Purpose/Background: The long-term strategic plan of the University of California Davis Health System included new schools of nursing and public health. The urgency of founding a nursing school was accelerated by two important factors: the growing nursing/nursing faculty shortage in California and a gift from the Gordon and Betty Moore Foundation of $100 million to launch a school intent on transforming health care. Based on personal experiences with health care, the donors made a substantial commitment to enhance the both the quality and quantity of nursing graduates at all levels in the state of California.

Description of the Undertaking: UC Davis was selected as the site of the proposed Betty Irene Moore School of Nursing because of its strength in research and its commitment to interdisciplinary education. This school has several unique features: it will begin with the graduate programs, followed by the baccalaureate, allowing for early establishment of the research programs and the conceptual base for the school; the graduate degrees will be conferred by an interdisciplinary graduate group entitled "Nursing Science and Health Care Leadership"; and the medical school curriculum will evolve in concert with the development of the nursing curriculum to foster "shoulder-to-shoulder" education of health professional students.

Outcomes: This presentation will describe the strategic processes involved in launching a new school, including collaboration with UC Irvine and community partners. The Inaugural Strategic Design Summit, held in September 2008, identified key attributes of the nurse of the future, the requisite knowledge base to prepare the nurse, and necessary innovations in curricula to promote transformation.

Conclusions: Recommendations from the summit will be shared for reaction and feedback from the audience, including brainstorming additional potential collaborative opportunities within the Western Region.

FAMILY MEMBERS' EXPERIENCES: HEALTH CARE & CARING SITUATIONS

FACILITATED SENSEMAKING: TESTING OF A MID-RANGE THEORY OF FAMILY SUPPORT

Judy Davidson, Barbara Daly, Donna Agan, Noreen Brady, Patricia Higgins

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FACILITATED SENSEMAKING: A NEW MID-RANGE THEORY FOR FAMILY SUPPORT

Judy Davidson

PARTNERS OF PROSTATE CANCER PATIENTS: WHAT DO THEY SAY ABOUT THEIR EXPERIENCE?

Tanya Tanner, Michael Galbraith, Laura Hays

BARRIERS AND FACILITATORS TO HEALTH CARE AMONG HOMELESS VETERANS

Romanitchiko Samiley

RURAL WOMEN WITH CHRONIC ILLNESS: SPOUSAL SUPPORT

Amber Spring, Clarann Weinert

CONCEPTUALIZING ADOLESCENT RESILIENCE FROM THE PERSPECTIVE OF PARENTING

JaHun Kim

IMPACT OF CAREGIVING ON FAMILY CAREGIVERS OF ELDERS WITH DEMENTIA IN CHINA

Yu Liu, Kathleen Insel

FAMILY PRESENCE DURING INVASIVE PROCEDURES IN THE EMERGENCY DEPARTMENT

Chris Shirazi, Kathy Reavy, Mary Hereford, Malia Pickett

THE CHANGE IN FUNCTIONING OF FAMILIES OF ADOLESCENTS WITH SCHIZOPHRENIA

HeeYoung Lee, Karen Schepp

A COMPARATIVE STUDY OF WOMEN INCARCERATED FOR FILICIDE AND ABUSE OF THEIR CHILDREN

Mary Mugavin, Anthony Coxon

CROSS-CULTURAL CAREGIVING RESEARCH: UPDATE ON FAMILISM IN LATINO AND ANGLO CULTURES

Janice Crist, Socorro Escandón

PILOT TEST: THE FAMILISM SCALE FOR HISPANIC FAMILY CAREGIVERS

Socorro Escandón

FACILITATED SENSEMAKING: TESTING OF A MID-RANGE THEORY OF FAMILY SUPPORT

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Aims: The purpose of this feasibility study was to pilot test and evaluate a bundle of interventions designed to support family members of mechanically ventilated adults as proposed within a new mid-range nursing theory entitled *facilitated sensemaking*.
Rationale/Conceptual Basis/Background: The facilitated sensemaking theory is derived from both Roy's adaptation model and Weick's business theory of organizational sensemaking. Family members of Intensive Care Unit (ICU) patients may develop anxiety, depression, and/or post-traumatic stress syndrome. Approaches to prevention are not well defined. Before testing preventive measures, it is important to evaluate which interventions the family will accept, use, and value.
Methods: The investigator used a bundle of interventions to coach families on how to obtain information, interpret surroundings, participate in care, and use a visiting kit of supplies. Participants were asked to complete an adapted Critical Care Family Needs Inventory (aCCFNI) and program evaluation.
Results: Family members of 30 patients consented to participate, 22 completed surveys. Reliability of the aCCFNI was high (alpha=.96). Results validated the importance of informational needs and provided a score indicating family member's perception of how well each need was met, then weighted by importance to identify performance improvement opportunities for use by clinical managers. The program evaluation confirmed that family members use this format of support and found the interventions helpful. Personal care supplies (e.g., lotion, lip balm) were universally well received. Forty-two referrals to ancillary service were made. Operational issues to improve services were identified.
Implications: Family members welcomed interventions targeted to help make sense of the new situation and make sense of their new role as caregiver as proposed in the facilitated sensemaking theory. Planned supportive interventions were perceived as helpful. This bundle of interventions needs to be further tested to determine the impact on health outcomes in family members of critically ill patients.

Study supported in part by a grant from the Gamma Gamma chapter of Sigma Theta Tau and the Palliative Care Department of Scripps Mercy Hospital.

FACILITATED SENSEMAKING: A NEW MID-RANGE THEORY FOR FAMILY SUPPORT

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Purpose: The purpose of this mid-range theory, *Facilitated Sensemaking*, is to provide a prescriptive set of nursing interventions to support family members of intensive care patients.
Aims: Intermediate goals are to assist the family in making sense of what has happened and also to make sense of their new role as caregiver while meeting family needs. Long-term goals include, but are not limited to, minimization of anxiety, acute stress reaction (ASR), depression, and post-traumatic stress disorder (PTSD) as well as improved family satisfaction.
Derivation: This theory is derived from Roy's adaptation model: The family experiences a disruption in life due to critical illness and must compensate. Activities which occur during this compensatory process lead to a complete or incomplete adaptation. This theory is secondarily derived from Weick's organizational theory: Leaders assist employees in making sense of their role and organizational outcomes. Actions during crisis are important because they frame the perception of what has happened. Reflective inquiry is the key to understanding and must occur iteratively. Proposition: nurses have the opportunity as leaders to meet family needs and affect family outcomes in an iterative process.
Induction: Lessons learned from activities in service recovery coupled with a review of the literature suggest that (a) when family needs are not met family anxiety increases; (b) family dissatisfaction relates to unmet needs; and (c) unchecked, family anxiety may escalate to ASR and PTSD.
Physiologic Explanation: The limbic system modulates fearful input. The amygdylla recognizes a fearful event, the hippocampus contextualizes this input based on current knowledge, and the pre-frontal cortex identifies how to handle the situation based on past experiences. The fearful event triggers the fight/flight response. When the prefrontal cortex cannot identify a response to the situation, or the stimulus persists, catecholamines may overwhelm the system leading to adverse outcomes. Proposition: outcome modulation is possible by keeping the pre-frontal cortex engaged through the use of familiar tactile and cognitive activities while providing adequate information.
Intervention Set: Family members choose to engage in interventions from an offered set. Nurses provide and explain the contents of a family visiting kit: workbook with instructions for use, dominoes, playing cards, word search puzzles, nail file, hand lotion, clip board, pencil, pencil grip, list of family support websites, list of common family needs, non-denominational prayer. Nurses decode the environment, describe current patient status in common terms, use reflective inquiry at the end of each visit to dispel misconceptions, and advocate for consults and care conferences. Families are taught how to perform activities at the bedside, engaging the pre-frontal cortex with known activities.
Outcome Measures: Intermediate aims are measured using the Critical Care Family Needs Inventory (CCFNI). Secondary aims are measured by the Hospital Anxiety and Depression Score (HADS), Impact of Events Scale (Revised (IES-R) and patient satisfaction survey results (Press-Ganey).

PARTNERS OF PROSTATE CANCER PATIENTS: WHAT DO THEY SAY ABOUT THEIR EXPERIENCE?

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Purpose: The purpose of this study was to qualitatively analyze the content of responses to open-ended questions collected over a 6-year time period from the partners of men receiving treatment for early-stage prostate cancer. This work was part of two larger studies aimed at describing the health-related quality of life, satisfaction with partnered relationships, and treatment-related symptoms for men who had been treated for early-stage prostate cancer.

Rationale: The rationale for these studies was to better understand the experience of partners of prostate cancer patients and to give voice to their unique experience. The theoretical basis for these studies was constructed from Padilla's conceptualization of Health-Related Quality of Life for patients with cancer which includes patients' and family members' complex evaluative responses to psychological, physical, social, spiritual, and somatic functioning. It was also informed by Minuchin's Family Systems Theory.

Methods: Approximately 344 partners were enrolled in the two studies and were given questionnaires to fill out every 6 months for 18 months and then annually thereafter (see Galbraith et al., 2005 & 2008 for a full description of the study methods). Data were collected from both studies from 2001 through 2006, and at the end of data collection a total of 115 partner participants remained. Approximately one-third of these had provided qualitative responses to the invitation to make additional open-ended comments about their experience beyond issues addressed by the closed-ended survey questions. Data analysis is being conducted in a three-step process. First, inductive codes were created after reviewing each line of the aggregated comments. Second, the codes will be grouped into related categories. Third, themes will be identified from these categories.

Results: Step 1 of the analyses has been completed. Codes have been developed that range from identifying descriptions of the effect of the experience on the couple's marital and sexual relationships and the effects of other health concerns on their experience, to the role that spirituality plays in coping with adversity. Steps 2 and 3 of the analysis will be completed by January, 2009.

Implications: Partners of prostate cancer patients have distinctive perceptions, concerns, and understanding regarding their unique experiences that must be taken into consideration when planning for follow-up encounters and for addressing educational needs related to the couple's transition into cancer survivorship.

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BARRIERS AND FACILITATORS TO HEALTH CARE AMONG HOMELESS VETERANS

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Purpose: Understand the barriers and facilitators that impact access to VA health care services among homeless veterans.
Problem Statement: There is a paucity of research on the barriers and facilitators that homeless veterans experience in accessing care. Understanding these issues is important because of the myriad of health, psychiatric, and substance abuse problems they encounter. Veterans reveal that there is a need for better information regarding available services, and deserved benefits and ways to overcome welfare stigma will be critical in promoting accessibility to health care.
Theoretical Framework: The Vulnerable Populations Comprehensive Model is the framework that will be used to explain the interactive relationship between resource availability, relative risk, and health status (Flaskerud & Winslow, 1998) of homeless veterans. Decreased resource availability impacts access to care and barriers to care puts this social group at an increased relative risk or susceptibility to adverse health outcomes.
Subjects and Setting: The target population is homeless veterans who are at risk for poor health outcome and despite being eligible for VA health care benefits, may not be accessing care. The inclusion criterion for participants is a period of homelessness for 30 days. The data collection site will include congregation eating facilities, emergency shelters, and transitional housing in the Skid Row area of Los Angeles and the Westside.
Methods: Understanding barriers and facilitators that the homeless veteran population experience is critical. Presently, qualitative methods will be employed as it will allow an understanding of the perspective of the participant or agent, which is in line with the emancipatory aims of critical social theory, the underlying philosophical tradition driving this study. Participants will be asked open-ended questions to describe their veteran status, knowledge of barriers and facilitators they experience in accessing health care, and the strategies they use to navigate of the health care system. Veterans will also be asked if they are receiving VA benefits or health care at a VA facility. Questions pertaining to access to health care may be adopted from instruments that have been used in previous studies, such as the National Technical Center Telephone Substance Descriptive Needs Assessment Questionnaire and Basic Shelter Inventory.
Significance: Access to health care is an important issue in vulnerable populations because of its focus on resource availability. It is also important to the VA because only 10% of all veterans use VA health services, and only less than a quarter of veterans (23%) who are eligible for VA health care choose the VA. The VA could be an untapped resource for this population that has many health problems, psychiatric illnesses, and substance abuse. Because a study on vulnerable population is tied with social injustice, this study on vulnerable population of homeless veterans perhaps could also make a significant contribution to the philosophical tradition of critical social theory and can be used to develop intervention programs to improve their access to VA services and ultimately improve the health of homeless veterans.

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RURAL WOMEN WITH CHRONIC ILLNESS: SPOUSAL SUPPORT

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Purposes: To identify the support needs of rural women with chronic illness, describe spousal challenges in providing support to these women, and suggest strategies health care providers can use to assist spouses in supporting their wives.
Background: The support of family members, especially that of significant others, has the potential to significantly enhance the women's ability to manage and adjust to their chronic illnesses.
Description: The Women to Women project is a computer intervention that provides health information and a virtual support group to rural middle-aged women with chronic illness. The messages posted in the online forum were assessed to determine spousal support needs.
Outcomes: Rural women faced with the challenges of chronic illness need assistance in gathering accurate health information, communicating effectively, and helping their spouses understand what they are going through in order to better self-manage.
Implications: Providing accurate information regarding the chronic illness, in addition to discussing the changes the chronic illness may have on the individual and the family (including physical, emotional, psychosocial, sexual, and relational) are important responsibilities of all health care providers.

CONCEPTUALIZING ADOLESCENT RESILIENCE FROM THE PERSPECTIVE OF PARENTING

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Purpose and Conceptual Basis: Resilience is defined as a positive developmental outcome in the context of various risks and protective factors. In earlier research, investigators focused on personal characteristics as precursors of resilience. This means that they assumed such personal characteristics would lead to positive outcomes under significant risks (risk factors). However, after 30 years of studying resilience, investigators drew a consensus conclusion that resilience is a process of overcoming circumstantial risks through the use of resources (protective factors) given to the adolescent. This presentation will describe potential theoretical underpinnings of parenting as they relate to adolescent resilience. Literature review was done to explore what kinds of parenting variables were real protectors from negative developmental outcomes, to examine whether the parenting variables would relate to specific positive developmental outcomes, and to understand mediating and moderating effects of parenting variables on risk, protective factors and positive developmental outcomes.
Methods: In order to investigate how parenting influences resilience and promotes positive developmental outcomes, a literature review was conducted. PubMed and PsycINFO were searched using key words, "adolescent resilient," "adolescent development," "parenting," "parent-child relationship," and "protective factor." Inclusion criteria were: (1) theoretical review about parenting and its influence on adolescent development, (2) empirical and interpretive studies showing a broad spectrum of parenting, and (3) studies that measured a range of adolescent positive outcomes. Included for review were eight empirical studies, four theoretical articles, and one qualitative study.
Results: The most challenging aspect of this review was to meaningfully group parenting practices and conceptualize parenting phenomena with relation to adolescent positive outcomes under significant risks. The review included late childhood (8 years old) to late adolescence (19 years old) and one longitudinal study examined parenting in early childhood (2-5 years old) and its effect on adolescence. There is consistent agreement among studies about what constitute of positive and negative parenting. Positive parenting included parental monitoring, behavior control, limit setting, parental warmth, and acceptance. Parental monitoring was found to be a strong and significant protective factor against externalizing behavior (such as aggression), age of substance use initiation, continuing substance use, and delinquency. Behavior control and limit setting were important protective factors against delinquency. Lastly, parental warmth and acceptance played protective roles for promoting positive outcomes in various risks, such as low and high socioeconomic status, maternal depression, and multiple stress events. This review reveals that the study of resilience and parenting should consider adolescent population characteristics, number and severity of risks, and types of outcomes.
Implication: Resilience as a process focuses on the interrelationship between risks and protective factors and positive outcomes. Understanding resilience as a process is an attempt to avoid the equation, resilience = personal ability = positive outcome under risks. With the concept of resilience as a process, the following questions might be raised; what kinds of resources children have; whether or not the resources are enough to overcome their risk; and who can provide the resources.

IMPACT OF CAREGIVING ON FAMILY CAREGIVERS OF ELDERS WITH DEMENTIA IN CHINA

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Background: The number of elderly is increasing as our population grows and lifespan expectancy increases. However, there is a co-occurring increased risk of dementia with increasing age. In China, the prevalence of dementia varies among different cities, and generally affects 8.59% to 9.0% of people aged 60 and over (Sheng, 2000; Tian, 2003). Because dementia results in progressive deterioration leading to disability and dependence, more care is required. In China, care of those with dementia typically occurs within the context of the family. This phenomenon is a reflection of familism and filial piety in the Chinese culture. Caring for a family member with dementia poses significant challenges. Unfortunately, studies related to family caregiving are not extensive in China, even though this research area has grown dramatically in Western countries over the past 2 decades. Most investigations that focus on the caregiver document the deleterious effects of caring for a person with dementia at home, including increased risk of depression, lower immune function, general health deterioration, role overload, family financial strain, and family conflict. In addition, more negative impacts of caring on caregivers can result in institutionalization of the individual with dementia with consequent rapid deterioration. Recently, there is greater focus on the positive aspects of providing care to those with dementia in the caregiving literature. These positive qualities are termed uplifts, gains, or satisfaction. Some research reveals the important mediating role of these variables in the association between caregiving stressors and adaptation. Therefore, it is important to explore the impact of caregiving by examining not only these negative consequences of caregiving, but also those seen as positive by the caregivers themselves.

However, literature on the investigation of both positive and negative effects of family caregiving is underdeveloped, not only in western countries but also in Asia. A literature review verifies that a shortage of systematic studies related to family caregiving in China exists, and studies on the positive impact of caregiving are especially limited. Chinese culture emphasizes the key role family plays in coping when a member becomes sick, and it also highly values the efforts that each family member contributes in order to achieve family harmony again. Therefore, how caring of elders with dementia at home affects family caregivers and whether Chinese culture significantly influences the positive and negative impact of caring are questions that need to be answered.

Research Purposes: (a) To describe the positive and negative impact of caregiving upon family caregivers of elders with dementia in China and (b) to explore the influences that Chinese culture has on the impact of caregiving upon family caregivers of elders with dementia in China.

Conceptual Framework: Pearlin's Stress Process Model (1990) will be utilized as the conceptual framework in this study. It was developed specifically for caregivers of patients with Alzheimer's disease in Western countries. The model describes not only the negative impact of caregiving (e.g., role overload, family conflict, and work conflict) but also the positive impact of caring (uplifting). It also highlights the effects of contextual factors which have a potential impact on the caregiving process. Culture is one of important variables under the contextual factors in Pearlin's model.

Research Methods: A cross-sectional correlational design will be utilized in this study. A convenience sample of subjects ($\geq$ 65 years) diagnosed with dementia by psychiatrists and their family caregivers will be recruited from the Outpatient Clinic of Psychiatric Hospital in Beijing, China. Their family caregivers will also be (a) caring for the individual at least 4 hours per day, and (b) functioning as a caregiver for at least 6 months prior to participating in the study. Caregivers will be excluded if they are currently providing care to another family member with a chronic physical or mental illness.

Significance: This study will provide information that extends nurses knowledge of the positive and negative impacts of caregiving upon family caregivers in the context of Chinese culture, and help nurses provide nursing interventions, which are target the positive aspect of caregiving and decrease negative impact on family caregivers.

FAMILY PRESENCE DURING INVASIVE PROCEDURES IN THE EMERGENCY DEPARTMENT

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Purpose: The purpose for this study is to evaluate experiences, attitudes, and stress of health care personnel, patients (if available), and family members who were present during resuscitation and/or invasive procedures performed on an adult patient in the ED.
Background: A need for a policy regarding family presence during resuscitation and/or invasive procedures performed on adult patients in an emergency department (ED) was recognized by the Policy and Procedure Committee of a large regional medical center in the northwest United States. Following evidence-based practice guidelines, a literature review on the topic was completed and evidence critiqued and leveled. Several publications focused on pediatric settings and fewer publications focused on adult patients in specialty areas. A recent study by Duran, Oman, Abel, Koziel, and Szymanski (2007) found no completed studies about family presence during resuscitation and/or invasive procedures performed in the ED. Due to this finding and encouragement from the ED nurse manager and ED medical director, it was decided that a research project would be used to validate the policy. IRB approval obtained.
Methods/Process: *Sample and Terminology*: (1) A family member is described as a person with an established relationship with the patient. This may include a relative, significant other, legal guardian, care giver, or friend. (2) The health care team is composed of nurses, physicians, trauma surgeons, respiratory technicians, social workers, chaplaincy, and others as needed. (3) Presence is described as being with a patient in an authentic relationship promoting mutual respect, honesty, and dignity. *Design*: A quantitative non-experimental design was used for this study. *Measurement Tools*: Likert-style surveys were adapted with permission from a survey created by Duran, et al. (2007). Three similar versions of the survey were created for patients (if available), family members present at the time of the event and the ED health care team. All data collected from surveys are anonymous.
Projected Outcomes: It is anticipated that findings will show (1) nurses have a more receptive attitude than other health care personnel to family member(s)' presence during resuscitation and/or invasive procedures, and (2) family member(s) and patients have decreased stress and positive attitudes regarding family member(s)' presence during a resuscitation and/or invasive procedure performed in the ED.

Funding: A small grant from the Department of Nursing at Boise State University provided funding for this study.

THE CHANGE IN FUNCTIONING OF FAMILIES OF ADOLESCENTS WITH SCHIZOPHRENIA

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Purpose: The main purpose of this study is to examine the effectiveness of a family-centered, community-based self management intervention on the functioning of families of adolescents with schizophrenia.

Background: The important leverage of family functioning in caring for the adolescents with schizophrenia has been addressed; connecting to mental health program, encouraging medication compliance, and maintaining a supportive environment for the patients. For this reason, families need the benefit of intervention programs to improve their level of functioning which in turn helps to improve the level of functioning of the adolescents. By improving the level of functioning of the families, the families are able to serve as a protective factor for the adolescents, which then leads to improved functioning in the adolescents. The studies about the effects of family-centered intervention programs for adolescents with schizophrenia on the functioning of the family, however, are very limited and more research is needed.

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 family functioning measured by the Family Attitude Scale (FAS) and the Family Empowerment Scale (FES) at the baseline, 6 weeks, 30 weeks, and 54 weeks. Descriptive statistics were used to describe the sample characteristics. ANCOVA and paired t-test were computed.

Result: Among the 40 parents of adolescents with schizophrenia, the majority of parents were female (n=34; 85%). The mean age was 46.08 years (SD=4.60) at the first entry and 23 (57.50%) were Caucasian. Thirty-two (80%) parents were their adolescents' biological parents. Although there was numeric change in the family attitude and the family empowerment at 54 weeks after controlling the family attitude and the family empowerment at the baseline respectively, there was no significant group difference (β=-5.061, p=.472; β=-1.266, p=0.841). Of note, the intervention group showed a marginally significant decrease in the family attitude scale from baseline to 54 weeks (t=2.140, p=0.05). However, there was no significant change in the family empowerment from baseline to 54 weeks in the intervention group (t=-1.178, p=0.256).

Implications: The current study indicated that both groups received benefit from the family-centered, community-based self management intervention for adolescents with schizophrenia. Refined interventions for parents of adolescents with schizophrenia have important implications for future studies.

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A COMPARATIVE STUDY OF WOMEN INCARCERATED FOR FILICIDE AND ABUSE OF THEIR CHILDREN

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Background: Exposure to childhood trauma influences an individual's future emotional and behavioral responses and can increase the potential for abuse to be carried forward to the next generation. Literature describes vulnerabilities and triggers that may predispose a woman to abuse, but has yet to reveal in an unbiased manner, complex structural information underlying these factors that may be relevant to their prediction.
Methods: The objective of this exploratory study was to investigate potential contributory vulnerabilities and triggers from the viewpoint of women incarcerated for fatal (n=10) and nonfatal (n=9) child abuse. In a structured questionnaire 68 pairwise comparisons of 12 stimuli was used to investigate vulnerabilities (ie: close to mom, alcohol/drug use, physical abuse) and triggers (ie: revenge, religiosity, desperation) preceding abuse. Multidimensional scaling and associated techniques were employed to develop cognitive maps of the stimuli in relation to one another and to investigate similarities between women who committed filicide and abuse.
Results: The positioning of points in the maps was similar between fatal and nonfatal abusers, but significant differences also occur and these are evaluated. Three clusters were identified: Family Intimacy, Negative Emotion, and Abuse. The two groups diverged to a degree in terms of rankings of importance of priorities. The terms that showed the greatest discrimination between groups were *close to mom* and *physical abuse* (filicides > nonfatal abusers) and *alcohol or drug use* (nonfatal mothers > filicidal mothers).
Implications: The study identified potential vulnerabilities and triggers which may help to discriminate between mothers who kill their children compared with mothers who abused or neglected but did not kill their children. Such findings may lead to instrument development for use in clinical settings to guide preventive intervention.

CROSS-CULTURAL CAREGIVING RESEARCH: UPDATE ON FAMILISM IN LATINO AND ANGLO CULTURES

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Purpose/Aims: To review the literature regarding how familism affects caregiving decisions, and to compare and contrast caregiving within two exemplar cultures: traditionally collectivist Latino and individualistic Anglo cultures.

Background/Rationale: Familism consists of two basic notions: relating to boundaries, or who and who does not belong to the family; and to proximity, or the acceptability of how close or how far to live from the family. Latino elders and caregivers make decisions together; for example, whether to use home care services. Latino elders use home care services less frequently compared to Anglo elders, even though functional problems are more prevalent in Latino elders at earlier ages. Familism was recently shown to be a significant predictor of use of home care services by Latino elders. The literature and clinical experience also support the possibility that familism is a predictor for other cultures as well. Cross-cultural research is needed to bring a broader understanding to underpin future culturally relevant nursing interventions, beginning with a critical review of the family caregiving literature for both cultures.

Methods: Methods included an extensive and critical literature search of articles found through four databases. Key words were familism, familismo, filial obligation, family caregiving, Mexican, Mexican American, Latino, Hispanic, non-Hispanic white, Anglo, Caucasian, and other controlled vocabulary terms. From the databases we found 102 articles, and reviewed additional articles of which we were aware, totaling 134, dated from 1945 to 2009. The poster reports concepts, theories, instruments, and innovative applications, identifying gaps, and invites collaboration on future research.

Results: Early social science literature reported that allocentric Latino families were more family oriented than egocentric Anglo families; that familism was the strongest characteristic of Latino culture, even at differing levels of acculturation; differences were related to filial obligation vs. affection; and Anglo attitudes were related to issues of autonomy. However, recent literature reported that the Latino extended family has been disappearing due to societal influences, with the extended family no longer central to the routines of everyday life: a fundamental revision of what "family" means. Family caregiving among Latino families is growing increasingly difficult due to this shift of cultural values. Also, Latino and Anglo caregivers did not differ in social support.

Implications: Definitions of this construct relate to levels of attachment and identification of individuals to their nuclear and extended families, with feelings of loyalty, solidarity, and reciprocity. These attitudes toward family are known to influence the tendency of family members to care for elderly relatives. Studying the construct of familism in two cultures that differ in basic paradigms facilitates a closer look at the manifestation of this phenomenon to shape more culturally appropriate nursing practice. Familism scales have been formulated as early as 1959 but measure values in a broad and general sense and are not sufficiently specific for assessing caregiving families. Future measures, practice, and interventions need to be shaped by updated cross-cultural definitions and understanding.

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PILOT TEST: THE FAMILISM SCALE FOR HISPANIC FAMILY CAREGIVERS

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Background: The majority of Hispanic elders, 65 and over (52.3%) live with relatives. The number of Hispanic elders continues to grow as projected from about 2.1 million in 2002 to 15.6 million by 2050. The concept of familism has been identified as an important concept/construct for Hispanic families and how they take care of their elders. Familism scales have been formulated, but these scales measure familism values in a broad and general sense and are not sufficiently specific when applied to the explicit family structure, attitude, and behaviors that support caregiving activities. A scale specific to assessing family assistance with caregiving activities was developed, the Intergenerational Caregiver Familism Scale (ICFS), in order to assess individuals in caregiving roles within families of today's society.
Scale Development: Followed DeVellis' (2003) guidelines for scale development. The scale items, generated from qualitative data, were assembled and the finished format employs a modified Likert scale design. The content validity of items was addressed. The extent of agreement between experts was measured by the use of a content validity index (CVI). Caregiver rating resulted in a CVI of .92. The expert panel rating resulted in a CVI of .89.
Methods: The ICFS was pilot tested for initial reliability and basic evaluation of the items on a sample of 50 caregiver participants and followed up with 20 participants for initial test retest estimates. The reliability estimates included an internal consistency estimate (Cronbach's alpha) and intraclass correlation. The internal consistency estimate calculated the average of the correlations among the items using coefficient α with a value of .64 for Cronbach's standardized alpha. The intraclass correlation (ICC) was computed, to help determine the different variance components that enter into the reliability estimates contributed by repeated measurement on the same participants with the same instrument (test, retest) in contrast to the relationship between different variables (Pearson's correlation).
Sample: The caregiver participants ranged in age from 26 to 76 years; 92% (46) female, 86% (43) self identified as Hispanic; 4% (2) as Spanish; 4% (2) as Chicano; 2% (1) as Mexican American; and 4% (2) no identification. Elder ages ranged from 53 to 98. The reliability estimates for 29 items included an internal consistency estimate (Cronbach's alpha) and intraclass correlation.
Results: The intraclass correlation (ICC) .61, with a 95% confidence level of .43 to .75. These results are encouraging that the scale items are internally consistent and stable, but inconclusive due to the small sample. Item analysis was done in relation to three proposed subscales. Selected items within each subscale may require deleting when the results of larger sample are determined.
Significance: It is unclear why some family members accept the caregiving role and others do not in complex relationships between elders and their families. . The significance of a supportive family unit continues to increase for elders requiring assistance. An objective assessment of Hispanic caregivers' family values (familism) is fundamental and relevant for healthcare professionals. The understanding of family structure, attitudes, and behaviors related to family caregiving is fundamental to the design of appropriate nursing and societal interventions that support families in caregiving situations.

Health Sciences Center Research Allocation Committee (RAC), Nursing/Pharmacy, Allied Health, at UNM.

HEALTH PROMOTION & ILLNESS PREVENTION

MEN'S KNOWLEDGE AND AWARENESS OF MALE BREAST CANCER

Eileen Thomas, Stephen Schoen

MOTHER'S THOUGHTS ABOUT THE HUMAN PAPPILOMAVIRUS (HPV) VACCINE

Tanya Tanner, Priscilla Nodine, Rhonda Knapp-Clevenger, Laura Hays, Michelle Kahn-John, Pamela Lake

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LIVE, LOVE, EAT AT RESTAURANTS: THE EFFECT OF FOUR CUISINES ON LIPIDS AND BLOOD PRESSURE

Ellen Daroszewski, Dawn Stone, Lisa Goldstein

IMPLEMENTING A PARTICIPATORY RESEARCH PARTNERSHIP FOR CHILDHOOD OBESITY PREVENTION

Nancy Findholt, Vicky Brogoitti, Yvonne Michael, Linda Jerofke

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SUPPORT SYSTEMS INTEGRAL TO SMOKING CESSATION

David Navarro, Kara Williamson, Rebecca Schattin, Pamela Strohfus, Ranelle Nabring

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PREDICTORS OF PHYSICAL ACTIVITY ADHERENCE IN NEW AND MAINTENANCE EXERCISERS

Catherine McElwain

HEART DISEASE IN NEW MEXICO: EARLIER PRESENTATION FOR BOTH MEN AND WOMEN

Rebecca Mayo

WISE WOMEN AGAINST DIABETES

Tammy Lynn Williams

HEALTH PROMOTION BEHAVIOR OF KOREAN SOJOURNER MOTHERS

Chiyoung Cha

MEN'S KNOWLEDGE AND AWARENESS OF MALE BREAST CANCER

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Purposes/Aims: The purpose of this qualitative descriptive study is to describe men's knowledge and awareness of breast cancer in men who may be at high risk for developing this disease.

Rationale/Conceptual Basis/Background: According to the American Cancer Society, the key to surviving breast cancer is early detection and treatment. Due to the rarity of breast cancer in men, there are no recommended screening guidelines for males. Most people are not aware that in 2008 approximately 1,990 men will be diagnosed with breast cancer and about 450 men will die from this disease. It is estimated that up to 20% of men who get breast cancer have a female relative with the disease. Nearly 1.3 million women are diagnosed with breast cancer worldwide each year; this means potentially 260,000 men have a female relative with breast cancer. Researchers suspect that some families may carry genetic mutations that provide an increased risk for breast cancer and found that BRCA-2 mutations appear to be a significant risk factor for breast cancer in men. In men, 15% to 20% with breast cancer have a positive family history, while only 7% of the male general population has an affected family member. Despite a recent decline in breast cancer mortality in women, the incidence of breast cancer among men is increasing. Men are often diagnosed at a later, more advanced stage than women. Men with breast cancer are older, more likely to have hormone receptor positive disease, and nodal metastases. Because of the low numbers of breast cancer in men compared to women, it is not reasonable to recommend mammography screening among men in the general population. However, regularly scheduled clinical breast exams might be useful for screening men with a family history of breast cancer and/or with BRCA-2 mutations found by genetic testing.

Methods: Qualitative descriptive approaches with individual, face-to-face interviews are being used to explore men's knowledge of male breast cancer. Thirty men without a personal history of breast cancer, regardless of race/ethnicity, who have or have not had a maternal blood relative (male or female) with a history of breast cancer, are being invited to participate in the study. Researchers suggest that gender identities may be relevant to health and illness related experiences, therefore descriptive ethnography is the framework used in this preliminary study.

Results: Preliminary results indicate that a majority of men are not aware that men are at risk for breast cancer. Some participants stated, if they were diagnosed with breast cancer, they would feel stigmatized and would feel a loss of their masculinity. Participants recommend that educational information about male breast cancer be placed in locations where men gather, such as sport bars, golf courses, and sports arenas.

Implications: Researchers have not addressed from a man's perspective their knowledge about a disease that is predominantly considered to be a *woman's disease*. Knowledge gained from this study will provide health care professionals with new perspectives and insights for developing culturally acceptable and gender specific breast cancer education interventions for men.

Funding: University of Colorado Denver, College of Nursing Intramural Research Award.

MOTHER'S THOUGHTS ABOUT THE HUMAN PAPPILOMAVIRUS (HPV) VACCINE

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Purpose: A qualitative descriptive design was used to describe factors that influence maternal decisions of whether or not to vaccinate their daughters for human papillomavirus (HPV). Specific aims were to: (1) explore maternal knowledge and attitudes concerning vaccination of their daughters against HPV, (2) identify and describe influences and resources impacting maternal decision making concerning vaccination of their daughters against HPV, and (3) develop recommendations for HPV vaccination education for health care professionals and the lay community.

Background: HPV is the most common sexually transmitted infection in the United States and the most common cause of cervical cancer in women. In June 2006, the quadrivalent HPV vaccine was approved in the US for use in females aged 9-26 years. The vaccine's efficacy is most effective if given before the age of fourteen. With HPV infection in adolescent girls at a striking 82%, investigation into maternal decision making regarding vaccination of their teen and pre-teen aged daughters is timely.

Methods: Eighteen mothers with daughters aged 9 to17 years participated in face to face audio tape recorded interviews. Semi-structured and open-ended questions focused on factors influencing maternal knowledge and decision making regarding vaccination of their pre-teen and teenage daughters against HPV. Data were analyzed using qualitative descriptive coding by individual researchers and in collaboration with team members to identify categories and themes.

Results: Findings suggest that the decision to vaccinate one's daughter for HPV is complex and multi-factorial. Major categories included sexuality, general beliefs about vaccination and the overall health care system, and maternal assessment of the daughter's readiness to receive the vaccine. Mothers were the primary decision makers with regard to the HPV vaccination of their daughters and received information regarding vaccination primarily from the media, health care providers, and family/ social contacts.

Implications: Health care providers may play a major role in maternal decision making regarding vaccination for HPV. Individual nursing assessment of maternal values and beliefs as well as discussion regarding the availability of the vaccine should be initiated at all teen and pre-teen health care contacts. Patient-tailored educational materials about the vaccine and potential side effects should be readily available and information regarding the HPV virus and the most effective time for vaccination must be provided.

LIVE, LOVE, EAT AT RESTAURANTS: THE EFFECT OF FOUR CUISINES ON LIPIDS AND BLOOD PRESSURE

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Study Aim: The aim of this study was to explore the effect of restaurant dinners of four different common ethnic cuisines on the serum lipids (total cholesterol, LDL, HDL, Non-HDL, triglycerides, TC/HDL ratio) and blood pressure (SBP, DBP) of healthy adults.

Background: We all eat and our choice of food can contribute to good health or increase the risk of disease. Restaurants are ubiquitous in American culture and are a substantial source of food for Americans with food eaten away from home comprising up to a third of calories consumed (Guthrie, Lin, & Frazao, 2002). National dietary guidelines such as the Dietary Guidelines for Americans (USDHHS, 2005) and scientific statements such as Diet and Lifestyle Recommendations (AHA, 2006) associate restaurant food with adverse health consequences yet the specific adverse effects of restaurant food has not been well studied.

Method: Fifteen couples, 35 to 68, in three cohorts of 10, met for four restaurant dinners of four different common cuisines: American, Chinese, Italian, and Mexican. Fasting lipids and BP were measured before and after each dinner. The restaurants chosen were mid-priced neighborhood restaurants that served food typical of the cuisine. All participants ate heartily at all dinners. No alcohol was consumed during or after the dinners.

Results: No cuisine produced a statistically significant change in lipids or BP for the sample as a whole. SBP decreased slightly after American, Chinese, and Italian cuisine, and increased slightly after Mexican. DBP decreased 1.5% after Mexican cuisine, but increased 4%, 1.6%, and 2.9% after American, Chinese, and Italian, respectively. On average American cuisine decreased NHDL (-2.0%) and increased HDL (2.0%); Italian decreased NHDL (-1.1%) and HDL (-5.4%); Mexican increased NHDL (5.3%) and HDL (2.7%); and Chinese increased NHDL (1.5%) and decreased HDL (-3.2%). For younger participants Italian cuisine significantly decreased TC ($df=19$, $p=.03$) and LDL ($df=19$, $p=0.014$). For older participants Chinese cuisine significantly decreased HDL ($df=9$, $p=.016$). For women no cuisine had a significant effect. For men Italian cuisine significantly decreased TC ($df=15$, $p=.034$), LDL ($p=0.033$), and HDL ($p=0.016$).

Implications: Little evidence was produced to support the purported adverse health consequences of restaurant food. On the contrary, American, Italian, and Mexican cuisines improved lipids. Italian cuisine significantly decreased TC and LDL in men. The effect of restaurant food consumption on specific risk factors needs much further investigation.

IMPLEMENTING A PARTICIPATORY RESEARCH PARTNERSHIP FOR CHILDHOOD OBESITY PREVENTION

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Purpose: This presentation will describe the steps taken to establish a participatory research partnership for childhood obesity prevention, achievements during the first three years, and factors that facilitated or were challenges to maintaining the partnership.

Background: Community participation in research is advanced as an effective approach for addressing environmental determinants of health disparities. The participation of community members in research can offer numerous benefits, including a deeper understanding of the conditions that influence health, an increased likelihood that the interventions will be culturally appropriate, and greater public awareness and support for the interventions. However, participatory research partnerships are not easy to establish or sustain.

Description of Processes: UC Fit Kids is a community-based participatory research project that was initiated in 2005 for prevention of childhood obesity in rural Union County, Oregon. The partners include Oregon Health & Science University (School of Nursing and Department of Public Health & Preventive Medicine); Eastern Oregon University; the Union County Commission on Children & Families; Union County's public school districts, hospital, and public health department; and several community organizations that provide food or physical activity programs to children. Early steps in partnership formation included developing an organizational infrastructure, establishing member roles, determining a process for group decision making, and engaging members in discussions about environmental influences on children's physical activity and food choices.

Outcomes Achieved: Principal achievements during the first three years included the receipt of grant awards from the NIH and private sources, completion of an in-depth community assessment, development of an intervention plan, and submission of proposals for implementation.

Conclusions: Factors helpful in establishing and maintaining the partnership included building on a past collaborative effort, involving college students in the coalition's work, having a strong lead organization, and providing honorariums to members who participated in data collection. Challenges in sustaining the partnership included members' time constraints, lag time while waiting for funding, and balancing community interests with research needs. Our experiences provide insights that may be helpful to other nurse researchers in establishing effective participatory research partnerships.

SUPPORT SYSTEMS INTEGRAL TO SMOKING CESSATION

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Purposes/Aims: Clients of the Boise City/Ada County Housing Authority (BCACHA) are a culturally diverse group of people, ages 18 or older, living in government housing. This housing is being provided to them at a reduced cost by BCACHA. Many of these clients use tobacco products. By providing smoking cessation education and resources, we may enable these clients to live healthier and more independent lives.

Rationale/Background: Cigarette smoking is the leading cause of preventable death and morbidity in the United States. Smoking is estimated to cost $40 billion to $50 billion annually in lost productivity. Smoking is a serious health risk and accounts for nearly 30% of all cancer deaths. Very few tobacco users achieve permanent abstinence and many lapse and relapse before they actually quit. The majority of smokers continue to use tobacco for years. Clients of the housing authority are typically impoverished. Even though these clients are poor, the majority of them continue to smoke though they cannot afford it. Providing these clients resources to quit would enhance their health and increase the availability of earned income. The purpose of this project was to analyze the difficulty of quitting tobacco and developing an educational seminar on smoking cessation.

Description of the Undertaking including Approach/Methods/Processes: Convenience samples of 100 clients from the Boise City/Ada County Housing Authority, (BCACHA), were asked to fill out a questionnaire pertaining to their smoking habit and smoking cessation. The faculty and student research group collected data by providing a questionnaire to the clients of the BCACHA; once permission was granted, the data was collected by hand and taken to Boise State University. The data was analyzed by entering the information into the SPSS system**.**

Outcomes Achieved/Documented: The findings were analyzed and documented. Thirty-nine percent of the surveys were completed. Information collected confirmed the difficulty of quitting tobacco.

Conclusions/Recommendations: Based on our research, we believe our survey results demonstrated that people cannot stop smoking because of the addiction regardless of the cost, harm to self and others, and the high incidence of lung cancer. Recognition of the addiction and development of long term support systems are needed to help clients quit. By providing support systems such as quit plans, social support, pharmacological support, and educational support, the clients of BCACHA may decide to quit tobacco while achieving better personal and family health.

PREDICTORS OF PHYSICAL ACTIVITY ADHERENCE IN NEW AND MAINTENANCE EXERCISERS

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Purpose: The purpose of this research is to develop evidence regarding the relative importance of goal-setting, use of a physical activity log, social support, employer support, and self-efficacy on physical activity adherence among two groups maintaining physical activity for differing lengths of time. The central hypothesis is that these five variables predict initiation of physical activity, and that these same variables are important in long-term maintenance of high levels of physical activity. It is also hypothesized that some variables will be more important at initiation of physical activity, and others will be more important during maintenance. The proposed research answers key questions about the relative importance of predictors from the Transtheoretical Model (TTM) (Prochaska & DiClemente, 1984), the Wellness Motivation Theory (Fleury, 1996; 1991), and the Health Promotion Model (Pender, 1996), which have not been combined in the existing literature involving physical activity.

Background: Physical activity is an essential component of a healthy lifestyle. However, in the United States, more than sixty percent of adults do not meet the minimum recommendations for physical activity (CDC, 2005; USDHHS, 1996). Twenty-five percent of adults report engaging in no activity whatsoever (CDC; USDHHS). In the United States, obesity has doubled in the past 20 years (Abid, et al., 2005). Diseases such as heart disease, obesity, and diabetes are not only major issues for quality of life among Americans, they are also very costly to both the individual and society (Lowensteyn, 2000). Regular physical activity, therefore, is an important goal of Healthy People 2010 (USDHHS, 2000). Methods to evaluate initiation and attainment of these physical activity goals are imperative. For these reasons, additional research regarding physical activity adherence is beneficial in learning ways to predict adherence and to motivate persons towards healthy lifestyles. In better understanding the predictors of physical activity adherence and the relationships between them, it becomes possible to more effectively counsel patients and increase success rates of adherence to physical activity.

Methods: A descriptive-correlational, cross-sectional design will be employed for this study using multiple regression to test a model of physical activity adherence. The source of the data will be surveys targeting a triathlete population that adheres to physical activity. Participants will be asked to complete a survey about their physical activity and theory-based potential predictors of physical activity initiation and maintenance. The variables intended for study include goal-setting, use of a training log, social support, employer support, and self-efficacy. These variables will be evaluated in terms of their relative effects on physical activity adherence.

Implications: Completion of the proposed research will advance the knowledge base regarding physical activity adherence. This study will contribute to a beginning integration of existing empirically based predictors of physical activity into a more specific model of physical activity adherence for use in nursing. Development of targeted interventions utilizing this newly gained knowledge to encourage patients' adherence to physical activity programs over time can subsequently be initiated.

HEART DISEASE IN NEW MEXICO: EARLIER PRESENTATION FOR BOTH MEN AND WOMEN

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Purpose: To compare the age of presentation for New Mexican men and women with Coronary Heart Disease (CHD) and Heart Failure (HF) with national averages.

Background: CHD continues to be a major health concern. Although the American Heart Association (AHA) goal of reducing CHD deaths by 25% by 2010 has already been accomplished, CHD causes one out of five deaths in the US; estimated direct and indirect costs related to CHD total $156.4 billion. In 2003, the latest year for which AHA data is available, the average age for first heart attack in men is 64.5 years and 70.4 years for women. Nationwide, 47% of men first present with CHD between the ages of 46-65: 38% from ages 66-85: 5.5% older than 85. In women, age reflects later presentation: ages 46-65 – 30%, 66-85 – 50%, older than 85 – 15%.

HF may be multi-factorial or the result of CHD. The incidence of HF has not declined in the last 20 years, but overall survival has improved. Approximately 22% of men and 46% of women are disabled by HF within six years of diagnosis, and 70-80% of those under the age of 65 will die within eight years. In men, the incidence of HF is as follows: ages 46-65 – 29%, 66-85 – 52%, 85+ – 12%. In women: 46-65 – 19%, 66-85 – 52%, 85+ – 23%. The estimated direct and indirect cost of HF for 2008 is $34.8 billion.

Anecdotal data at the University of New Mexico Medical Center (UNMMC) did not reflect the national age distributions.

Methods: Data collected as part of the AHA Get With The Guidelines Quality Assurance Initiative was utilized to determine age distributions for CHD and HF. This data was collected systematically on every patient admitted to the UNMMC with a diagnosis of CHD and/or HF from January 2006 – December 2008, and entered into a national database supported jointly by the AHA and the American College of Cardiology. Age at diagnosis was used for grouping purposes.

Results: For the years 2006 – 2008, New Mexicans were strikingly younger than their national counterparts when diagnosed with CHD and/or HF. More women presented with CHD at ages 46-65 (51% vs. 30%) and with HF (45% vs. 19%). Men were also younger with diagnosed HF (53% vs. 30%). Men with CHD at ages 46-65 (50% vs. 47%) were similar to national averages. The average age of heart attack for both sexes was also lower than the national average: women, 56.3; men, 63.5.

Implications: Earlier presentation may be occurring nationally as well as in New Mexico. Early and aggressive primary prevention is essential. The index of suspicion for CHD when younger New Mexican men and women present with symptoms suggestive of ischemia should be high. Ongoing data analysis may reveal associated factors specific to New Mexicans.

WISE WOMEN AGAINST DIABETES

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An estimated 20.8 million people in the US has diabetes and of those, 90-95% has type 2 diabetes. Meeting the recommended levels of physical activity has been shown to be beneficial in the management of type 2 diabetes. Nearly one-third of individuals with type 2 diabetes report no involvement in regular physical activity, while another 38% report insufficient levels of physical activity. Women who suffer from type 2 diabetes often become frustrated and relapse to a sedentary lifestyle. Therefore, moderate physical activity, such as walking, is an ideal form of physical activity for this population. Health care providers often use counseling techniques to promote physical activity among patients. The majority of patients who receive physical activity counseling are males.

Purpose: This study tested the effectiveness of a Walking Intervention and Supportive Environment (WISE) protocol designed to increase the amount of walking and frequency of self-monitoring blood glucose in type 2 diabetic women. This intervention is guided by the Health Promotion Model and the Transtheoretical Model of Change.

Method: A quasi-experimental repeated measures design was used with a sample of 50 women ages 25 to 70 diagnosed with Type 2 diabetes. Participants were randomized to intervention group (n=25) or control group (n=25). The intervention group received the WISE protocol, a weekly telephone counseling session tailored to the participants' stage of change. The counseling was designed to provide support and motivation to increase walking, frequency of self-monitoring of blood glucose and glycemic control. All participants received usual care by their provider, educational material, pedometers, and glucometers.

Data Analysis: Statistical analysis (ANOVA and ANCOVA) was used to determine significant differences between the control and intervention group on mean daily steps walked, mean frequency of self-monitoring blood glucose (SMBG), and glycemic control (Hemoglobin A1c levels). Descriptive statistics were used to summarize sample characteristics.

Findings: Women receiving the WISE intervention significantly increased their mean frequency of SMBG and improved their glycemic control. Both groups had significant increases in their mean number of steps walked per day.

Implications: The knowledge obtained from this study will assist in further development of effective health care interventions aimed at reducing diabetes related complications.

HEALTH PROMOTION BEHAVIOR OF KOREAN SOJOURNER MOTHERS

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Purpose: The purpose of this study is to develop a theory on health promotion behavior of Korean sojourner mothers to understand how they promote health.
Background: In the early 1990s, some families started to live apart for the education of their children, with mothers living in the United States with their children, and fathers living in Korea as breadwinners of the families. The numbers of families who left Korea are inferred as 29,511 in 2006, which is thirteen times more than those in 1995 (KEDI, 2007). The increase of this new form of family showed a steep slope, thus drawing public attention in Korea. Yet, concerns addressed were focused on the burden of the fathers left, maladjustment of the children, and the outflow of foreign currency. Very little has been done to look at the health of the mothers in this unique form of family.
Methods: Mixed methodologies will be used: (1) surveys to describe the health promoting lifestyle of Korean sojourner mothers, and (2) a grounded theory methodology to generate a theory on their health promotion behavior. Flyers and snowballing techniques will be used for recruitment. Twenty participants or more will be asked for in-person interviews after completing the survey (theoretical sampling) until the saturation is reached. Questions such as "How do you describe your way of promoting health?" or "What efforts do you make to promote your health?" will be asked. Constant comparative analysis will be adopted to analyze the actions and shared meanings of Korean sojourner mothers.
Result: Based on symbolic interactionism, a theory of health promotion behavior will be developed through the direct examination of participants' empirical social world. The mothers might have unique strategies to promote their health while they go through hug transitions to adjust themselves in a foreign country with little social support. Their status as temporary residents, changed responsibilities as heads of the separated families, and language difficulty might have influence on their health promotion behavior.
Implications: Although the health of sojourner population is compromised during their stay in foreign countries, there has not been much attention from the nurse researchers. This study will bridge a gap between what is known and not known about sojourner health. In a broader point of view, with the number of internationally/ intranationally separated families growing rapidly every year, the result of the study can suggest some answers to the increasing need to understand how the members of separated families promote their health.

*Korean Educational Developmental Institute (2007). [2007 Education statistics analysis score book]. Seoul, Korea: KEDI.

HOSPICE & PALLIATIVE CARE ISSUES

PROMOTING SAFETY IN LONG-TERM CARE: A REVIEW OF LONG-TERM CARE FACILITY DEATHS

Margaret Baker, Richard Harruff, Dylan Mart

MORTALITY PREDICTION IN NURSING HOMES: SCREENING FOR PALLIATIVE CARE

Caroline Etland

LETTING A HIDDEN AGENDA GO

Yoshiko Yamashita Colclough

END OF LIFE CARE PRACTICES AND QUALITY OF LIFE: AN INTEGRATIVE REVIEW

Khaldoun Hamdan, A. Elaine Bond

CANCER PATIENTS' LIVED EXPERIENCE WITH ADVANCE CARE PLANNING: A TRANSCULTURAL STUDY

Yuki Asakura

PROMOTING SAFETY IN LONG-TERM CARE: A REVIEW OF LONG-TERM CARE FACILITY DEATHS

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Background/Significance: At any given time in the US, there are approximately 1.6 million people in nursing homes (NHs) and one million people in community-based long-term care (LTC). The prevalence of elder mistreatment (EM) in institutional settings is unknown, but thought to be widespread and serious. Abuse or neglect may be missed when suspicious circumstances and/or reportable conditions are not reported to the medical examiner (ME) or coroner as required by law. Many health care and criminal justice professionals have concerns that the contribution of EM to LTC facility deaths is being missed. Unidentified EM has implications not only for seeking redress for the decedent and their loved ones, but for safety and quality of care for the living.
Purpose and Specific Aims: The purpose of this study is to describe and analyze medicolegal characteristics and contextual factors of LTC facility deaths in King County (KC) WA in 2005. Specific aims are to (1) describe resident and facility characteristics and reporting circumstances of LTC facility deaths; (2) identify potential forensic markers of EM associated with these deaths; and (3) examine relationships between potential forensic markers and resident, facility, and reporting characteristics.
Conceptual Framework: The study is conducted using a risk and vulnerability conceptual framework, wherein risk includes potentially stressful factors in the environment and vulnerability represents individual factors that predict or explain a person's ability to adapt to environmental stressors. In this study, risk will be evaluated through analysis of facility characteristics and (death) reporting circumstances. Vulnerability will be evaluated through analysis of resident characteristics.
Methods: The study design is non-experimental and involves a retrospective record review. The sample consists of approximately 1,844 eligible cases of LTC deaths of residents age 65 and over reported to the KCME in 2005. Of that sample, the ME assumed jurisdiction in 74 cases. Data sources include a limited data set from the KCMEO, file records for cases in which the ME assumed jurisdiction, and publicly available federal and state nursing home and hospice survey data and state survey data of adult family homes.
Contribution to Nursing Theory and Practice: This study contributes to nursing theory by adding to an emerging portfolio of EM studies using a "risk and vulnerability" framework. The study contributes to nursing practice by increasing knowledge, awareness, and skills in EM primary prevention; improving secondary prevention through enhanced recognition, reporting, and medicolegal investigation; and enhancing tertiary prevention by informing changes in practice guidelines, regulatory responses, and public policy.

MORTALITY PREDICTION IN NURSING HOMES: SCREENING FOR PALLIATIVE CARE

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Purpose: This study is undertaken to retrospectively determine survival of a cohort of nursing home (NH) residents and to determine whether the MDS-CHESS scale accurately predicts mortality within six months.

Background/Conceptual Basis: Improving EOL care of the elderly is a problem of immense proportions. More than 2.4 million Americans die each year of various causes; 1% of the GNP is spent on ICU care and 23% die in nursing homes (Esserman, Belkora, & Lenert, 1995). Upon admission to a NH, 35% will die within one year (van Dijk, et al., 2000). Predicting decline and death in NH residents can be difficult and complex, and delays in referral to appropriate supportive care results in undesired medical intervention and unnecessary suffering in advanced illness. The Quality Health Outcomes Model (Mitchell, et al., 1998) reflects a dynamic, interrelated quality system that flows in many directions, and whose elements all affect each other, rather than structure and process producing outcomes in a linear fashion. This quality model is useful with chronic illness because of the many exacerbations and remissions prior to death.

Methods: A retrospective correlational cohort study was conducted to examine mortality in residents of two nursing homes (NH) in southern California. The sample of 191 NH residents was taken from the Minimum Data Set (MDS) federal database of nursing homes that receive Medicare reimbursement. Nine MDS items were analyzed using correlational statistics to determine relationships between the IVs and DV. Logistic regression statistics provided information about the predictive model and how well it fit with the sample. Multicollinearity was analyzed to ensure that variables were measuring different constructs.

Results: Analysis was performed on a final sample of 81 subjects who died during the evaluation period. Regression coefficients were generally low (range 0.09-0.46) and none demonstrated significance in the likelihood ratio test. Odds ratios were uniformly low (range 0.52-2.26) as well. Differences between the 2 NH were negligible in the correlational analysis, as well as the logistic regression statistics and overall mortality.

Implications: Nurses are affected by the professional norms regarding prognostication that exist among physicians. Assessing for, correctly identifying, and intervening when prognostic signs appear over time can be considered the prevention of harm and undesirable outcomes. Normalizing discussions regarding predictions of future health outcomes can enhance communication between patients, families and health care providers. Future research should explore how best to access and incorporate prognostic information into treatment decision making. Pilot studies of prognostic scales used in screening for palliative care services can determine utility for interdisciplinary teams in NH.

Esserman, L., Belkora, J., and Lenert, L. (1995). Potentially ineffective care: A new outcomes to assess the limits of critical care. *Journal of the American Medical Association*, 274(19), 1544-1551.

Mitchell, P., Ferketich, S., Jennings, B. (1998). Quality health outcomes model. Image: *Journal of Nursing Scholarship*, 30(1), 43-46.

Van Dijk, P., Mehr, D., Ooms, M., Madsen, R., Petroski, G., Frijters, D., et al. (2000). Comorbidity and 1-year mortality risks in nursing home residents. *Journal of the American Geriatric Society*, 48(2), 154-163.

LETTING A HIDDEN AGENDA GO

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Purpose: To describe lessons learned by the academic researcher while establishing a community and academic partnership to develop a culturally appropriate tribal palliative care intervention for an American Indian nation.
Background: Hospice care is a gold standard for those who pursue quality of life rather than aggressive treatments for cure when such treatments become less beneficial or burdensome. Unfortunately, availability of formal palliative care services is very limited for American Indians/Alaska Natives residing in rural areas and on reservations. The disparities in access to health care and the health care delivery system demonstrates difficulties for the American Indians/Alaska Natives to deal with. Through the Montana Consortium for Community-Based Research in Health, the partnership between the tribe and the academic was initiated to develop a culturally appropriate tribal palliative care intervention. However, exercising a community-based participatory research (CBPR) approach was fun as well as challenging. Unfortunately, only a few references were found that describe practical strategies to overcome the intense challenges that are involved with differing perspectives amongst interdisciplinary team members.
Approach: The main data source is the field notes that were taken during the meetings and personal visits since the partnership has started in March 2007. Ten field notes were shared as meeting summaries with the tribal members. This analysis focused only on the academic's actions and thoughts. First, descriptive aspects of the field notes were analyzed and categorized. Second, reflective aspects of the academic's frames of minds were focused on the analysis.
Outcomes Achieved: Three themes were identified from the descriptive aspects of the field notes. They were Tremendous Preparation, Personal Visits, and Distance. The academic prepared for most of the meetings, led the research process, and made efforts to meet tribal people. At the same time, the long distance between the tribe and the academic prevented her from knowing what was going on in the tribe. The reflective aspects of the analysis included Anxiety, Doubt about Exploitation, and Paternalism. Anxiety occupied during initial introduction to the tribal members and planning each meeting. Doubt about Exploitation meant to describe the academic's heightened sensitivity related to a direction of the research process and the CBPR approach. In particular, viewing the partnership from both perspectives was conducive to deal with the doubts and to break the traditional research approach. The academic was able to change a chronological (linear) order of research process (from a community assessment to a community awareness intervention) to a concurrent order (assessment and intervention simultaneously) to benefit both partners. Paternalism was an overarching attitude of the academic that was composed of three sub-aspects: members' priority, their responsibility, and scarce manpower.
Conclusions: After establishing the partnership, the team produced four presentations, two community awareness projects, and three grant proposal submissions. Despite numerous outcomes from the partnership and tremendous community involvement in the research process, the partnership development was a rather tortured psychological effort for the academic with always questioning "Are we doing a CBPR approach?" Four recommendations include: reflect on own commitment level, be persistent, trust your partner community, and create regular dialogue with the members of the partnership.

END OF LIFE CARE PRACTICES AND QUALITY OF LIFE: AN INTEGRATIVE REVIEW

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Purposes/Aims: The aim of this review was to determine End of Life Care (EOLC) practices for terminally ill patients in relation to the quality of their lives.
Rationale/Conceptual Basis/Background: Caring for patients has changed dramatically over the last decades; trends shifted from the abstract meaning of providing medical care toward humane and sensitive nursing approaches in applying desired treatments. EOLC is one of the emerging modalities that focuses on the care of patients with non-curative diseases. Special care and knowledge are needed to improve the quality of their lives, ensuring peaceful and comforting moments at the end of life for the patients and their families**.**
Methods: Research articles from peer-reviewed journals, published in English between 2002 and 2007**,** were identified using MedLine, Science Direct, and EBSCO databases. The keywords: EOLC, satisfaction with treatment, and hospital care.
Results: The six reviewed articles showed that many end of life patients continued to receive life sustaining treatments, such as blood tests, antibiotics, and artificial nutrition. Many patients did not receive adequate pain medications, thus they experienced impaired performance status and consequently significant lower levels of quality of care. Patients with Do Not Resuscitate (DNR) orders rated the quality of care and satisfaction with treatment less favorably than patients without DNR orders. They also gave lower ratings for the quality of their interpersonal interactions with their health care providers.
Implications: It is important for nurses to understand the meanings of EOLC and DNR, which do not mean failure to treat the patient. Rather, they require nurses to redirect nursing efforts toward purposeful and realistic actions, such as providing comfort measures and pain relief. More awareness is needed for the embodiment of the DNR concept, which may mean medical treatment withdrawal for patients at the end of life, while changing into cultural and statutory concerns to improve patients' quality of life in the last phases of their lives.

CANCER PATIENTS' LIVED EXPERIENCE WITH ADVANCE CARE PLANNING: A TRANSCULTURAL STUDY

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Background and Purpose: Cancer is a leading cause of death in Japan and the second in the US. Despite of the WHO's recommendation of introducing palliative care (PC) at the time of cancer diagnosis, palliative care is not utilized early enough in the US or Japan. Research on palliative care is frequently limited to end of life care. Advance care planning (ACP) is a tailored discussion on how a patient would like to be treated in case he/she is unable to express his/her wishes. As a person's wishes are not static, ACP needs to be revised as a patient's wishes change. Yet, in reality, failure to develop ACP is commonly caused by late referral to PC. Thus, introducing ACP at the early stages of cancer is vital. Cultural perspectives are essential to understanding PC; nevertheless, current knowledge of cultural aspects of practice are limited. Further, exhaustive descriptions of patients' perspectives and experiences with ACP are lacking. The purpose of this study is to describe the lived experience of rural and urban-dwelling cancer patients in the US and Japan toward ACP and PC to enhance cultural consideration and to identify universal themes.
Method: This study utilizes ethnography informed by phenomenology. As cultural perspectives are essential to develop tailored care plans for the patients, utilizing ethnography facilitates discovery of cultural perspectives. The design of this study is ethnography informed by phenomenology to gain a cross-cultural understanding of lived experience of cancer patients.
Recruitment: Participants are recruited from four different settings: Denver metro area, rural Colorado, Tokyo (urban) and Kochi & Yamagata (rural), Japan. Total sample size is up to 24 adults ranging in age from 21 to 65 years with a variety of new cancer diagnoses.
Data Collection and Analysis: Following informed consent, two audio-taped interviews are conducted with participants for up to one hour each. Observations and field notes will be recorded during and after the interviews. If a participant is interested, additional thoughts can be emailed to the researcher. Audio-recorded data will be transcribed, and identifiable data will be changed to pseudonyms. A qualitative software Atlas ti® is used for data management. Cultural themes and universal themes are identified in the data and organized to produce a rich description of the lived experience of ACP and PC for Japanese and American adults with cancer. To ensure the credibility, experts in PC and cancer care will be consulted and several sources of data will further ensure trustworthy findings.
Significance of Proposed Study: To promote early introduction of PC, understanding of patients' perception and acceptance of ACP is necessary. Knowledge of patients' comfort level to discuss their critical situation will be identified and urban and rural differences noted. Profound understanding of lived experience and cultural implications are crucial to development of quality nursing care with this population. Lived experience is wholly respected in PC and transcultural aspects are not known. The knowledge obtained from this study will inform the direction of PC and ACP for people in the early stages of cancer.

ILLNESS-RELATED SYMPTOM EXPERIENCES: MANAGEMENT ISSUES

UNCERTAINTY, ANXIETY, AND INFORMATION NEED IN PATIENTS TREATED WITH PCI

Ming Lai, F.F. Zheng, W.H. Ren, E.M. D'Errico

HEALTH CARE FOR THE HOMELESS: NURSING SCHOOL AND CITY PARTNERSHIP

Karen Pennington, Maura Kroh, MaryJo Coast

GLUCOSE CONTROL IN KOREAN IMMIGRANTS WITH TYPE 2 DIABETES

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APPLICATION OF NAUSEA AND VOMITING SCALES IN ACUTE CARE

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DIABETES AND HYPERTENSION IN AFRICAN AMERICAN FEMALES WITH SCHIZOPHRENIA

Mary Weber

DOES BODY MASS INDEX INFLUENCE MOOD DISORDERS IN HEART FAILURE PATIENTS?

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PATIENT EXPERIENCES OF DIABETES SELF-MANAGEMENT SUPPORT — THE INFLUENCE OF LITERACY?
Andrea Wallace, John Carlson, Robert Malone, Darren DeWalt

WOMEN TO WOMEN: ONWARD AND UPWARD
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TESTING A PEER-BASED SYMPTOM MANAGEMENT INTERVENTION FOR WOMEN WITH HIV/AIDS
Allison Webel, Sally Rankin, Carmen Portillo, Kate Loirg, Bill Holzemer

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THE EFFECT OF BREAST CANCER RELATED LYMPHEDEMA ON ARM FUNCTION
Betty Smoot, Josephine Wong, Maria Cho, Nancy Byl, Marylin Dodd

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DOES THE EFFECTIVENESS OF COMPREHENSIVE SELF MANAGEMENT THERAPY FOR IBS VARY WITH AGE?
Anne Poppe, Kevin Cain, Monica Jarrett, Robert Burr, Margaret Heitkemper

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SLEEP DISTURBANCES IN US ARMY SOLDIERS AFTER DEPLOYMENT TO AFGHANISTAN OR IRAQ
Betty Garner

PREVENTING HYPOTENSION IN HEMODIALYSIS
Debra Goulding

INTERFERENCE OF PAIN WITH ACTIVITY IN PATIENTS WITH END-STAGE LIVER DISEASE
Amanda Ryan, Lissi Hansen

SYMPTOM BURDEN, LONELINESS, AND SPIRITUALITY IN HEART FAILURE
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ONCE WEEKLY VS DAILY STATIN DOSING: EVIDENCE-BASED PRACTICE IN ACTION
Sara O'Connor, Kathy Reavy, Mary Hereford

ACUPUNCTURE FOR MENOPAUSAL SYMPTOMS: AN EXPLORATION OF MECHANISM AND EXPERIENCE
Cheryl Wright, Mikel Aickin, Heather Zwickey, Judy Berg

HEALTH RELATED QUALITY OF LIFE FOR RURAL CANCER SURVIVORS: THE COLORADO EXPERIENCE
Leli Pedro

PATTERNS OF PSYCHOTROPIC PRESCRIPTION AND USE IN YOUTH PRISON 2: THEMATIC ANALYSIS
Kristin Cloyes

AN ANALYSIS OF CLINICAL INDICATORS OF SHOCK IN PEDIATRIC PATIENTS
Tracy Hill

UNCERTAINTY, ANXIETY, AND INFORMATION NEED IN PATIENTS TREATED WITH PCI

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Purpose: To find out when patients experience the most anxiety during hospitalization for percutaneous coronary interventions (PCI), examine the correlation between anxiety and illness uncertainty, and determine the patient's most pressing information needs.

Background: Patients undergoing PCI usually experience high levels of anxiety. Previous cross-sectional studies in illness groupings that included asthma and diabetes found that illness uncertainty serves as a significant predictor of psychological distress such as anxiety. Illness uncertainty management interventions, such as disease education and providing information resources, can improve outcomes in cancer patients. The correlation between anxiety and illness uncertainty has not been studied in acute care settings with patients receiving PCI.

Methods: Three rounds of data collection were done on study participants: one day before (T1), the same day (T2), and three days after the intervention (T3). State anxiety inventory scores (S-AE) and angiotensin II blood levels (AT II) were used to measure levels of anxiety. The Chinese version of Mishel's Illness Uncertainty Scale was used to measure the level of illness uncertainty. Self-designed questionnaires were used to assess patient demographics and the patient's most pressing information needs.

Results: Patients undergoing PCI experienced high anxiety and illness uncertainty with levels higher at T1 and T2 compared to T3. Illness uncertainty and anxiety were positively correlated at T1, T2 and T3. The patient's most pressing information needs were knowledge related to first aid for heart attack and the impact PCI would have on their life in the future. Angiotensin II levels were elevated at all three measurements.

Implications: Effective nursing interventions to decrease anxiety and illness uncertainty by patient education and other strategies may improve psychological outcomes, especially before the intervention. Effective patient education programs for patients undergoing PCI should be explored in the future.

HEALTH CARE FOR THE HOMELESS: NURSING SCHOOL AND CITY PARTNERSHIP

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Purpose/Aims: The overall goal of Project H.O.P.E. (Homeless Outreach Partnered with Education), developed by an interdisciplinary team within the School of Nursing, is to provide baccalaureate nursing students with a greater understanding of underserved populations, health care delivery systems and additionally to encourage their future work with marginalized populations upon graduation. This poster describes our partnership with the City and County of Denver and Regis University Project H.O.P.E. based on Denver's intensive ten year plan to end homelessness.
Background/Rationale: Although there is extant research on the homeless, less is available suggesting an innovative community partnership such as Project H.O.P.E. to offer consistent health care to this population. The Colorado Coalition for the Homeless (CCH) noted that chronic homelessness is decreasing, while newly homeless is on the rise (increased by 23.5% since 2006). Most homeless are male between the ages of 35-50 years of age (Savage et. al. 2006); however, 28% of homeless are children and adolescents and numbers of homeless women are increasing (CCH, 2007). Additionally, many studies cite barriers to health care utilization by homeless persons in spite of the research indicating that chronic health conditions such as substance abuse disorders, depression, chronic back pain, hypertension, arthritis, asthma, foot complaints, and diabetes are present. Savage, et.al. (2006) noted that 61% of the surveyed participants had used the Emergency Department (ED) in the last six months, and 40% used the ED at least once a month. About 4,693 persons are homeless in Denver on any given day and economic conditions such as job lay-offs, mortgage foreclosures, bankruptcies, and state and federal cutbacks in available funding worsen the situation (Denver Commission to End Homelessness Ten Year Plan, 2004). These data support innovative partnerships to address the growing health care need for this population.
Description: Project H.O.P.E. is a Community Health Nursing clinical experience offered in the senior year of the program. Students in Project H.O.P.E., supervised by clinical faculty, perform assessments, basic first aid, education, and referrals to the homeless of Denver County. Students develop professional nursing knowledge, skills, and attitudes while providing care to the underserved and marginalized in a setting that challenges them physically, emotionally, socially, and spiritually.
Outcomes Achieved: Students collected descriptive information on the homeless population during the Spring and Fall rotations of 2007and 2008. The majority served were males between the ages of 31-45 (24%) and 46-65 (31%). Correlations were found among site placement and age, clothing/supplies given, wound care, referrals given, assessments, and season of the year. Student evaluations revealed paradigm shifts in attitudes and inspired advocacy toward this population.
Conclusions/Implications: Through this descriptive information we gain insight on demographics, conditions observed, and interventions offered which gives us direction for quality improvement in curriculum design for the Community Health Nursing course, direction for future student groups working in shelters and with Street Outreach Workers, and information useful to strengthening partnerships with organizations working with the homeless population in Denver.

Reference
Denver Commission to End Homelessness (2004). Ten Year Plan to End Homelessness.
Savage, C.L., Lindsell, C.J., Gillespie, G.L., Dempsey, A., Lee, R.J., & Corbin, A. (2006). Health Care Needs of Homeless Adults at a Nurse-Managed Clinic. *Journal of Community Health Nursing, 23(4),* 225-234.

GLUCOSE CONTROL IN KOREAN IMMIGRANTS WITH TYPE 2 DIABETES

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Background: Despite the rising incidence of type 2 diabetes in Korean immigrants and the importance of glucose control in reducing complications, little is known about diabetes control and factors influencing glucose levels in these individuals.
Purpose: This study's purpose was to examine factors influencing glucose control in Korean immigrants with type 2 diabetes.
Methods: A cross-sectional descriptive study design was used. Data were collected from 143 Korean immigrant men and women with type 2 diabetes between the ages of 30 and 80. Participants completed questionnaires, a finger stick blood test for glycosylated hemoglobin (HbA1c) and anthropometric measures.
Results: The mean HbA1c level was 7.6 % (SD=1.5; range = 5.6 to 12.5). Less than half of the participants (41.3%) met the American Diabetes Association's goal of less than 7% level. Multiple regression analyses indicated that roughly 22% of variance in HbA1c levels was explained by a linear combination of family diet support, acculturation, body mass index (BMI), waist-to-hip ratio (WHR), the duration of diabetes, the number of diabetic medications, age, gender, and education (R^2=0.223, F[9,133]=4.24; p<.0001). After adjusting for demographic and health variables, family diet support, WHR, the duration of diabetes, the number of diabetic medications, and age significantly influenced glucose control.
Implications: Findings support the positive role of family involvement in type 2 diabetes management. Patients with long-standing diabetes, higher WHR, and more diabetic medications deserve special attention because they tend to have higher HbA1c levels. Studies are needed to investigate the negative association of age with HbA1c levels observed in this population.

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EXPERIENCING AN ACUTE MYOCARDIAL INFARCTION

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Purposes/Aims: This Qualitatative Literature Review aimed to explore patients' perspectives related to their experience after an Acute Myocardial Infarction (AMI).
Rationale/Conceptual Basis/Background: Cardiovascular disease (CVD) is the number one killer in many countries. For instance, it accounts for 34% of female mortality, and 43% of male mortality in Jordan. AMI is one of the manifestations of CVD that affects large sectors of people. Improved care in recent years has left many patients with residual affects. Understanding the meaning and responses of experiencing AMI is a vital requirement for designing educational sessions for preventing a second AMI, as well as for developing rehabilitation programs.
Methods: The authors performed a review of the following electronic databases: CINAHL, MEDLINE, Blackwell Synergy, and PsycINFO. Inclusion criteria included Qualitative articles from peer-reviewed journals, published in English, between 2002 and 2007. Key words were: *Acute Myocardial Infarction*, *lifestyle changes, lived experience, meaning of myocardial infarction, patient's needs,* and *qualitative research.* Thirteen articles met the criteria, and were approved by both authors. Data were analyzed according to the Miles and Huberman (1994) technique.
Results: Six key themes were identified: expectation about causes of the disease, behaviors related to the event, moving toward changing lifestyles, professional and social support, views about the future, and expressing needs. Findings also revealed a great misunderstanding about causes, treatments, and long-term consequences of an AMI among the study participants. Additionally, participants identified major defects in educating, preparing, and supporting AMI victims.
Implications: Survivors of AMI continue to suffer from its consequences after they return home. Such suffering is exacerbated by a lack of knowledge, poor preparation, lack of productive communication with health care workers, plus lack of follow-up and professional support. Health promotion programs, health education programs, discharge planning, professional follow-up, and supporting systems need to be re-examined, redesigned, and employed more effectively.

APPLICATION OF NAUSEA AND VOMITING SCALES IN ACUTE CARE

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Purpose(s)/Aim(s): (1) To assess consistency of application of nausea/vomiting (N/V) scale (0-5) ratings and descriptors in acute care. (2) To determine if consistent use of the NV tool would assist the nurses in communication of the Post Operative Nausea and Vomiting (PONV) status with physicians and other health care professionals.
Rationale/Background: Better assessment of symptoms directly influences patient distress, quality of life (QOL) and survival (Kirkova et al. 2006; J. Clin. Oncol. 24:1459). Current tools in the literature address the rating of nausea and vomiting symptoms to measure the distress and patients' assessment. N/V scales have been devised and tested in multiple settings. We adapted few versions of assessment tools and performed content validity on 0-5 N/V scales with descriptors prior to evidence-based practice study. The present study was approved by an Institutional Review Board (IRB) at our institution.
Description of Study: This is an evaluative descriptive survey design to assess the benefits of implementing N/V 0-5 scales on nausea and vomiting symptoms, and to communicate the status with patients, physicians, and other health care professionals. The nursing team in collaboration with patients and physicians applied these scales and descriptors and evaluated the tools as part of their peri-anesthesia assessments. Their satisfaction was measured on the tools' merits.
Outcomes: The interim findings are as follows: 60 of 64 nurses (93%) who applied the N/V tools on 171 patients responded to the survey. "Understanding of the Scales" seemed to get the highest proportion of positive answers from nurses (83%). Of the nurses who responded to the survey, 76% of them found the vomiting scale easy to rate the severity. Further, the use of N/V scales indicated that it was easy to confer with physicians related to the choice of medication or treatment at a positive response rate of 63%.
Conclusions: In the pre- and post-operative phases, use of the nausea and vomiting scales aids in consistent evaluation and charting of levels and intensity of nausea and episodes of vomiting. Thus, the N/V scales provide a tool for communication between the nurses, patient, and physicians, and chart out a course of treatment. Further, the study suggests that the N/V scales can be reliably used to measure the clinical outcome of treatment modalities.

DIABETES AND HYPERTENSION IN AFRICAN AMERICAN FEMALES WITH SCHIZOPHRENIA

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Aim: Identify relationships between diabetes (DM) and hypertension (HTN) in the population of African American females with schizophrenia or schizoaffective disorder.
Hypotheses: (1) There will be a significant relationship between the type of antipsychotic (traditional or atypical) and whether an African American (AA) female with schizophrenia (SCZ) or schizoaffective disorder (SZA) is on a medication for DM. **(**2) There will be a significant relationship between the type of antipsychotic and whether an AA female with schizophrenia or schizoaffective disorder is on a medication for HTN.
Background: Individuals with SCZ or SZA are known to be at high risk for obesity, diabetes, and cardiovascular diseases. African American women have a higher incidence of diabetes and cardiovascular disease, but substantial epidemiological studies of incidence rates are lacking. There is no data available about the incidence of diabetes and cardiovascular diseases in AA females with schizophrenia despite the increased risk in the general population. Research identifying risk factors and relationships between schizophrenia, obesity, diabetes, cardiovascular disease, ethnicity, and traditional versus atypical antipsychotic drug treatment is needed so that psychiatric nurse practitioners (PMHNP) can make more informed decisions as to drug treatment choice and can develop targeted prevention strategies for this population.
Method: An exploratory design using retrospective chart data was used in this study to gain insight into epidemiological data and possible risk factors for diabetes and cardiovascular diseases in the AA female population with a psychotic disorder. A de-identified list of medical records of AA females with SCZ or SZA between the ages of 21-50 years was obtained from a large urban public mental health system. A random list of 400 records was derived from that list and was involved in this retrospective chart review. Institutional Review Board and Agency approval were obtained and no identifying information was included in the data collection. Data collected included: age, family history of diabetes and cardiovascular disease, height, weight, vital signs, body mass index (BMI), glucose and lipid levels, type of antipsychotic medication, and use of medication to treat diabetes, hypertension, and cardiovascular disease.
Results: A large number of data points was missing from many of the random medical records. A sample of 135 cases that met inclusion criteria was included in the final anaysis. Logistic regression (LR) anaysis of categorical data of the type of antipsychotic medication and the use of medication for DM or HTN was performed. The LR both without and with BMI did not show any significant association between type of antipsychotic drug and use of drug for diabetes or HTN. Chi square tests of association (Fisher's exact test) were also not significant.
Implications: This study was the first step in identifying risk factors for and predictors of cardiovascular diseases and diabetes in AA females with a psychotic disorder. The PMHNP needs to continue to conduct research in this high risk group to better design and implement more appropriate prevention and treatment programs.

DOES BODY MASS INDEX INFLUENCE MOOD DISORDERS IN HEART FAILURE PATIENTS?

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Background: Physical limitations and mood disorders are common among heart failure (HF) patients with systolic dysfunction, but little is understood about how being overweight or obese influences these symptoms.
Purpose: The purpose of this study was to test the hypothesis that being overweight or obese as indexed by body mass index is associated with greater physical limitations and mood disorders including anxiety and depression in patients with systolic HF.
Methods: Data were collected from 241 patients being seen in a tertiary HF referral center. Degrees of physical limitations, anxiety, and depression were measured using the Duke Activity Scale, Brief Symptom Inventory-Anxiety, and the Patient Health Questionnaire-9 Depression Scale. Furthermore, we examined whether being overweight or obese, defined as a body mass index (BMI) between 25 and 29.9 and ≥ 30, respectively, accounted for a significant portion of physical limitations and mood disorders.
Results: Patients were age 56.7 ± 13.0 years, male (70%), Caucasian (70%), retired (75%), and married (81%), NYHA Class III (53.9%) with mean LVEF, 31.2 ± 5.4. The majority of the 241 participants were classified as being overweight (42%) or obese (35%). In a univariate analysis, being overweight or obese (i.e. BMI ≥ 25) was associated with greater physical limitations ($r=-.182$, $p=.005$), anxiety ($r=.395$, $p<.001$), and depressive symptoms ($r=.151$, $p=.019$). Heart failure etiology, anxiety, and increased BMI accounted for 29% of the variance for physical limitations. Furthermore, physical limitations and increased BMI accounted for 18% of the variance in anxiety, while HF etiology and increased BMI accounted for 36% of the variance for depression. These results persisted after controlling for disease severity.
Implications: This study demonstrates relatively strong associations between increased BMI and physical limitations, anxiety, and depression in patients with systolic HF. Given the high prevalence rates of these conditions in advanced HF patients, novel approaches that target weight management, physical activity, and mood adjustment should be simultaneously investigated.

PATIENT EXPERIENCES OF DIABETES SELF-MANAGEMENT SUPPORT — THE INFLUENCE OF LITERACY?

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Background: Many diabetes patients receiving care in clinics that follow the Chronic Care Model continue to have poor outcomes. Since a significant component of diabetes care depends on patient self-management, understanding variability in diabetes outcomes may rest on learning more about how patients experience self-care management support in clinical settings. This may be particularly relevant for understanding health disparities.

Methods: Survey data were collected from 208 patients seen in a multi-disciplinary diabetes clinic including many elements of the Chronic Care Model. Multiple regression was used to test associations between demographic characteristics (race, gender), insurance status, literacy regarding health care (inadequate/marginal vs. adequate), intensity of chronic illness management (tailored intervention guidelines determined by clinical status), and time with diabetes with patient-rated experiences of their self-care management support (Patient Assessment of Chronic Illness Care).

Results: Literacy regarding health care is the only variable contributing significantly with 95% confidence to variation in patient ratings of their self-management support: those with adequate literacy rate their self-management support higher than those with inadequate/marginal literacy ($p<.01$).

Implications: Even when considering the objective intensity of health services delivered, literacy was the sole variable contributing to variability in patient ratings of the self-management support they received in this clinical setting. These results suggest the need to address literacy as clinicians develop and communicate treatment plans requiring self-management skills. Secondarily, the lack of association between treatment intensity and patient ratings of self-management support call into question the validity of subjective ratings related to health care processes delivered. These finding may be important as policymakers continue to look toward consumer-based surveys to measure health care quality.

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WOMEN TO WOMEN: ONWARD AND UPWARD

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Purpose: To describe the evolution of the Women to Women (WTW) computer support and education project from an intervention that was complex and labor intensive into one that is less complex, more user-friendly, and clinically applicable.
Background: The Women to Women Project (WTW), a computer-based research intervention designed to provide support and health information to rural women living with a long-term illness, has been ongoing in the western United States for over 12 years. The overall goal of the project is to test the impact of a computer-based intervention on psychosocial adaptation, chronic illness self-management, and quality of life among rural women with chronic illness. The evolution of WTW through three phases has led to the refinement and enrichment of a model of psychosocial adaptation that aims for more sustained behavior change in the management of chronic illness and improved quality of life based on the adaptation.
Description: The current phase of the project is an outgrowth of the earlier phases of WTW. The revision now being implemented includes: reducing the complexity of the design by using two groups rather than three groups with periodic rather than sustained interface with content experts; shortening the intervention from 22 to 11 weeks with 3 measurement time points rather than 6; combining two interactive online forums (Koffee Klatch and Health Roundtable) into one (Sharing Circle); focusing the health teaching unit content toward the self-management skills needed to deal with chronic illness rather than on factual chronic illness content; adding three more states (Nebraska, Oregon, and Washington) to the participant pool; and further development of a model of psychosocial adaptation to chronic illness.
Outcomes: The redesigned, less complex, more abbreviated intervention has been funded and is currently in progress. Over half of the data has been collected from the projected 320 chronically ill rural women in eight western states.
Conclusions: This research continues to document the applicability and efficacy of computer-based support and health education on psychosocial outcomes, self-management skills, and quality of life. The less complex application can move technological interventions closer to implementation in the clinical setting. Computer-based interventions have the potential of reducing the health care delivery disparities for rural dwellers.

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TESTING A PEER-BASED SYMPTOM MANAGEMENT INTERVENTION FOR WOMEN WITH HIV/AIDS

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Aim: The aim of this study was to test the impact of participation in a Peer Based Intervention for Symptom Management (PRISM-HIV) for women living with HIV infection on selected outcome measures, including symptom intensity, medication adherence, viral control, and quality of life.

Background: Globally, women, especially young women, are the fastest growing population being infected with HIV. Women living with HIV/AIDS are challenged to manage the symptoms of HIV/AIDS and its treatment. Previous research has described the symptom experience of women with HIV/AIDS and its consequences on the quality of their life. However, no studies have been located that have explored the benefits of utilizing a peer-led intervention program to help facilitate symptom self-management in women with HIV/AIDS.

Methods: The PRISM-HIV study is a 14-week, randomized controlled study with a run-in period. Participants were recruited using a convenient, consecutive sampling method. Those participants randomized to the experimental condition attended seven, peer-led sessions over seven weeks. Participants randomized to the control condition will receive a copy of *HIV Symptom Management Strategies: A Manual for People Living with HIV/AIDS*. Participants completed four surveys assessing change over change in the aforementioned outcome variables.

Results: To date, 84 of the anticipated 126 participants have been recruited with 45 randomized to the intervention group and 39 to the control group. Of those, 53 participants have finished the final survey. The effect of the intervention on symptom intensity, medication adherence, viral control, and quality of life will be presented. Recommendations will be made regarding community-based, peer-led interventions in this population.

Funding: This project was funded by a training grant from the National Institutes of Health 1F31NR009910 and by the 2008 American Nurses Foundation/Western Institute of Nursing Research Grant.

THE EFFECT OF BREAST CANCER RELATED LYMPHEDEMA ON ARM FUNCTION

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Purposes/Aims: Our aim is to explore the impact of BCRL on UE function.
Rationale/Conceptual Basis/Background: Breast cancer related lymphedema (BCRL) affects ~25% of the 2 million breast cancer survivors in the US. Its impact on upper extremity (UE) function has been understudied. The Symptom Management Model, which includes dimensions of symptom experience, symptom management strategies, and outcomes, was used.
Methods: As part of an ongoing cross-sectional study, results from 70 women (mean age 56.3, SD 9.5) post breast cancer treatment were used in this preliminary analysis. Symptom and UE function questionnaires were completed. UE measures included fine motor coordination, Semmes-Weinstein-monofilaments (SWM), vibration perception threshold (VPT), strength, and range of motion (ROM). Data were analyzed with descriptive statistics, t-tests, and repeated measures ANOVA to evaluate differences between unaffected and affected UEs in BCRL and non-BCRL groups.
Results: Thirty-nine participants reported BCRL diagnosis. Of those, 53% reported breast pain, and 35% reported UE pain on the affected side, versus 29% and 16% respectively in the non-BCRL group. We found a significant main effect of side, with both groups demonstrating significant differences between unaffected and affected sides in shoulder abduction ROM ($p<0.001$), shoulder flexion ROM ($p<0.005$), wrist flexion ROM ($p=0.024$), and light touch at the medial upper arm ($p=0.004$); Strength was also found to be statistically, though not clinically significantly different in shoulder abduction, elbow flexion, and wrist flexion. We found a significant main effect of lymphedema. Women in the BCRL group averaged less shoulder abduction ROM ($p=0.018$), shoulder flexion ROM ($p=0.030$) and shoulder abduction strength ($p=0.021$) on *both* sides, compared to the non-BCRL group.
Implications: Many BC survivors experience pain and physical impairment following cancer treatment. Assessment should include pain report, and evaluation of bilateral UE ROM, strength, and sensation in BC survivors with and without BCRL. Both groups demonstrated differences between unaffected and affected sides. Additionally, there were bilateral limitations in shoulder strength and ROM in the BCRL group compared to the non-BCRL group. Early recognition and intervention can prevent or reduce physical impairment and subsequent limitation in activity, and therefore improve QOL.

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DOES THE EFFECTIVENESS OF COMPREHENSIVE SELF MANAGEMENT THERAPY FOR IBS VARY WITH AGE?

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Purpose: The purpose of this analysis is to determine whether a comprehensive self-management intervention for Irritable Bowel Syndrome (IBS) is as effective in older adults as in younger adults.

Background/Rationale: Gastrointestinal disorders are common conditions in the elderly. Recent evidence suggests the prevalence of IBS may be similar in older adults as in younger adults. However, previous cognitive behavioral studies for IBS have primarily focused on treatment effects in the younger population. There is minimal information describing actual treatment effects in older compared to younger adults.

Methods: Adults aged 18-70 with IBS were recruited through general advertisement and a targeted mailing through a gastroenterology clinic. Following a baseline assessment, participants were randomized to a comprehensive self-management (CSM) intervention delivered via telephone (T-CSM) or in-person (IP-CSM) as compared to usual care (UC) for adults with IBS. Both CSM interventions were delivered weekly over 9 weeks, and addressed nutritional, cognitive, and behavioral strategies for managing IBS symptoms. Outcomes were measured at baseline and 3, 6, and 12 months follow-up times. Two primary outcome variables were analyzed: (a) IBS symptom severity (IBS-SS) from a daily diary, measured as the percent of days with at least one IBS symptom (abdominal pain, bloating, constipation, diarrhea, intestinal gas, urgency) being moderate or worse; and (b) IBS-specific quality of life (QOL) measured on a 0-100 scale. Mixed-model analyses were used to analyze data from the three follow-up times, controlling for baseline values of IBS symptom severity and QOL.

Results: The 176 adults randomized into treatment groups were divided into three age categories (18-34 years, n=52; 35-54 years, n=68; 55 years and older, n=49). The intervention effects in the two CSM groups (T-CSM and IP-CSM) were similar and were collapsed into one group (CSM-combined, n=111; Usual Care, n=58). There was no statistically significant interaction between age and treatment group, indicating there is no evidence that treatment is more or less effective at older ages. However, because of the small sample size it is not possible to rule out age difference in treatment effectiveness, in either direction.

Implications: Comprehensive self-management therapy leads to improvement in IBS symptoms and quality of life, and this improvement is still maintained at 12 months. The therapy appears to be just as effective in older adults as in younger adults. Therefore, health care providers should consider CSM for older adult patients with gastrointestinal disorders. Further study of CSM with a larger sample size of older adults will be necessary to confirm treatment effectiveness.

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SLEEP DISTURBANCES IN US ARMY SOLDIERS AFTER DEPLOYMENT TO AFGHANISTAN OR IRAQ

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Purpose/Aims: The purpose of this study is to assess the prevalence of sleep disturbances and factors associated with sleep disturbances in US Army Soldiers after returning from at least a 9-month deployment to Afghanistan or Iraq.
Rationale/Background: Over one million military personnel have deployed since 2001 to Afghanistan or Iraq. The deployed environment is filled with great uncertainty and a heightened sense of awareness for survival that may potentially lead to the development of sleep disturbances in soldiers. Epidemiologic studies have identified sleep disturbances as both a risk factor and a manifestation of psychiatric and/or physical problems. However, research on deployed military personnel has focused on the prevalence of psychiatric problems related to post-traumatic stress disorder (PTSD), anxiety, and depression. In addition, psychiatric problems may be under-reported by military personnel possibly due to stigmatization and barriers associated with seeking help. The biobehavioral human health response model is used.
Design/Method: This study uses a non-experimental repeated measures design. The assessments are conducted during initial post-deployment sessions and 1½ months later utilizing a paper and web-based sleep survey. A convenience sample of US Army Soldiers undergoing post-deployment assessments at the Soldier Readiness Processing site on Ft. Lewis, WA, ages 18−45, both genders and all ranks will be used. The sleep survey consists of questions from Post-Deployment Health Reassessment Form (Department of Defense Form, DD 2796), Pittsburgh Sleep Quality Index, Combat Exposure Scale, and Perceived Stress Scale. Questions from DD 2796 include demographic data, PTSD, depression, alcohol use, and symptoms of physical illness/ traumatic brain injury. Data will be collected from November 2008 thru November 2009. Data will be analyzed using descriptive statistics, correlations, and multiple regression.
Results: Preliminary results will be reported in April 2009.
Implications: A study assessing the prevalence of sleep disturbances in soldiers returning from deployment would enhance the timely identification of soldiers with sleep disturbances and those at risk for persistent sleep disturbances. Describing the prevalence of sleep disturbance is an initial step toward improving assessment and treatment of disturbed sleep that may ultimately improve health outcomes in this population.

PREVENTING HYPOTENSION IN HEMODIALYSIS

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Background: The United States Renal Data System (USRDS) (2005) projects the incidence of End Stage Renal Disease (ESRD) will continue increasing 5% annually. Hemodialysis, the hallmark treatment for ESRD has a 5 year survival probability of 40.5%. Hemodialysis-induced hypotension has been identified as an independent risk factor for mortality in the ESRD patient population. Preventing hemodialysis-induced hypotension has the potential to reduce long-term mortality (Shoji, Tsubakihara, Fajii & Imai, 2004).
Rationale: Multiple research studies (Dasselaar, 2007; DeVries, 1993; Howard, 1998; Inrig, 2007; Pillon, 2007; Rodriguez, 2005; Schroeder, 2004; Sego, 1997; Steuer, 1996) have identified the Crit-Line III as a safe, reliable non-invasive blood monitoring device for identifying and predicting hypotension in the outpatient hemodialysis population. Limited studies document its use in the inpatient setting. Therefore, knowledge gained studying the Crit-Line III in the outpatient setting will be transferred to the inpatient setting.
Purposes: The overall aim for this study was to compare the number of occurrences of hypotension with the addition of the Crit-Line III to standard telemetry monitoring data in patients receiving hemodialysis. In addition, secondary aims were to compare length of stay, occurrences of transfers to higher level of care (ie transfer from a Medical/Surgical floor to an Intensive Care Unit), and hypotension symptoms for the two groups.
Methods: This evidence-based clinical project compared two hemodialysis monitoring practices: standard telemetry blood pressure monitoring and the Crit-Line III. Baseline data was collected from twenty-six ESRD patients who were admitted and dialyzed from May 6 to June 6, 2008 with only standard telemetry blood pressure monitoring. Crit-Line III data was collected from fourteen ESRD patients admitted and dialyzed from June 10 to September 3, 2008 with the Crit-Line III and standard telemetry blood pressure monitoring. Outcome variables were compared before and after the implementation of the Crit-Line III.
Outcomes: Comparison of the outcome variable results for standard telemetry blood pressure monitoring and Crit-Line III groups are as follows: (1) occurrence of hypotension, 12 (21.8%) for 55 hemodialysis treatments and 4 (28.6%) for 14 hemodialysis treatments; (2) hypotension symptoms, none documented and 2 (14.3%) reported cramping; (3) admission to higher level of care, 1 (1.8%) vs. no admissions to higher level of care; and (4) average length of stay, 5.59 days and median 4.0 days vs. mode 3 days and median length of stay 3.5 days in the Crit-Line group.
Conclusions: A small sample size was a limitation of the study. Two of the four subjects in the Crit-Line III group became hypotensive after receiving analgesic and/or anxiolytic medications affecting the overall incidence of hypotension. The Crit-Line III is not designed to predict/prevent non-volume related hypotension. Crit-Line utilization resulted in a decrease in admissions to a higher level of care and length of stay. It is recommended that further study be conducted with a larger randomized sample.

Dasselaar, J., Huisman, R. M., DeJong, P. E. & Franssen, S. F. (2007). Relative blood volume measurements during hemodialysis: comparisons between three noninvasive devices. *Hemodialysis International, 11*(4), 448-455.
DeVries, J. P., Kouw, P. M., Van Der Meer, N. J., Olthof, C. G., Oe, L. P., Donker, A. B., et al. (1993). Non-invasive monitoring of blood volume during hemodialysis: Its relation with post-dialytic dry weight. *Kidney International, 44*, 851-854.
Howard, A. D., Palmer, B., Howard, R. S., Goldberger S. G., & Shabshab, S. F. (1998). Assessing the value of blood volume monitoring to improve outcomes, *Nephrology News & Issue*, 23-26.
Inrig, J. K., Patel, U. D., Gillispie, B. S., Hasselblad, ., Himmelfarb, J., Reddan, D., et al. (2007). Relationship between interdialytic weight gain and blood pressure among prevalent hemodialysis patients. *American Journal of Kidney Diseases, 50*(1), 108-118.
Pillon, L., & Feldschuh. (2007). Controlling volume in hemodialysis. *Renal and Urology News*, 1-6.
Rodriguez, H. J., Domenici, R., Diroll, A., & Goykhman, I. (2005). Assessment of dry weight weight by monitoring changes in blood volume during hemodialysis using crit-line. *Kidney International, 68,* 854-861.
Schroeder, K. L., Sallustio, J. E., & Ross, E. A. (2004). Continuous haematocrit monitoring during intradialytic hypotension: precipitous decline in plasma refill rates. *Nephrology Dialysis Transplantation, 19*(3), 652-656.
Sego, S. (1997). Crit line: Instrument to aid fluid removal during hemodialysis. *American Nephrology Nursing Journal, 24*(3), 347-348.
Shoji, T., Tsubakihara, Y., Fujii, M., & Imai, E. (2004). Hemodialysis-associated hypotension as an independent risk factor for two-year mortality in hemodialysis patients. *Kidney International, 66*, 1212-1220.
Steuer, R.R., & Conis, J. M. (1996). The incidence of hypovolemic morbidity in hemodialysis. *Dialysis and Transplantation, 25*(5), 272-276.
Steuer, R. R., & Leypoldt, J. K., Cheung, A. K., Senekjian, H. O., & Conis, J. M. (1996). Reducing symptoms during hemodialysis by continuously monitoring the hematocrit. *American Journal of Kidney Diseases, 27*(4), 525-532.
United States Renal Data System (USRDS). (2005). Retrieved February 28, 2008 from www.usrds.org.

INTERFERENCE OF PAIN WITH ACTIVITY IN PATIENTS WITH END-STAGE LIVER DISEASE

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Purpose: The purpose of this study is to describe the interference of pain with activity in patients with end-stage liver disease (ESLD) at the end of life, and compare the perspectives of patients and their family members.
Background: ESLD is the 7th leading cause of death among people between the age 25 and 64, affecting people in the most productive years of their lives. Patients with ESLD at the end of life report pain comparable to the level of pain experienced by patients with advanced lung and colon cancer[1], however, little has been written about the experience of pain in patients with ESLD, especially those cared for at home by family members. Pain is often undertreated in this population for several reasons, including the association between liver impairment and altered drug metabolism, health care providers' fear of complicating the liver disease, and the perception that patients with ESLD are likely to abuse pain medication because many of them have a history of substance abuse. Assessing interference with activity can provide meaningful insight into the experience of pain and its impact on quality of life in patients with ESLD. The inclusion of family members' perspectives is crucial because of their close involvement in patients' care, daily activities, and pain management.
Methods: In this pilot study, the Effect of Pain on Activity tool from the Wisconsin Brief Pain Questionnaire is used to measure the interference of pain with 8 activities: general activity, mood, walking ability, normal work (housework), relations with other people, sleep, enjoyment of life, and sexual activity. Patients and their family members are asked to select a number on a scale from 0 to 10 to describe how during the past week pain has interfered with each of the 8 items. This pilot study is part of a larger study using a prospective, longitudinal descriptive design in which a standardized pain instrument is administered once a month for 6 months. The sample will include 20 patients and 20 family members, and the results of the pilot study will include only baseline data. Most people with ESLD are in their working years, and it affects twice as many men as women. Therefore, the sample is expected to include more men than women, mainly between the ages of 50 and 60 years old.
Results: Results from baseline data will be included in the Poster Presentation, April 22-25, 2009. For each of the 8 activities, mean scores and standard deviations will be reported for the two groups (patients and family members). Paired t tests will be used to compare patients' responses to their family members' responses.
Implications: Understanding the impact of pain on activity is important for designing interventions that optimize quality of life in patients with ESLD toward the end of life.

Reference:
1. Roth K, Lynn J, Zhong Z, Borum M, Dawson NV. Dying with end stage liver disease with cirrhosis: Insight from SUPPORT. *Journal of the American Geriatrics Society*. 200; 48 (5): S122-S130.

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SYMPTOM BURDEN, LONELINESS, AND SPIRITUALITY IN HEART FAILURE

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Background and Purpose: Over 5 million Americans suffer from heart failure. Dyspnea and fatigue are most commonly reported, with 80% of patients experiencing these debilitating symptoms. Depression, an independent predictor of mortality, has been reported in up to 56% of this population. Given the high prevalence of physical and psychological distress in heart failure, understanding the role of potential mediators is critical. Although spirituality has been associated with improved mental health in heart failure, less is known about its relationship with symptoms and depression and the specific pathways of such relationships. Therefore, the purpose of the proposed study is to examine the strength of a conceptual model in describing symptom burden, loneliness, spirituality, and psychosocial well being in patients with heart failure.
Conceptual Framework: The University of California, San Francisco (UCSF) Symptom Management Model provided the framework for the proposed study. Dyspnea and fatigue were conceptualized as the perception of symptoms, spirituality as influencing the evaluation of symptoms, and loneliness as the response to symptoms. Depression and anxiety were potential outcomes impacted by the symptom experience.
Methods: A cross-sectional, correlational design will be used to examine the strength of the proposed model in patients with heart failure. Participants will be recruited from an outpatient clinic in Southern California and will include adults aged 60 and older, diagnosed with symptomatic heart failure (NYHA class II-V). Dyspnea will be measured with the UCSD Shortness of Breath Questionnaire; fatigue with the Profile of Mood States-Fatigue subscale; loneliness with the UCLA Loneliness Scale; spirituality with the Spiritual Well-Being Scale; depression and anxiety with the Brief Symptom Inventory.
Results: Multiple regression and path analysis will be used to determine the relationships among symptom burden, spirituality, loneliness, and psychosocial well being, while controlling for age, gender, and co-morbidities.
Implications: Patients living with heart failure face potential psychological, emotional, and spiritual challenges associated with the physical symptoms of their illness. Understanding pathways between these domains will strengthen theoretical knowledge and provide insights for developing interventions to alleviate non-physical distress in heart failure.

ONCE WEEKLY VS DAILY STATIN DOSING: EVIDENCE-BASED PRACTICE IN ACTION

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Purpose: The purpose for this project is to validate that prescribing once weekly rosuvastatin is a safe and effective alternative to daily statin therapy in patients who have prior intolerance and non-compliance issues.

Background: A recurrent problem was collaboratively identified by a physician and registered nurse team in an out-patient cardiology clinic. Although most patients do relatively well with minimal side effects on once daily statin dosing, increasing numbers of patients were experiencing difficulty in tolerating daily statin therapy. The most common complaint was myalgia. These side effects contributed to patient non-compliance with the prescribed medication. Identification of this problem led to an evidence-based practice project to find a solution.

Evidence-Based Practice Process: (1) A review of the literature found only one publication related to daily dosing of statin medications. A research study by Backes, Moriarty, Ruisinger, and Gibson (2007) published in *The American Journal of Cardiology* concluded that once weekly dosing of rosuvastatin in place of daily dosing achieved a mean reduction in LDL cholesterol of 29%, with percentages ranging from 6% to 62%. The sample size in that study, however, was only 8 patients. (2) Based on patient need, review of the literature, and review of pharmacologic documents, the decision was made to trial identified patients on once weekly dosing of rosuvastatin. (3) Validation of dosing efficacy, patient safety, and patient compliance were evaluated with chart reviews. A minimum of 100 patient charts will be reviewed between November 1, 2007 and October 31, 2008. Base line blood tests were drawn followed by 3-month and 6-month post-intervention blood tests for cholesterol levels and liver function tests. Other collected data included demographics, weekly doses of statin medication, prior statin medications, patient safety and tolerance, and side effects.

Outcomes: Early results indicate that cholesterol levels decreased by 20% to 40% with once-weekly dosing of rosuvastatin. Official analyses will be completed by December 31, 2008.

Implications for Clinical Practice: It is predicted that high levels of cholesterol will decrease to safer levels with once weekly rosuvastatin dosing. Patient compliance will increase because side effects will decrease and cost savings will be realized.

ACUPUNCTURE FOR MENOPAUSAL SYMPTOMS: AN EXPLORATION OF MECHANISM AND EXPERIENCE

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Purposes/Aims: To establish feasibility for a larger study to gain new knowledge about the physiology of acupuncture by correlating menopausal symptom experiences with the effects of acupuncture and two biomarkers: heart rate variability (HRV), which will establish cardiac autonomic nervous system reactions to acupuncture; and interleukin 6 (IL6), a proinflammatory cytokine to explore possible immune inflammatory system response to acupuncture.

Rationale/Conceptual Basis/Background: Symptoms commonly seen in menopause, such as fatigue, mood disorders/depression, sleep disorders, and new onset myalgias/arthralgias, have been associated with elevated proinflammatory cytokines, including IL6. Recent work has linked stimulation of the vagus nerve with suppression of the immune-inflammatory response. Additionally, several small studies have indicated that acupuncture may alleviate pain and improve mood, though mechanism has not been established. Thus, an acupuncture needle may influence the vagus nerve through peripheral nerve stimulation and affect the immune-inflammatory response. Vasomotor symptoms, such as hot flashes and sweats, experienced during the menopausal transition have been linked to autonomic instability affecting the vasculature. Heart rate variability has been shown to reflect the effects of the autonomic nervous system on cardiac activity. Roughly 14 separate, albeit small studies suggest acupuncture may effectively control these symptoms. By evaluating the effects of acupuncture on HRV we hope to correlate increased parasympathetic influences on HRV with decreased vasomotor symptoms.

Methods: This study represents an innovative research design that examined each individual participant as a dynamic system. Each subject underwent ten acupuncture treatments, using a standard, traditional Chinese medicine-based acupoint protocol, over a 4-week period, with multiple, frequent measures collected.

Sample: Twelve healthy non-surgically induced menopausal women with symptom scores ≥ 22 on the Menopausal Rating Scale (MRS).

Data collection: Daily MRS symptom scores, pre/post-acupuncture serum interleukin 6 levels at first and last treatment, continuous electrocardiogram monitoring with subsequent HRV analysis before and during each acupuncture session.

Results: Preliminary results suggest improved symptoms with HRV analysis and cytokine data pending.

Implications: In addition to exploration of physiologic mechanism, acupuncture researchers need to consider using innovative, meaningful and individual-oriented research designs. This feasibility study illustrates one such design and includes hypotheses for physiologic mechanisms related to the acupuncture needle.

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HEALTH RELATED QUALITY OF LIFE FOR RURAL CANCER SURVIVORS: THE COLORADO EXPERIENCE

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Purpose: The purpose of this pilot study was to describe the HRQL for LT adult cancer survivors in rural Colorado.

The pilot study was guided by: *Aim 1:* describe the HRQL of long-term cancer survivors in Colorado who are rural dwellers and compare HRQL across levels of rurality; *Aim 2:* describe the relationships between the HRQL of long-term cancer survivors and their demographic characteristics; *Aim 3:* explore the impact of rurality in mediating the relationship between self-esteem and social support on the HRQL for long-term cancer survivors.

Background: The number of people living with a cancer is growing steadily. The triumph of surviving cancer and its treatment often is clouded by a spectrum of long-term (LT) and late effects with their accompanying issues. Many issues remain poorly documented and understood in the general population, and more so in medically underserved groups such as rural cancer survivors.

Nearly half of Americans live in rural areas, defined as sparsely populated counties that are at some distance from comprehensive health care services. Eighty-one percent of Colorado's 64 counties are rural. Although rural residents experience similar life situations as those who live in urban areas, the experience of cancer survivorship is influenced by distinctive rural values and lifestyles.

Health related quality of life (HRQL) is an important outcome of cancer survivorship. As the cancer care community broadens its focus to target LT (5 years beyond diagnosis and treatment) cancer survivors, the defining characteristics and prognostic factors for HRQL for rural LT survivors must be described to elucidate the context of their survivorship and inform the design of interventions to ameliorate potentially negative health outcomes.

The conceptual framework for this study was derived from Mullen's "seasons of survival" and Ferrell et al.'s Quality of Life Model Applied to Cancer Survivors.

Methods: This study was descriptive and correlational in nature, using a non-experimental and survey design. A random, stratified, sample of rural LT cancer survivors living in non-metro counties not adjacent to a metro area or with a population of less than 2,500 were contacted through the Colorado Central Cancer Registry database. Regression models were used to examine the relationships between self-esteem, social support, rurality, and HRQL.

Results: The sample of ninety-eight LT cancer survivors was predominantly retired, Caucasian, breast and prostate cancer survivors in rural Colorado. There were no significant relationships between demographic characteristics and HRQL. Unlike previous studies, self-esteem had no significant association with HRQL. A second key finding, the consistent association of social support with HRQL, supports previous cancer survivorship research. The third key finding of this study is the consistent influence of rurality on HRQL for LT cancer survivors.

Implications for Practice: An understanding of the impact of rurality on social support and HRQL can inform assessment and planning strategies designed to minimize the risk for poor HRQL of rural cancer survivors. The development of nursing interventions to support the HRQL needs of rural long-term cancer survivors must be relevant to the rural setting.

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PATTERNS OF PSYCHOTROPIC PRESCRIPTION AND USE IN YOUTH PRISON 2: THEMATIC ANALYSIS

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Background and Significance: As more at-risk youth are incarcerated in the US, juvenile justice secure facilities (youth prisons) have become critical sites for mental health intervention including psychopharmacology, which remains controversial in correctional, clinical, and political discourse. The complexities of using psychotropic medications to treat youth are manifold and well documented. Few clinical trials for psychotropic medications in youth means that prescription for this population is largely "off label." No widely recognized national or international standards of practice for psychopharmacologic treatment of youth currently exist, and states are individually responsible for policies and protocols related to incarcerated youth. Neither mental health disorders nor psychotropic medications are well understood by laypersons, including families, prison officials and legislators. These issues become even more complicated in settings permeated by a "custody vs. care" dynamic, where the dividing lines between "mental illness," "behavioral disorders," and "delinquency" are hotly contested.
Purpose: This multiple methods study was conducted in 6 secure care facilities administered by the Utah Division of Juvenile Justice Services. Statistical analysis of retrospective clinical data for all youth receiving psychotropic meds at the time of the study was combined with inductive analysis of interview data to describe patterns related to psychotropic medication prescription and use. The aim of the interpretive arm of the study was to explore how psychiatric providers, nursing staff, therapists, and youth counselors working in the 6 facilities understood mental illness and psychotropic medication use, including practices, attitudes, and beliefs related to psychopharmacological treatment of the youth in their care.
Methods: A set of 25 semi-structured in-depth interviews were conducted with providers and staff directly involved in prescribing, administering, documenting, or monitoring psychotropic medications at each site. Participants included APRNs, psychiatrists, psychologists, nurses, social workers, and youth counselors. Systematic inductive analytic techniques were performed on each interview and across the set, to generate a thematic analysis. Themes were judged to be credible representations of these data in terms of how well they described overarching ideologies and constructs that seemed to shape the pervasive yet culturally bound sense-making activities at work in these settings.
Results: Two intersecting themes describe much of the ideological activity running through the interviews: attribution of responsibility and the primacy of internal vs. external realities in guiding psychopharmacologic practices. First, much of the participants' talk centered on 3 major aspects of responsibility: who should be responsible for treating mentally disordered youth; worries about liability and problematic administration policies; and whether psychotropics, by affecting their brains, enable youth to dodge responsibility to "cowboy up" or do "good time." The second and highly iterative theme represents numerous recurring attempts to assert particular realities, understood as being either internal or external, as adequate justifications for practice. Distinctions between internal and external realities propped up further divisions between "mental" and "behavioral," perceptions of locus of control (on several levels) and correctional and community practice.
Implications: In youth prison, patterns of psychotropic prescription and use are informed as much by culture and context as scientific theory and formal standards of practice. Nurses and APRNs who work in these settings and who advocate for incarcerated and mentally disordered youth must be aware of such ideologies and cultural constructs, ad how these influence the clinical decisions and correctional practices that affect these youth.

AN ANALYSIS OF CLINICAL INDICATORS OF SHOCK IN PEDIATRIC PATIENTS

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Purposes/Aims: The purpose of this project was to perform a retrospective chart review of the fourteen shock-related deaths to determine what common clinical indicators might have identified these patients before late or uncompensated shock developed. Once identified, the indicators could be used as criteria in the proposed electronic shock tool.
Rationale/Background: Inadequate detection and/or treatment of shock on the non-ICU units were identified as contributing factors resulting in at least fourteen pediatric patient deaths due to uncompensated shock from October 2000 through October 2007 at PCMC. An in-depth review of the cases identified four types of errors: (1) failure by nurse to recognize shock (or urgent situation), (2) failure by physician to recognize shock, (3) failure by physician to treat shock with appropriate sense of urgency, and (4) failure by physician to properly treat shock in complex patients.

A clear definition of when a pediatric patient is in shock is subjective. A review of the literature identifies several clinical indicators of shock, but due to the nature of pediatrics they can be difficult to assess, which is further complicated by the subjective nature of some criteria and the need for pediatric age-based vital sign parameters. It can be difficult for nursing staff to put together all of the clinical indicators and identify that the patient is in shock. An electronic tool that would alert the nurse that his/her patient is meeting "shock" criteria could help the staff initiate a focused assessment and goal-directed therapy early and effectively. PCMC has developed an electronic shock tool, but the initial criteria resulted in too many false alarms, and the tool was turned off.
Approach/Methods: I conducted a retrospective review of the fourteen patients' charts. Data on each patient was collected by reviewing the nursing documentation, history and physical, physician progress notes, medication administration record, and death summary.
Outcomes: Preliminary analysis of the data does not reveal an identifiable grouping of clinical indicators that would have consistently predicted that these patients were developing uncompensated shock. Most patients had a heart rate and respiratory rate that were outside the age-specific parameters prior to developing uncompensated shock, but using these two criteria alone would sacrifice specificity, resulting in too many false alarms. We were unable to adequately extract data on certain shock clinical criteria, as was reported in another pediatric study.

An unexpected finding was twelve of the fourteen patients were medically complex patients. Until all of the patients were reviewed, no one had been aware of this.
Conclusions/Recommendations: The fact that most of the shock patients were medically complex might affect our ability to identify criteria that can be applied to all pediatric patients. Further evaluation of the fourteen shock patients, along with chart reviews of the non-ICU patients with a code blue or an unplanned transfer to the ICU, according to various pediatric early warning scores (PEWS) and different pediatric vital sign parameters is currently underway. We will use this data, along with real-time electronic simulations of non-ICU patient data, to test the sensitivity and specificity of the criteria. When clinical indicators have been identified that will provide both high sensitivity and specificity for identifying shock before it develops into uncompensated shock, we plan to implement the electronic shock tool on the non-ICU units. Our clinical parameters will also need to be published for validation and possible use across multiple pediatric centers.

IMPLEMENTATION AND EVALUATION OF CAPACITY BUILDING FOR SIMULATION SUSTAINABILITY

OVERVIEW: IMPLEMENTATION AND EVALUATION OF CAPACITY BUILDING FOR SIMULATION SUSTAINABILITY
Robin Pattillo

MEASURING CAPACITY BUILDING FOR SUSTAINABILITY: MAKING THE ABSTRACT CONCRETE
Deana Molinari

FACULTY MENTORING FOR SIMULATION: FROM RESISTANCE TO BUY-IN
Michael McCarthy

IMPLEMENTATION AND EVALUATION OF CAPACITY BUILDING FOR SIMULATION SUSTAINABILITY
Robin Pattillo

SIMULATION LABORATORY DEVELOPMENT: EXISTING TECHNOLOGIES TO STATE OF THE ART
Beverly Hewett

OVERVIEW: IMPLEMENTATION AND EVALUATION OF CAPACITY BUILDING FOR SIMULATION SUSTAINABILITY

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The purpose of this symposium is to share our ongoing experience of implementing and evaluating simulation sustainability based upon an internally developed conceptual framework for capacity building. We will discuss administrative elements of our model, faculty involvement, the actual physical simulation laboratory, and specific metrics for evaluating outcomes.

MEASURING CAPACITY BUILDING FOR SUSTAINABILITY: MAKING THE ABSTRACT CONCRETE

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Purpose: This presentation will focus upon the systematized measurement process and baseline data obtained as both "Input" and "Output" for implementation of *Capacity Building for Simulation Sustainability*.
Background: Capacity building is an organizational change process involving assessment, goal setting, process implementation, and evaluation. The main goal of using simulation pedagogy is to improve patient and student outcomes. The SSC broadly defined pedagogy as learning strategies that promote reality and include case studies, role playing, standardized patients, dramas, trainers, and mannequins. Development of our *Capacity Building for Simulation Sustainability* model included cultural change, preparation, and grant proposal writing. The SSC spent a year developing standards, processes, and assessment measures. The school's systemized approach to goal setting, monitoring, and program development was initiated. Yearly reports regarding the activities of the SSC are required by administration.
Process: The SSC sought out and developed tools, methods, and systems for continual measurement of concepts that are part of our conceptual framework. Measurement options were designed and assigned to various elements of the model. National standards (1) were employed as a developmental foundation. Specific areas analyzed included faculty outcomes, simulation frequency, and pedagogy satisfaction. The *"Faculty Satisfaction Survey*" and the *"Course Coordinators Survey"* have been used to evaluate "Throughput." "Output" has thus far been analyzed in relation to student outcomes. These outcomes are measured using rubrics, worksheets, peer feedback, and observation. The SSC has asked that pre/post knowledge surveys be developed by participating faculty for use in all high fidelity simulation activities.
Outcomes: Results of surveys, rubrics, worksheets, peer feedback, and observation are analyzed by faculty and, with faculty agreement, by the SSC. This information then serves as feedback to assist in altering pedagogy and identifying needed resources.
Conclusion and Recommendations: The school recognizes the importance of simulation to increasing deep thinking and improved patient outcomes. Increasing organizational capacity requires systemized assessment and measurement. We believe that our conceptual framework, including systemized measurement systems, will enable capacity building for simulation and contribute to sustainability. We are working to develop more evaluative tools that will assist faculty and student outcomes.

1) NLN (National League for Nursing). (2008). Simulation innovation resource center. Retrieved October 19, 2008 from http://sirc.nln.org/.

FACULTY MENTORING FOR SIMULATION: FROM RESISTANCE TO BUY-IN

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Purpose: Knowing that faculty buy-in for simulation activities is obviously a critical aspect for simulation success (1), the SSC carefully considered faculty needs, support, and assistance in every aspect of our *Capacity Building for Simulation Sustainability Model*. This presentation will discuss peer strategies to support and assist faculty in our design, development, implementation, and evaluation of simulation activities.
Background: The SSC believe that faculty involvement is critical to both capacity building and sustainability of our simulation activities. Initial analysis of our nursing and university infrastructure included an informal survey of faculty interests and attitudes. This "Input" assisted in guiding the SSC to suggest supportive resources to faculty. The nursing department funded faculty attendance at national workshops. Collaborative relationships were formed with faculty and members of the SSC. Two undergraduate faculty members served as informal "guides" for other faculty interested in simulation. "Output" has been quantitatively measured using internally developed faculty satisfaction and course coordinator surveys. This information will be reported in an additional part of this symposium.
Outcomes: Faculty voluntarily participated in simulation activities. Simulation related literature, guidelines, and methodologies were made available to interested faculty on an SSC web-page. Members of the SSC served as informal mentors to faculty desiring assistance in developing, implementing and evaluating simulation activities. Current faculty outcomes are being evaluated and will feedback into development of our nursing and university infrastructure as well as our teaching strategies.
Conclusions and Recommendations: Continued support and evaluation of faculty activities are critical to capacity building for our simulation lab and to potential sustainability. Through constant evaluation of faculty needs, along with faculty and student outcomes, we will further develop and sustain our nursing and university infrastructure. Peer-guided faculty development has proved an effective capacity building strategy.

Starkweather, AR & Kardong-Edgren, S. (2008). Diffusion of innovation: Embedding simulation into nursing curricula. International Journal of Nursing Education Scholarship; 5(1), Article 13. Retrieved October 19, 2008 from http://www.bepress.com/ijnes/vol5/iss1/art13/.

IMPLEMENTATION AND EVALUATION OF CAPACITY BUILDING FOR SIMULATION SUSTAINABILITY

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Purpose: The purpose of this symposium is to share our ongoing experience of implementing and evaluating simulation sustainability based on an internally developed conceptual framework for capacity building. We will discuss administrative elements of our system, faculty involvement, the actual physical simulation facility, and specific metrics for evaluating outcomes.

Background: The Simulation Steering Committee (SSC) developed a conceptual model for capacity building with a goal of sustainability. The model is derived from "Systems Theory" (1). This model was presented in 2008 at WIN. We have since moved forward with the implementation and ongoing evaluation of the model. We approached our model as an open system and examined inter-relating elements of the model on various levels.

Process: The SSC began our capacity building through examination of "Input": capital expenditures, existing and desired equipment, and assessment of school and university infrastructure. We analyzed "Throughput" to include existing teaching strategies and university and community collaboration. "Output" was viewed as faculty, student, and community outcomes. These outcomes include student performance in various arenas, faculty development and productivity, and community involvement. As the simulation lab and simulation experiences began to develop, "Input" was altered with new and different technologies and strong administrative support for faculty. These changes modified "Throughput" with development of revised and additional teaching strategies and changing student expectations. The need for formal measurement criteria for each level of the model evolved as we monitored our process and progress. We continue to examine all elements of our model as we move forward with capacity building.

Outcomes: As we develop each level of our model we discover additional elements, unpredicted limitations, and often redefine boundaries. Our simulation system remains open, thus we are constantly gathering and exchanging new information (2). This symposium serves to summarize activities and outcomes that we have implemented and evaluated thus far. Feedback leading to revision and/or reinforcement of our conceptual framework emerged throughout implementation of this model.

Conclusions & Recommendations: Our capacity building model has proven to be helpful in developing our simulation activities. Our "Output" has proven to provide feedback leading to evaluation of our "Throughput" strategies and further development of our "Input." We believe that other nursing faculties or health care facilities will benefit from applying our model as well as our sharing of our experiences.

1) von Bertalanffy, L. (1950). An outline of general system theory. The *British Journal for the Philosophy of Science*, 1, 2, 134-165.
2) Skyttner, L. (2005). *General systems theory: Problems, perspectives, practice.* New Jersey: World Scientific.

SIMULATION LABORATORY DEVELOPMENT: EXISTING TECHNOLOGIES TO STATE OF THE ART

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Purpose: This presentation will share our experiences in evaluating and improving the actual physical elements, or critical "Input" of our *Capacity Building for Simulation Sustainability* model. The technological "Input" for our model obviously impacted all aspects of "Throughput" and "Output" as we progressed with development of our simulation laboratory.

Background: In the current health care climate there is a national decrease in access to traditional clinical sites for health care students. This atmosphere contributes to a challenging situation when nursing faculty attempt to provide students with the experiences needed to develop nursing competencies needed to merge with the workforce (1, 2). Our faculty and administration felt strongly that through the use of state of the art simulation experiences we could assist our students to develop and reach competencies needed for entry into the workforce. Administrative support for simulation development was and is strong. Our laboratory director took a leading role in evaluating existing resources, and identifying needed resources for development of simulation activities.

Process: Initial "Input" for our *Capacity Building for Simulation Sustainability* model included a thorough evaluation of our existing resources including low and high fidelity technologies. Faculty, administration and community members then worked together to determine additional technologies and design a "state of the art" simulation facility. We sought and obtained both internal and external funding resources. The simulation lab was conceptualized and designed using "Input" from faculty, administration, students and the community.

Outcomes: Our simulation laboratory is scheduled to open in January of 2009. Faculty and community input into the structure of the lab served as "input" into our conceptual model and increased collaborative and organizational relationships. Feedback from faculty while the lab developed and once the lab opens will serve to strengthen our pedagogical infrastructure, or "Throughput," as well as our community relationships.

Recommendations and Conclusions: With the opening of our simulation laboratory, we will continue to use faculty and community input. We will further monitor and measure output, and obtain feedback per our model to develop the technological capacity and pedagogical outcomes of our simulation laboratory. Increasing both community involvement and collaborative relationships will assist with economic feedback into our laboratory and increase sustainability.

1) Del Bueno, D.J. (2001). Buyer beware: The cost of competence. *Nursing Economics* (19), 250-257.
2) Feingold, CE, Calaluce, M & Kallen, M. (2004). Computerized patient model and simulated clinical experiences: Evaluation with baccalaureate nursing students. *Journal of Nursing Education* 43 (4): 156-63.

IMPROVING NURSING INTERVENTIONS & CARE

DRUGS AND FALL RISK: AN UPDATED SYSTEMATIC REVIEW

Lynda Oderda, Carl Asche, Ginette Pepper, Rosanne Leipzig, Dusica Tasic

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NURSING ERRORS: A CONCEPT ANALYSIS

Diane Katsma, Mary Quinn Griffin

DIRECT OBSERVATION OF RN CARE PRACTICES IN TWO VA-AFFILIATED NURSING HOMES

Mary Ellen Dellefield, Martha Shively, Charlene Harrington, Claudia Der-Martirosian, John Schnelle

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USE OF HONEY FOR WOUND HEALING

Karen Zulkowski, Karen Gray-Leach

ORAL CARE PRACTICES FOR THE DEPLOYED CRITICAL CARE NURSE IN ORALLY INTUBATED PATIENTS

Laura Feider, Nancy Steele, Katherine Chiapulis

FACTORS RELATING TO DISPOSITION STATUS IN CHILDREN WITH SEVERE TRAUMATIC BRAIN INJURY

Asma Taha

CHARACTERISTICS OF STUDENTS REQUIRING SPECIALIZED PHYSICAL HEALTH CARE SERVICES

Suzette Talbott

INTENSIVE CARE UNIT DOMAIN ANALYSIS GUIDES MONITORING DISPLAY DESIGN

Alexa Doig, James Agutter, Noah Syroid, Robert Albert, Michael Behrens

DRUGS AND FALL RISK: AN UPDATED SYSTEMATIC REVIEW

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Purpose: The purpose of this study is to evaluate newer psychotropic drugs to ascertain if these agents increase risk of falling.
Background: Leipzig, et al published meta-analyses in 1999 summarizing studies published between 1966 and1996 of fall risk among adults over 60 years of age for analgesic, psychotropic, and cardiovascular drugs. Recently marketed drugs were not adequately reflected in this meta-analysis, including atypical antipsychotics, selective serotonin reuptake inhibitor (SSRI) antidepressants, and newer hypnotic agents. Additionally, it has been suggested that short-acting benzodiazepines and those metabolized by oxidative pathways do not increase fall risk.
Methods: Using updated key words based on the Leipzig study, a PubMed/Medline search was conducted monthly for the duration of analysis. Studies were included if falls or a proxy variable (e.g., nontraumatic hip fractures) were dependent variables, subjects were predominantly older (>60 years), the study was indexed between 1996 and 2008, and the analysis compared exposed fallers to nonfallers. Studies were excluded if they did not report original research (reviews, case reports, letters to editor). Data from articles was extracted by two reviewers, and compared for agreement, with ancestry search of relevant articles cited as references. There were 988 articles from the initial search, with 118 articles reviewed for relevance, resulting in 19 primary search and 10 ancestry search articles.
Results: Of 7 antipsychotic drug studies, 5 showed an association of antipsychotic drugs, including risperidone (OR=1.42) and olanzapine (OR=1.34), with increased risk of falling and odds ratios (OR) similar to typical antipsychotic agents. Of 15 antidepressant studies, 7 compared tricyclic (TCAD) and SSRI antidepressants. More studies associated SSRI than TCAD use (100% vs. 71%) with increased fall risk. Fifteen studies evaluated benzodiazepines with 9 indicating an association of the drug class with fall risk, a greater number associating short-acting than long-acting agents with falls, and no evidence for decreased fall risk with benzodiazepines metabolized by nonoxidative processes. Newer hypnotics also appeared to be associated with fall risk. There was less risk when fracture was the outcome analyzed.
Implications: Newer psychotropic agents may be associated with increased falling due to overuse by clinicians who assume newer agents are safer. Presenting conditions (insomnia, depression, anxiety) may also be causal factors in medication-related falling by older patients using psychotropic drugs.

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NURSING ERRORS: A CONCEPT ANALYSIS

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Purpose/Aim: The purpose of this concept analysis is to provide a better understanding of the term "nursing errors" as it relates to nursing practice. Our goal is to provide nursing researchers and clinicians studying nursing errors with a clearer definition of the concept as they develop operational definitions, and both measurement and evaluation instruments for this concept.
Definition of Concept: Nursing errors are mistakes made by individual nurses during practice as defined by a taxonomy of type of mistakes.
Concept Analysis Approach: Walker and Avant's (2005) method of concept analysis was utilized. This process includes reviewing definitions and the literature to find essential, related and useless attributes of the concept. A conceptual definition is created and then case stories are developed. Model, related, and contrary cases are presented to provide concept clarification. Antecedents and consequences are determined for the concept. Finally, empirical referents are identified to measure the defining attributes of the concept.
Concept Linkage to Practice: Nursing practice errors happen. Since the Institute of Medicine's report (1999) addressing health care errors, there has been a more open environment in which to assess, analyze, and evaluate practice errors. The concept analysis of nursing practice errors is a beginning step toward understanding nurse mistakes made while providing care to patients.
Conclusion: The concept of nursing practice errors has relevance for nursing researchers. Because of the potentially life-threatening consequences of health care errors, it is imperative that nursing be at the forefront of creating safe environments for patients and nurses alike.

Institute of Medicine. (1999). To error is human: building a safer health system. Retrieved September 10, 2008 from http://www.iom.edu/Object.File/Master/4/117/ToErr-8pager.pdf
Walker, L. O. and Avant, K. C. (2005). *Strategies for theory construction in nursing* (4th ed.). Upper Saddle River, NJ: Pearson/Prentice Hall.

DIRECT OBSERVATION OF RN CARE PRACTICES IN TWO VA-AFFILIATED NURSING HOMES

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Purposes/Aims: The study purpose was the development and implementation of a PDA-based tool used to directly observe registered nurse (RN) care practices related to five pressure ulcer (PU) risk factors, including immobility, incontinence, nutrition, pain, and PU treatment. Percentages of direct care (assessment, treatment, medications) and indirect care (supervision, management, documentation) practices and any associations with total nursing and RN staffing levels were described.

Rationale/Conceptual Basis/Background: Concerns about the quality of nursing homes (NHs) persist. Within Donabedian's quality framework, RN time is a structural measure of quality and RN care practices are process measures of quality. Relatively few RNs work in NHs and are responsible for providing professional supervision, management, and oversight of clinical assessments to a largely para-professional nursing staff. In 2007, the American Health Care Association (AHCA) reported that by skill level CNAs provided 2.3 hours per resident day (HPRD); .32 HPRD for RNs; and .78 HPRD for LVNs/LPNs.

Methods: An exploratory descriptive study using industrial engineering work-sampling methodology and RN convenience samples in 2 VA-affiliated NHs (40-bed Nursing Home Care Unit [NHCU] currently a Community Living Center [CLC] and 174-bed VA-contract Community NH [CNH]). CLC nursing skill mix included RNs and licensed vocational nurses. Two-hundred fifty-eight RN care practices categorized by PU risk factors were used. The practices were identified and defined based on clinical practice guidelines for PU prevention, NH regulation, and an expert panel.

Results: Observations were collected at a confidence level of 95%. 2,855 (CLC) and 4,476 (CNH) discrete care activities for 7 RNs (51% RNs at CLC) and 7 RNs (50% RNs at CNH) were obtained. Data collectors achieved a range of 90% - 100% inter-rater reliability during training and at study sites. CLC RN activities included: 46% direct, 41% indirect care, and 12% unproductive activities. CNH RN activities included: 31% direct, 59% indirect, and 10% unproductive activities. RNs spent 29% (CLC) and 45% (CNH) reading and writing in charts. At both sites, percentages of RN direct vs. indirect care varied by clinical domains but not by RN or total nurse staffing levels. Case mix indexes (32 CLC; 28 CNH) were similar. Supervisory and managerial activities occupied 12% (CLC) and 23% (CNH) of their total work time. RNs rarely provided supervision and management to CNAs (CNH), focusing on other RNs and LVNs instead.

Implications: The percentages of total RN care practices associated with five clinical risk factors for PU prevention differed by nursing skill mix at each facility. Documentation comprised a majority of indirect care; the clinical domains reflected in RN documentation could not be determined by direct observation. Although inaccuracies in NH documentation have been reported, the use of the chart and RN self-report will enhance the measurement of RN care practices associated with PU prevention. A PDA-based method of measuring RN clinical practice is ideal for measurement of direct care activities. This method may provide real-time performance feedback to RNs in the clinical setting. Increased performance of RN activities related to supervision and management of CNAs is recommended.

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USE OF HONEY FOR WOUND HEALING

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Objectives: To examine the evidence for honey use in wound healing. To present case studies using honey dressings with chronic wound healing.
Problem/Purpose: Clinical studies have demonstrated that honey is effective in the management of infected wounds, including antibiotic-resistant strains. Honey forms a physical antibacterial barrier to prevent bacterial colonization and creates a moist wound healing environment. Study results have also demonstrated a reduction in wound pain. All studies were conducted in European countries. Honey has recently been approved by the FDA for use in wound care. However, use has not been researched in clinical applications in the US. The purpose of this research is to conduct an evidence-based review and to examine the use of honey dressings for chronic wound healing.
Methods: An evidence-based review of the literature for use of honey in chronic wounds was conducted and a clinical trial using honey dressings is underway. The trial will use a convenience sample of acute care patients with a chronic wound that has not healed with other products. The wound will be cleaned and the honey dressing applied. Dressings will be changed in 3-5 days. Wound measurements and photographs will be taken at each dressing change. Percent of healing will be calculated.
Results: Two case studies in nursing homes have been completed to date. Results have shown honey is effective in healing a chronic wound and reducing wound pain. This presentation will show the results of the evidence based review and 4-6 case studies using honey.
Conclusion: Honey is an old remedy that holds promise for current clinical practice. Non-healing wounds are painful and costly. Therefore, a product that can help heal these wounds can significantly impact care.

ORAL CARE PRACTICES FOR THE DEPLOYED CRITICAL CARE NURSE IN ORALLY INTUBATED PATIENTS

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Background: Ventilator-associated pneumonia (VAP) represents a major threat to all mechanically ventilated patients. Oral care is one nursing intervention that targets VAP prevention. Oral care policies and practices vary from state to state, hospital to hospital, and even within intensive care units. In addition, oral care practices can be inconsistent or lacking altogether. Although essential in the care of mechanically ventilated patients, preventive oral care procedures are based on tradition and anecdotal evidence rather than scientific research. It is currently unknown what the oral health status is of orally intubated patients in theater and what oral care practices are performed by military critical care nurses in combat support hospitals.
Purpose/Aims: The purpose of this study is to describe oral care practices by military critical care nurses for orally intubated critically ill patients. The specific components of oral care to be described included toothbrushing, swabbing, chlorhexidine gluconate (CHX) oral rinsing, and oral secretion management.
Methods: The study is a descriptive, cross-sectional, self-administered web-based survey to examine oral care practices reported by military critical care nurses working in the deployed critical care settings of two selected Combat Support Hospitals (CSH) in Iraq.
Results: Preliminary descriptive analysis has been conducted. Fifty participants are expected to enroll in the study. To date, 33 participants have completed the online survey. Preliminary data show that: 63% perform oral care every 4 hours; 8% brush with a toothbrush twice a day; 60% use chlorhexidine gluconate rinse (CHG); 40% do not combine toothbrushing with CHG therapies; 84% suction the oropharynx at all the correct intervals; 90% do not assess the oral cavity with a standard oral assessment tool; 53% report moderate priority of care; 50% report having adequate time to perform oral care every 4 hours; 70% are not aware of the AACN Oral Care Practice Alert (2006); 53% are not aware of the AACN Procedure Manual (2005); 63% are not aware of the IHI VAP Bundle; 60% have an ICU oral care policy; 38% report the main barrier to oral care is the bite block providing limited access, while 30% report they have no resources or supplies to provide oral care; and 83% report having adequate education and knowledge to provide oral care. In February 2009, the descriptive and comparative data analysis will be completed.
Implications: By recruiting a military nurse sample, this study will provide the data needed to describe current oral care practices in theater and lead to interventions to prevent VAP in intubated patients in the ICU. This is the first study to describe oral care practices performed by critical care nurses in a deployed combat hospital setting. Similar to findings in civilian nurses, this military nurse study reports: the majority of every 4 hour oral care is being completed as well, being a moderate priority of care; oral care policies appear to be present, but not well utilized; the majority are using CHG oral rinse; and the majority of nurses are not aware of the published evidence-based guidelines for oral care. Results of this military survey indicate that discrepancies exist between reported practices and policies. A gap exists between national oral care standards, reported oral care practices, and unit level oral care policies. The results of this study may lead to implementation of evidence-based practices and policies in the austere deployed hospital as well as improve wounded warrior care.

FACTORS RELATING TO DISPOSITION STATUS IN CHILDREN WITH SEVERE TRAUMATIC BRAIN INJURY

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Purpose: Published traumatic brain injury (TBI) treatment guidelines for children are not in complete agreement with the adult guidelines. The areas of discord include the fluid management for cerebral edema and the initiation and achievement of full calorie intake. As not all trauma centers have a pediatric intensive care unit (ICU), the ICU type may relate to utilization of the guidelines and the patient outcomes. There is insufficient literature to inform these treatment questions. Therefore, the purpose of this study was to investigate the relationship between treatment modalities (fluid management for cerebral edema [hyperosmolar therapy], time to initiation, and achievement of full calorie intake, ICU type) and the outcome (disposition at discharge from the hospital) of children (age 8-18) with severe TBI.
Rationale/Conceptual Basis: King's conceptual model, provided the framework for describing the relationships among the interpersonal and the social systems variables and patient' health. The interpersonal system encompasses all hospital course transactions, which include fluid management and nutritional supplementation. The social system is the type of ICU setting where the child is receiving treatment. Attaining health is the goal of nursing and the desired outcome. This outcome will be measured by the patient disposition status on discharge from the hospital.
Method: A retrospective, descriptive, chart review design will be used to determine the relationship of three hospital course independent variables (fluid management for cerebral edema [hyperosmolar therapy—mannitol, NaCl 3%, other], time of initiation and achievement of full calorie intake in hours, & ICU type [pediatric or adult ICU]) with patient's outcomes (disposition status at discharge from the hospital). Patient outcome, the dependent variables will be measured using the pediatric cerebral performance category scale (Fiser, 1992) to quantify the disposition status upon discharge from the hospital. The scale includes six categories, which are as follows: normal=1, mild disability=2, moderate disability=3, severe disability=4, coma or vegetative state=5, and brain death=6.
Results: Univariate descriptive statistics will be used to present the characteristics of the patient population. A bivariate correlation matrix will be used first to determine the relationships between the variables of interest. The variables with a significant correlation (r>.30) will be used in a multivariate analysis to determine the contribution of each variable in predicting the outcomes. Data collection and statistical analysis are in progress.
Implication: Findings will identify treatment modalities that may optimize discharge disposition status thereby potentially reducing the burden of disease on the individual, family, and the society for children with severe TBI. Also, findings may serve to guide in the amendment of the treatment guidelines for the pediatric TBI population.

CHARACTERISTICS OF STUDENTS REQUIRING SPECIALIZED PHYSICAL HEALTH CARE SERVICES

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Purposes: To describe the characteristics and perceptions of teasing, school connectedness, HRQOL, academic achievement, and attendance for students who require specialized physical health care services in the regular school setting. To determine if relationships exist between teasing, school connectedness, HRQOL, academic achievement, and attendance. To determine if a relationship exists between teasing, school connectedness, HRQOL, and academic achievement. To determine if a relationship exists between teasing, school connectedness, and HRQOL, and attendance.
Background: With the enactment of No Child Left Behind Act of 2001 and the Individuals with Disabilities Education Act, school districts are to provide a free and appropriate education for students with disabilities in the least restrictive environment with their nondisabled peers in order to improve their academic achievement. Students requiring specialized physical health care services (protocols) are among those students attending their home schools. Few studies have addressed their unique physical, psychological, emotional, and educational needs. These students present a particular challenge to school nurses who seek to strengthen and facilitate the educational process by identifying and removing health-related barriers to learning.
Conceptual Basis: King's Conceptual Framework for Nursing and Theory of Goal Attainment has been selected for several reasons: the goal for King's conceptual system for nursing is health; the framework provides the structure for nursing as a discipline and profession; and King recognizes the importance of social forces by including the metaparadigm concept of social systems which influence social behavior, interaction, perception, and health.
Methods: A cross-sectional descriptive survey design will be used among a purposive sample of 77 multiethnic students between the ages of 8 and 22 who receive special education services and require specialized physical health care services in a southern California school district. Student perceptions of teasing (PARTS-R), school connectedness (SCS), and HRQOL (PedsQL$_{TM}$) will be measured from self-report questionnaires administered in the home. Academic achievement and attendance will be measured from the most recent grade reports. Demographic data will be obtained using Welligent Integrated System Version 6 and Integration of Student Information System databases and will include the student's age, gender, grade level, ethnicity, school lunch program participation (if any), primary disability eligibility for special education services, medical diagnosis, mobility status, protocols required, number of protocols performed, amount of time to perform the protocol(s), and the person performing the protocol(s). Data analyses will include descriptive, correlational, and regression computations with SPSS version 15.0 for Windows Grad Pack.
Implications: School nurses can benefit from the findings to gain a better understanding of this population of students in order to optimize students' health care issues, educational experience, and HRQOL. Traditionally, QOL measurements for children usually obtain data reported by the parent. However, children have been found to be reliable reporters and should be included in planning their health care. Participation in this study will give students with disabilities a voice regarding their perceptions of teasing, school connectedness, and HRQOL.

INTENSIVE CARE UNIT DOMAIN ANALYSIS GUIDES MONITORING DISPLAY DESIGN

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Aims: Conduct a domain analysis of the intensive care unit (ICU) for the purposes of identifying (1) types of clinical data utilized by different personnel, (2) sources of data preferred, and (3) dynamics of interdisciplinary communications concerning clinical data.
Background: Understanding the users' information requirements, control-information feedback requirements, actions taken, mental model of the process, and surrounding environmental and situational constraints is essential for designing a visual information display to support the decision making process. Thus, prior to designing and implementing new monitoring displays, a detailed analysis of the user's domain is prerequisite.
Methods: Two investigators observed patient care in the ICU and compiled observations into a structured report. Next, structured interviews with 8 clinicians were conducted. In these semi-structured interviews we examined controllable clinical processes; variables needed to diagnose significant clinical events; information needed to evaluate the effectiveness of treatment; the heuristic rules that guide clinicians' diagnosis and treatment of these events; and the cognitive maps used to understand physiologic function, pharmacologic action, and pathophysiology of the events. The findings from the interviews were used to develop a survey. The survey, completed by 28 ICU clinicians, focused on characterizing the clinical importance of different variables, the variable's normal range and upper and lower safe limits, conditions when the variable can not be measured, and conditions when measurements might be biased and noisy.
Results: The domain analysis produced a rank order of frequently occurring life-threatening events in each domain and the key variables associated with each event. The results of the domain analysis will specify which variables to highlight in the display; causal relationships between variables; and the display structure including data trending that matches clinicians' mental models. It also identified mental calculations clinicians must make and the models needed to transform data into useable information to understand physiologic function, pharmacologic action, and pathophysiology, and interrelationships between these variables over time (i.e. trends). The results identified emergent display features that could assist clinicians to detect the most frequent life-threatening events.
Implications: Incorporating specific findings from this study into the design of a new monitoring display should ensure that the display fits the mental model of the user.

IMPROVING PRACTICE: EDUCATIONAL STRATEGIES

USING ELECTRONIC HEALTH RECORDS TO ENHANCE SIMULATION IN NURSE PRACTITIONER EDUCATION

Seneca Perri, Keith Robbins, Michelle Edwards, Tamara Schwarting, Kimberly Simon, Blaine Winters, Allen Hanberg, Katherine Sward

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SIMULATED LEARNING SCENARIOS IN A LAB OR A VIRTUAL WORLD: IS THE LEARNING COMPARABLE?

Kelley Connor, Max Veltman, Michelle Honey, Scott Diener

EXPLORING THE EVIDENCE THROUGH THE "ARTICLE OF THE MONTH"

Lauri Linder

USING TECHNOLOGY TO SUPPORT NATIONAL CERTIFICATION IN PEDIATRIC ONCOLOGY

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CULTURAL COMPETENCE EDUCATION AND THE FUTURE OF NURSING: COMPARISON OF EXPERIENCES

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THE REST OF THE STORY: A CASE STUDY EVOLVES ON DISCUSSION BOARD

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STUDENTS' PERCEPTIONS OF JOURNALING: TIME (WELL) SPENT?

Elizabeth Predeger, Catherine Sullivan, Bernice Carmon, Diane Toebe, Fredricka Gilje, Thomas Hendrix

NURSING STUDENTS AND TECHNOLOGY: IS VIRTUAL SIMULATION FEASIBLE?
Craig Stevens, Kelley Connor, Max Veltman

CONNECTING THE DOTS: LINKING CULTURAL KNOWLEDGE TO CLINICAL PRACTICE
Allison Merrill, Deborah Rojas, Faye Hummel

INTERPROFESSIONAL SIMULATED CRITICAL CARE EVENT: NURSING & PT STUDENTS
Barbara Cheuvront, Kathleen Whalen, Susan Scherer

INTEGRATION OF SIMULATION ACTIVITIES INTO GRADUATE NURSE EDUCATOR CURRICULUM
Elizabeth Amos, Kim Baxter

TRAIN WRECK: A COMMUNITY HEALTH DISASTER SIMULATION TO ENHANCE THEORETIC LEARNING
MaryJo Coast, Lisa Zenoni, Margaret Mulhall

USING ELECTRONIC HEALTH RECORDS TO ENHANCE SIMULATION IN NURSE PRACTITIONER EDUCATION

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Introduction: Using information technology has become an integral component of the health care workplace. Advanced practice nurses entering the field must be prepared to utilize emerging technologies. Current requirements mandate that preparation in the use of information systems must be assimilated into nurse practitioner education (AACN, 2006). Incorporating the use of electronic health records (EHR) in hi-fidelity educational simulation cases will enable students to learn how EHR technology may enhance their practice. However, there is a dearth of available literature that describes the process of creating such simulation cases. The purpose of this project was to analyze the process of enhancing hi-fidelity nurse practitioner educational simulation with EHR.

Methods: Key informant interviews and analysis of existing hi-fidelity simulation cases identified critical components of the enhancement process. Simulation case data were evaluated to determine the optimal EHR content that reflected the desired educational outcomes. Case study information was entered into the EHR in collaboration with hi-fidelity simulation mannequin programmers to direct the flow of the case. Issues with the process and areas of enhancement were indentified.

Results: The process of enhancing a simulation case with EHR was defined as beginning when a faculty member established a case and ending when the simulation was ready to run. A crucial step in the process was to differentiate what data were parts of the case history (EHR data) versus what data needed to be discovered by the student at the time of simulation. The simulation needed to reflect the physical aspects of the case, and a realistic progressive flow of information. Additional barriers and results are further described.

Implications for Nurses: Information system competencies are a critical element of evidence-based practice (Curran, 2003). Currently, requirements of essential advanced practice nursing education mandate that academic institutions incorporate information technology into their curricula (AACN, 2006). Enhancing hi-fidelity simulation cases with the addition of an EHR component is a simple process that any institution can implement, and is one step toward achieving current educational mandates.

Curran, C. (2003). Informatics competencies for nurse practitioners. *AACN Clinical Issues, 14*(3), 320-330. American Association of Colleges of Nursing [AACN]. (2006). The essentials of doctoral education for advanced nursing practice. Retrieved 10/1/2008 from http://www.aacn.nche.edu/dnp/pdf/Essentials.pdf

SIMULATED LEARNING SCENARIOS IN A LAB OR A VIRTUAL WORLD: IS THE LEARNING COMPARABLE?

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Purpose: Simulating patient care scenarios in a realistic environment is an increasingly popular method to prepare health care workers to optimally care for patients and to improve patient safety. While most simulation training occurs in a live simulation environment such as a lab or a hospital room, there has also been an increase in the use of virtual reality. The purpose of this pilot project is to determine if students are able to learn as effectively in a virtual simulation as they do in a live simulation and if they are satisfied with their experience.

Background: There are several different 3-D virtual reality platforms currently available. Second Life is an example of a 3-D virtual reality environment that can be used by educators to create simulated learning experiences. Currently there are millions of users (called residents) from around the globe who access this environment from the internet via a representation of themselves called an avatar. Through their avatar they can build objects to use and/or share with others. In addition to interacting with the environment, avatars are able to interact with each other using voice or instant messaging. Interaction is also possible by joining groups with a shared interest and meeting together for a class or a discussion in Second Life. Because Second Life has capabilities for unlimited building in a 3-D environment and synchronous interpersonal interaction, there is potential to create and conduct simulation training in Second Life to educate nurses.

Description: A postpartum hemorrhage scenario was created with the objectives that students must complete an assessment, recognize abnormal findings, provide nursing interventions and communicate findings. This scenario has been replicated in a virtual reality format using Second Life. Students from Boise State University and the University of Auckland will be recruited for this project. They will receive training in Second Life and complete a presimulation preparation regarding postpartum care. They will participate in the scenario in either the lab setting or in the virtual reality setting. After either scenario, students will participate in a faculty led debriefing. Students will be allowed to self select to participate in either the lab or in virtual reality due to the potentially significant learning curve of using virtual reality. This is not a concern with the live simulation because students have completed several lab simulation experiences earlier in their coursework. This project will compare the learning in Second Life with the simulation lab. It will also compare student satisfaction with both environments. This comparison of 'worlds' will be done both in Idaho and in New Zealand.

Importance: Virtual reality offers the potential to conduct simulated learning scenarios that may be unrealistic or cost prohibitive to conduct in a lab setting. It also has potential to significantly enhance distance learning opportunities for students.

EXPLORING THE EVIDENCE THROUGH THE "ARTICLE OF THE MONTH"

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Purpose/Aims: The purpose of this project was to develop an independent continuing education activity to support Hematology/Oncology/BMT service line nursing staff in reviewing current evidence in the published literature. Additional purposes of this learning activity were to guide staff in developing skills in critiquing the literature and to evaluate its potential utility in guiding clinical practice.

Rationale/Background: As evidence-based practice continues to become a priority for nursing practice, ensuring that bedside nursing staff remain informed of the evidence shaping their practice and have the skills to appraise the evidence are increasingly important. Bedside nursing staff often report not having time or skills to search the literature or to critique its utility. Staff nurses also frequently report being too busy to attend additional inservices or journal club activities.

Project Description: The present format for the Article of the Month was implemented in 2004. The Article of the Month is presented every other month for a total of six articles each year. A quiz is developed based on the article content and must be submitted for staff to receive educational credit for the Article of the Month. An electronic version of the selected article and the associated quiz are distributed to service line nursing staff and advanced practice nurses. Copies also are posted on the service line web site. Topics are selected to represent the patient populations served by the service line and to meet learning needs identified by inpatient and outpatient staff. Selected articles have included both research and clinical review articles. Examples of topics have included oncologic emergencies, symptom management, psychosocial issues, and patient safety/quality care issues. Quiz items are structured in a manner to support nurses in learning to critique research, evaluate the quality of the evidence presented in the article, make application in their daily practice, and to promote personal reflection.

This learning activity initially was presented as an optional continuing education activity. In 2008, the Article of the Month became part of service line-based required annual education for nursing staff, with nurses being required to complete four of the six Articles of the Month distributed each year.

Outcomes: Staff feedback regarding the Article of the Month has been favorable, and participation has increased as this activity has become a component of mandatory service line-based education. Staff have provided anecdotal reports of applying content learned from the Article of the Month when providing patient care, such as responding to acute changes in a patient's condition. Staff also have reported a greater awareness of the contributions of nursing care in issues such as symptom management.

Conclusions: Individual learning activities such as the Article of the Month provide staff with an opportunity to explore current evidence shaping their practice and to develop beginning-level skills in critiquing the quality of the evidence. This educational offering also has demonstrated anecdotal evidence of positively influencing patient care through application of evidence. Future plans include the development of more formal evaluation processes to link learning to actual patient care outcomes.

USING TECHNOLOGY TO SUPPORT NATIONAL CERTIFICATION IN PEDIATRIC ONCOLOGY

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Purpose/Aims: Specialty certification is an important process to validate a nurse's qualifications and knowledge base in a specialized area of practice. The primary purpose of this project was to develop a web-based study resource to support nurses at Primary Children's Medical Center (PCMC) preparing for the Certified Pediatric Oncology Nurse (CPON®) certification examination. Secondary aims for the web-based resource were to provide a central repository for organizing CPON® study resources and to provide continuous access to study resources to nurses desiring to prepare for the CPON® exam.
Background: The PCMC Hematology/Oncology/BMT service line has adopted an interactive structured study group approach to prepare nurses for certification. Sessions are held every other week and include discussions based on the test blueprint using a study guide developed by the clinical nurse specialist. Although this approach increases participant interaction, opportunity for in-depth discussion of a given topic may be limited due to time constraints. A web-based learning resource provides a mechanism to provide access to content presented in study group sessions, augment content discussed in review sessions, and allow test candidates to individualize their own preparation. Use of a web-based resource also allows individuals who are unable to attend a given session to gain access to study session materials.
Project Description: The virtual CPON® Exam Study Group was developed by the Hematology/Oncology/BMT service line clinical nurse specialist to augment content presented during study group sessions using Intermountain Healthcare's Team Space. Team Space is Intermountain.net's collaboration area for employee teams to share announcements, calendar space, documents, web links, etc. Individual staff members who are participating in study group sessions or who would like to prepare for the CPON® exam independently are granted access to this resource. This space has been used to organize study guide documents and supplemental resources related to exam preparation, including journal articles, pictures, PowerPoint presentations, and links to related websites. Team Space also facilitates communication among study group participants and provides a forum for participants to ask questions related to study group content. Study group participants may continue to have access to the Team Space site after completion of study group sessions to provide a resource to support additional individual preparatory efforts.
Outcomes: Participant feedback to the study group sessions and use of Team Space has been favorable. Participants have expressed satisfaction with the availability of the Team Space site as a resource to augment study sessions and with the content included on the site. Outcomes to be determined include the success of these preparation strategies as measured by CPON® exam pass rates.
Conclusions: Utilization of a web-based resource provides a novel approach to supporting staff preparing for specialty certification. An area for future application would be to expand the access to the Team Space to Intermountain Healthcare nurses working outside PCMC who are interested in pursuing CPON® certification. Implications for research include evaluating outcomes such as satisfaction with the web-based resource for exam preparation, perceived confidence as a result of preparatory efforts, and actual exam pass rates.

CULTURAL COMPETENCE EDUCATION AND THE FUTURE OF NURSING: COMPARISON OF EXPERIENCES

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Purpose: There is a surging interest in cultural competency within the nursing profession, shown by many states mandating cultural competence standards for higher education. Keeping up with the demand for culturally competent nurses has placed this challenge upon nursing programs. With economic, time, and other constraints, methods of teaching cultural competence needs to studied and evaluated.

Background: The College of Nursing at Brigham Young University recognized the need to prepare nursing students in providing culturally sensitive, competent nursing care and developed a 7 week Global Health and Diversity course. This required course incorporates a clinical rotation with concurrent principles of global health and diversity. Approximately 67% of the students stay within the United States, while 43% travel out of the country for their clinical rotation. Realizing the great variation between clinical sites and concern regarding students' application of principle, it was imperative to study the differences between the types of experiences. Current and future constraints, such as limited resources and global conditions, may limit traveling for an immersion experience. With this in mind, a research study comparing students' perception of their cultural competence was initiated.

Methods/Process: Out of 115 students, two groups of students were delineated for the study, those students who went to an international site for a period of 3-4 weeks, and those students who stayed at local clinical sites along the Wasatch front of Utah. Within the usual protocols of research, students completed the Caffrey Cultural Competency in Healthcare Scale (CCCHS) pre and post experience. Additionally, the participants submitted copies of their reflective writings which were studied for qualitative analysis.

Results: According to the CCCHS scale there was no statistical difference between the students at the start of the study. However, there was statistical differences between students perceived cultural competence from pre to post survey ($p=.000$), there were also statistical differences between those students that go "foreign" and those who do not ($p=.034$). Qualitative results also show different cultural experiences and perceptions between students.

Implications: Students who went international had a higher increase in their self perception of cultural competence. However, all students progressed in their measured clinical competence. Our college experience of teaching internationally is largely positive and life changing, yet also comes at a cost (in many ways) for both faculty and students. As global events, financial issues, and other restraints impact our college, we have seen that teaching cultural competence may be achieved with a variety of methods.

THE REST OF THE STORY: A CASE STUDY EVOLVES ON DISCUSSION BOARD

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Purpose: The purpose of the study was to evaluate the effectiveness of integrating an evolving case study with discussion board in the classroom setting to facilitate student learning.

Rationale/Conceptual Basis/Background: It is common to assume the teacher's role is to deliver student-learning activities. This study describes the implementation of case study based learning via an online discussion board forum in a baccalaureate nursing program. The conceptual basis for this study is the constructivist theory. This learning theory is applicable to the study as it encourages active learning, builds new knowledge on past knowledge, and requires students to analyze and interpret available patient data as well as predict patient outcomes. The case study approach to learning exposes the student to clinical problems that are encountered in nursing practice and helps develop nursing strategies and problem solving skills. Discussion-based learning improves the mastery of content, problem solving abilities, moral reasoning, and communication skills. The premise is that this active student centered educational strategy will enhance student acquisition of didactic content knowledge and develop their clinical reasoning and problem solving skills.

Methods: The study was a non-experimental descriptive study conducted in a Baccalaureate nursing program during the Adult Medical Surgical course; a learner-centered model of education, with a shift from the traditional teaching paradigm to a constructivist learning paradigm, was used. Eighty students were assigned to a discussion board forum of 5 to 8 students per group. The evolving case studies, which followed the topical course outline, were posted to each group's discussion board throughout the semester.

Results: At the conclusion of the course the following two questions utilizing a 1 (strongly agree) to 5 (strongly disagree) Likert scale were posted on each group's discussion board forum.

(1) The Case Study Discussion Board was an effective tool to facilitate learning (87% of students agreed).
(2) I was able to apply the knowledge I gained from the Case Study Discussion board in the clinical setting (80% of students agreed).

Implications: Utilization of this teaching strategy facilitates active student learning and may have a positive outcome on student learning. Recommend a comparison study on multiple campuses that do not implement this learning strategy but have the same course objectives.

STUDENTS' PERCEPTIONS OF JOURNALING: TIME (WELL) SPENT?

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Purpose: The purpose of this study was to examine baccalaureate nursing students' perceptions of journaling as a learning strategy.
Rationale/Background: Journals are a pedagogical tool commonly used in nursing education to encourage reflection supportive of the teaching/learning process. Sparse information exists on students' perceptions of the journaling experience on their learning. This descriptive study was a component of a larger quantitative study measuring key attributes of journaling that generated both numerical and textual data on nursing student perceptions of journaling.
Methods: A survey measuring key attributes of journaling was administered to a convenience sample of 119 junior & senior baccalaureate students during Fall 2007. The survey ended with open-ended questions that elicited students' own perceptions of journaling. This part of the larger study provided text for qualitative content analysis (Graneheim and Lundman, 2004). Further reflection on emergent themes led to an interpretive description (Thorne, Kirkham & O'Flynn, 2004) agreed upon by all authors.
Results & Implications: Time emerged as central to the journaling experience. The perceived value placed on student time was a critical component used to recognize the learning. Less structure and more opportunity for narrative expression & reflection was perceived as more 'freeing' and allowed students more control over their learning. Timely and thoughtful faculty feedback was noted by all as essential for a positive journaling experience.

Findings of this descriptive study have the potential to alter & redesign the journaling experience and ultimately effect teaching/learning. As faculty, we have recognized that the perception of time spent on the journaling assignment was first & foremost in students' equation with value. This awareness, as well as other key points uncovered, has begun to open a dialogue among faculty that will likely effect a change of practice.

NURSING STUDENTS AND TECHNOLOGY: IS VIRTUAL SIMULATION FEASIBLE?

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Purpose: Simulation learning scenarios are increasingly utilized in nursing education as a way for students to gain experience taking care of patients. Virtual reality is a developing technology where students can participate in nursing simulation scenarios. Student accessibility to virtual reality technology is a potential barrier for implementing this teaching-learning tool. This project will assess the technology needed for virtual reality nursing simulations and the technology available to students enrolled in nursing classes at Boise State University.
Background: There are several virtual reality platforms currently available for instructor-student use, however, Second Life is currently the largest and most well developed. Simulation scenarios can be developed for a traditional lab setting and modified to be used in Second Life. The learning objectives, scenario flow, and debriefing questions remain the same; it is the environment that students participate in that is different.
Description: Based on Second Life technology requirements, a survey was developed to measure students' technology resources, their experience with Second Life, their computer comfort level, and some basic demographical information. Third semester nursing students will be asked to complete an anonymous paper copy of this survey. All other students will be able to complete an anonymous online survey from the department website. Third semester students were selected to complete a paper survey because they will be invited to participate in a Second Life nursing simulation pilot project in the fourth semester.
Importance: Virtual reality simulation scenarios allow for the creation of learning opportunities that are not possible in a lab setting for students. In addition, virtual reality simulations are not limited to students and faculty located in close geographic proximity to each other. In order to utilize virtual reality simulations, faculty must be aware of students' access to technology and their experience with this type of environment. The results of this survey will allow faculty to better understand how the availability of technology will affect the potential use of a virtual reality simulation related to nursing education.

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CONNECTING THE DOTS: LINKING CULTURAL KNOWLEDGE TO CLINICAL PRACTICE

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Purpose: Based on the Campinha-Bacote (2002) model of the process of cultural competence, the purpose of this study is to determine if there is a change in the levels of cultural awareness of and knowledge about cultural health care beliefs and practices following the use of HFS. The second purpose is to explore whether HFS is an effective tool in changing the care behaviors of students when they encounter culturally diverse patients.
Rationale/Conceptual Basis: The demographics of the United States are changing. In order to meet the needs of an increasingly diverse patient population, nurses must be prepared to provide culturally relevant and appropriate care. Culture has been identified as an essential element of nursing education and is found throughout nursing curriculum. 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 connect the dots between theory and practice. Simulation is an effective strategy to provide experiential learning in an interactive safe environment. Heretofore, high fidelity simulation (HFS) has been used to teach technical skills in the context of patient care scenarios with little attention to other nursing care dimensions. Simulation can provide a safe 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: This research addresses the following research questions: (1) Does an in 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 culture care skills and behaviors as measured by expert observation and student focus groups?

The research project is a mixed design method using a convenience sample of 36 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. Nursing experts will rate nursing student cultural skills and behaviors during the intervention. Following the HFS activity, focus groups will be conducted to explore perceived changes in cultural self awareness and knowledge and potential implications for their future nursing practice.
Results: Data collection is in progress and will be completed by February, 2009. Data will be analyzed using qualitative and quantitative data analysis 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) To explore the efficacy of high fidelity simulation (HFS) as a teaching strategy to develop culturally competent nursing practice. (2) To describe the way in which HFS promotes the application of classroom knowledge to clinical practice.

INTERPROFESSIONAL SIMULATED CRITICAL CARE EVENT: NURSING & PT STUDENTS

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Purpose/Aims: The purpose of the simulated critical care event was to facilitate inter- and intra-professional communication and collaborative skills to deliver safe and appropriate evidence-based, patient-centered care. Providing students with opportunities to learn not only assessment of the patient but communication skills with the patient and additional members of the health care team is crucial.

Rationale/Background: The event involved nursing faculty, physical therapy (PT) faculty, and PT students to provide an experiential learning experience utilizing a nursing skills lab, standardized patients, and realistic tubes and equipment. The integration of nursing and PT knowledge and skills was included in the planning and implementation of the event. PT and nursing faculty utilizing adapted critical care scenarios originally created for use with high-fidelity simulation mannequins designed the event.

Brief Description of the Undertaking: Four PT faculty, 2 nursing faculty, and 50 PT students were involved in the morning event. Five PT students acted as the standardized patients. Using standardized patients for the simulation provided the students an opportunity to engage in a dynamic interaction with the patients. The standardized patients were placed in beds with tubes and moulage to simulate the diagnosis and procedures for each scenario. Nursing faculty provided the accurate moulage and placement of tubes for each scenario. The PT students were given approximately 15 minutes to review the patient scenario and then assessed and implemented a plan for the mobility of the critically ill patient. The students were provided an opportunity to employ therapeutic communication and critical thinking skills in a real-life situation. Nursing faculty were present as a source of information for questions of care that arose.

Outcomes Achieved: One serendipitous finding was that the standardized patients self-reported the negative emotions of the critically ill patient: immobilized in bed, attached to several lines and tubes, being addressed by multiple caregivers, and the experience of physical and emotional discomfort. PT students involved in the assessment and planning reported positive outcomes for the communication and assessment of the "patients." The PT students reported a better understanding of the role of nursing in the care of the critically ill patient and the importance of inter-professional communication to facilitate safe and appropriate movement of the patient.

Conclusion: Plans in replicating the event will include nursing, pharmacy, and PT students and faculty. Collaboration and communication between nursing and PT faculty added a layer of appreciation for student and patient issues that arise in the care of patients in the hospital. Students reported an increased awareness of the role of the nurse in the care of the patient and the importance of communication in all issues influencing the safe and appropriate care of all patients.

INTEGRATION OF SIMULATION ACTIVITIES INTO GRADUATE NURSE EDUCATOR CURRICULUM

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Purpose/Aims: This poster will explore the opportunities, experiences and potential of integrating simulation learning activities into a graduate student nurse educator curriculum

Rationale: The successful utilization of high fidelity simulation within undergraduate nursing practice lab students is increasing. In spite of increased advantages of simulations in undergraduate nursing education, development of clinical judgment and end information research, disadvantages have emerged. High expenses, maintenance and repair down time, lack of realism and hesitancy to invest in the simulation strategy have occurred. Integrating simulation into a curriculum is a complicated task and Human Patient Simulator (HPS) by Medical Education Technology Incorporated (METI) were purchased with no plan in place (Ravert and Laney, 2007). Incorporating maximum experience for all undergraduate and graduate students, could improve cost benefit of such an investment. Engaging graduate nursing students in simulations has been limited in the literature.

Description of the Undertaking: This poster will share a plan to grow the simulation experience among the students in undergraduate and graduate programs.

Approach and Method: Simulations Coordinator and Graduate Programs Coordinator will strategize to include graduate students in educator track in the teaching plan, design and teaching of simulations as multiple assignments to develop alternate to classroom teaching practicum over three courses in the curriculum. The graduate educator student will observe simulation as taught in the undergraduate courses, design a traditional teaching plan and adapt the plan to simulation techniques, teach it to peers followed by a teaching plan to undergraduates, and evaluate and re-teach based on student evaluation. Involving graduate students in educator focus simulation development assignment allows for creativity, diversity and innovative experience.

Implications/Significance: This poster presentation provides ideas for nurse educators to connect with all levels of students through simulation practice and debriefing of student needs in simulation exercise. Assignments allow the graduate student an opportunity to assist in scenario development, fulfillment of practice in varied situations and application of technology to case studies method. Implication for practice scenarios can generate evidence-based practice guides and develop real time understanding of core practice concepts as applied in nursing science

TRAIN WRECK: A COMMUNITY HEALTH DISASTER SIMULATION TO ENHANCE THEORETIC LEARNING

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Purpose: The purpose of this project was to provide an interactive and experiential simulated learning opportunity to enhance theoretic learning in the area of disaster response for a baccalaureate level community health nursing course.
Background: High fidelity simulation has been used for psychomotor learning, skill acquisition and evaluation, as well as clinical acute care learning. It was our desire to utilize this strategy to support theoretic learning with a community health emphasis, targeting the affective and cognitive domains. While evidence shows that lecture strategies are the least effective, these strategies are frequently the modality of choice for teaching the theory portion of nursing knowledge in community health nursing.

Disaster education has been identified as a critical component for public health and acute care education. It has become increasingly important to augment the knowledge and synthesis of disaster response education in nursing curriculum; however, the affective and cognitive domains remain largely untapped in current nursing education curricula. Therefore, a need was identified to enhance the experiential learning of our community health students.
Description: A mass casualty simulation scenario was created that incorporated the following simulated characters: victims (including typologies such as mental health, triage, homelessness, and human responses to disasters), nurses, public health nurses, and first responders. A combination of high fidelity simulators and nursing students were identified as victims. Students played the other identified parts. Students received directions and basic scripts to facilitate the simulation. Objectives included: (1) to increase understanding of various human responses to disasters; (2) to increase understanding of the collaboration needed among first responders, governmental health agencies, and public health nurses; and (3) to experience disaster triage.
Outcomes: During debriefing, students were able to verbalize their observations and experiences about collaboration, human response to disasters, and their roles during the disaster simulation. Additionally, students were able to critically dialogue about the experience of disaster response, professional role identification and responsibility, collaborative issues, community needs, and national response to disasters.
Conclusions: As evidenced in debriefing dialogue with students, simulation provided a relevant and experiential learning strategy for affective and cognitive teaching and learning for disaster education for baccalaureate nursing students. Long term assessment of sustained outcomes is critical to the project.

INTERNATIONAL AND NATIONAL NETWORKING TO DEVELOP A JORDANIAN PhD PROGRAM

INTERNATIONAL AND NATIONAL NETWORKING TO DEVELOP A JORDANIAN PHD PROGRAM

A. Elaine Bond, Inaam Khalaf, Manar Nabolsi, Erika Sivarajan Froelicher, Lynn Clark Callister

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DEVELOPING A PHD PROGRAM THROUGH NATIONAL AND INTERNATIONAL NETWORKING

Inaam Khalaf, Manar Nabolsi, A. Elaine Bond, Erika Sivarajan Froelicher

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SUSTAINING A QUALITY DOCTORAL PROGRAM THROUGH NETWORKING

Manar Nabolsi, Inaam Khalaf, A. Elaine Bond, Erika Sivarajan Froelicher

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BEST PRACTICES IN NETWORKING, ADVISING, TEACHING, AND ROLE MODELING

Erika Sivarajan Froelicher, A. Elaine Bond

GLOBAL CONNECTEDNESS: RESEARCH COLLABORATION AND TEACHING

Lynn Clark Callister, Inaam Khalaf, A. Elaine Bond

INTERNATIONAL AND NATIONAL NETWORKING TO DEVELOP A JORDANIAN PhD PROGRAM

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Background & Significance: Jordan, a developing country, initially depended on international PhD education for nursing educators and scholars. As world conditions changed, and as nursing needs increased, there were not enough nursing faculty who could go abroad for education to meet the rapidly growing demand for nurse educators and scholars. Members of the University of Jordan Faculty of Nursing felt they needed to initiate a local PhD Program to prepare additional educators and scholars. Without national networking and collaboration, commitment, and support, such a monumental undertaking would not be possible: Without international networking and collaboration with experienced educators and scholars, such a program would not be feasible.
Conceptual Model: Nursing Faculty from the University of Jordan developed a two-tiered networking and collaboration education model, which involved national and international scholars. This model helped to clarify how to initiate a program that would provide great benefits and advantages to Jordanian society. Such a program required intense preparation and building, plans for sustaining the program, teaching and supervision, coupled with faculty development. The presenters for this symposium will discuss each of these elements.
Program Expectations: While the PhD program was designed to provide educators and scholars, it also had numerous, indirect benefits as well: (1) It provides economic advantages—a local PhD program has lowered the costs for doctoral education, when compared to the cost of study abroad. (2) It provides a cultural advantage—having a PhD program that is sensitive to the needs of the Jordanian population. (3) It provides a great social advantage—a local PhD program provides greater opportunity for Jordanian nurses, especially married women, to study at the doctoral level. Not surprisingly, regardless of the networking to develop and sustain this program, there have been challenges. Nevertheless, the Jordanian PhD program has admitted thirty-seven master's prepared nurses, since its inception in the Fall of 2005. The first candidates will graduate in 2009.

DEVELOPING A PhD PROGRAM THROUGH NATIONAL AND INTERNATIONAL NETWORKING

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Background & Significance: Faculty at the University of Jordan began discussing a PhD program in 2000. They held a Round Table Discussion with international colleagues at the 5th International Nursing Conference, held in Amman in 2001. That discussion helped provide impetus to initiate a model of networking and collaboration to bring the idea to fruition. However, in 2001, there were only two nursing associate professors, and no nursing professors at the University of Jordan. Therefore, based on the regulations and standards of the University of Jordan, beginning a program at that time was not feasible. Nevertheless, faculty members were determined to implement change.

Plan Development: International and national networking identified key elements for a PhD program. A curriculum was developed; The University of Jordan's Dean's Council, the Council of Higher Education, and the Graduate Studies Council gave approval for initiation of the program; Memorandums of Understanding were signed with six international universities; International faculty, both Fulbright Scholars and faculty members from the Memorandums of Understanding Universities, agreed to help teach doctoral courses. Due to limitations in adequate numbers of University of Jordan faculty members, it was obvious that the program needed to be a national program. Nursing faculty members throughout the country completed research projects and published their results to be promoted. Of course there were challenges, including logistical concerns, sustainability, cultural differences, differing paradigms, and expectations. Many challenges have been overcome, while many continue to be addressed.

Conclusion: Four years of efforts, with continual networking among national and international colleagues, laid the groundwork for the program to begin in the Fall of 2005. Additional work needs to be done to sustain the program, and to provide leadership for national faculty members to advise students and to chair dissertation committees.

SUSTAINING A QUALITY DOCTORAL PROGRAM THROUGH NETWORKING

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Background & Significance: Starting and sustaining a quality doctoral program with the current shortage of faculty members requires creative solutions and innovative long range planning. Previously, the college has used Fulbright Scholars, Professors from the international schools that signed Memorandums of Understanding (MOUs), and limited numbers of PhD faculty from other national universities. However, a strategic plan for sustaining a high quality doctoral program not only involves providing appropriate coursework and support for students, but also requires approaches to prepare additional faculty members at the associate and professor ranks, while avoiding a faculty shortage.

Purposes/Aims: The purpose of this discussion is to describe the strategic plan for sustaining a high quality PhD program in Nursing at the University of Jordan.

Approaches: Numerous methods are in place and others are being initiated: (1) Continue to utilize Fulbright Scholars and faculty members from International MOU Universities. (2) Recruit Jordanian faculty as they complete their doctoral work elsewhere. (3) Offer scholarships to prepare faculty with doctoral degrees. (4) Facilitate national and international collaboration and mentorship in research projects. This will provide capacity building as the international faculty guide and support the Jordanian faculty members in grant writing, research, publications, and in supervising and teaching doctoral students. (5) Develop hybrid and online courses.

Conclusion: To achieve sustained success in the preparation of future generations of nursing researchers and educators, hiring new faculty members and providing mentoring programs can help current faculty gain experience as researchers with grant writing, and publications, in preparation to promote more faculty members. Additionally, the exposure of the doctoral students to international experiences through teaching and co-supervision will enhance and enrich students' experiences. This strategic plan can ensure that doctoral students will receive a broad based education, drawing from the strengths of local and international expertise.

BEST PRACTICES IN NETWORKING, ADVISING, TEACHING, AND ROLE MODELING

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Background and Significance: In countries where doctoral education is in its early stages, a number of insights gained from Fulbright Scholars with extensive advising and mentoring experiences can create an environment of optimum learning experiences. This requires adopting innovative methods for doctoral student advising and role modeling for other faculty members.

Discussion: A strong academic foundation that provides a balanced doctoral curriculum, including philosophy, theory, research methodology, and subject matter contents, are essential as the basis for scholarship. Early selection of advisors can ensure that students are given clear direction and guidance from the beginning, without multiple sources of conflicting advice. Students often do not have the sophistication to navigate their way through guidance from multiple advisors.

This advisor assignment/selection needs to be founded on a number of principles: the advisor will ideally have had experience in the student's subject matter area and/or in the methodology that the study question calls for. Students should be able to choose among a number of potential advisees. Early identification of suitable statistical consultation in the design stages, and subsequently in the analysis phase, is as important as the selection of an advisor.

Often, international and in-country faculty are coupled as advisors, which benefits the student, while providing role modeling for the national faculty member, for whom this may be the first advising experience. Such networking benefits the national faculty member, and ultimately provides seamless leadership for the student. Advisors are the advocates and role models for doctoral students. Advocating involves providing students with opportunities for numerous professional experiences, such as submitting abstracts to national and international conferences, writing and submitting manuscripts for publication, addressing reviewer comments, role modeling ethical conduct in research, and informing students on matters relevant to publishing.

Conclusions: Suggestions for some of the most critical considerations about doctoral student advising are offered. These include start early, meet often, and offer constructive advice, guidance and encouragement. Most importantly, provide the kind of role modeling that is optimum for the future of the doctorally prepared faculty that will take on the mantel of leadership of the future nursing profession.

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GLOBAL CONNECTEDNESS: RESEARCH COLLABORATION AND TEACHING

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Background & Significance: The current age of globalization provides the impetus to promote professional interactions that facilitate both international scholarly work and faculty exchange. Therefore, a number of educational institutions and nurse researchers/educators are involved in international scholarly activities such as consultation, collaborative research, and professional exchanges.
Purpose: The purpose of this presentation is to describe global connectedness with nursing colleagues focusing on research collaboration and teaching.
Methods: Models for collaborative international research include: (a) conducting research in a variety of countries; (b) comparing beliefs, values, and cultural practices globally; and (c) active collaborative research teams. Working together provides opportunities to share expertise and mentor novice researchers who are international colleagues. However, collaborative research should be based on addressing complex global health issues including (a) global patterns of health and illness, (b) socio-cultural health/illness beliefs/practices, (c) health care delivery systems and models of nursing care, (d) sustainable development, (e) transitional life events, (f) core competencies for professional nursing practice, (g) promotion of culturally competent care, and (h) evidence-based practice. Challenges and opportunities associated with collaborative international research conducted in Jordan since 1995 examining maternal/newborn and women's health issues will be discussed.
Challenges & Opportunities: Nurse educators teaching internationally have the opportunity to share knowledge and expertise in global settings and provide resources for developing schools of nursing. Challenges and opportunities associated with educational exchanges between a private university in the western United States and a public university in the Middle East will be discussed. Modeling the nurse educator role for doctoral students as well as other faculty helps in professional development. Challenges include bridging cultural differences, grappling with varying pedagogies, and meeting expectations of students, faculty, and administration in different social contexts. Opportunities for growth outweigh the challenges, including the opportunity to connect with committed professionals in the Middle East and facilitate the growth of bright, articulate graduate students. Research collaboration and teaching with international colleagues is a professional and personal enriching experience.

NURSING CURRICULA & PROGRAM INNOVATIONS

CLINICAL INQUIRY PROJECTS IN A DOCTOR OF NURSING PRACTICE PROGRAM

Katherine Crabtree, Mary Frances Drake Pate, Gary Laustsen, Anne Rosenfeld

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CPR SIMULATIONS: RESULTS FROM A PILOT STUDY

Katie Adamson, Suzan Kardong-Edgren

INTEGRATING HUMAN PATIENT SIMULATION INTO NURSING CURRICULUM

Katie Adamson

CAN A GERONTOLOGY COURSE CHANGE STUDENT ATTITUDES TOWARD AGING?

Young-Shin Lee

SCHOLARSHIP, SERVICE, AND PRAXIS: A TRIAD OF FAIR PLAY FOR NURSING STUDENTS

Susan Wechter, Linda Linc

EVALUATION OF RN-BSN EDUCATION: COMPARISON OF TWO UNIVERSITY PROGRAMS

Cherie Rector, Kathleen Gilchrist, Kristine Warner

EVALUATION OF IMPLEMENTATION FIDELITY IN AN RN TO BSN PROGRAM

Jocelyn Anderson

GEOGRAPHICAL INFORMATION SYSTEMS IN NURSING
Robin Pattillo

IDAHO SIMULATION NETWORK:
DIVERSE DISCIPLINES WORKING TOWARD A COMMON GOOD
Robin Pattillo, Marion Constable

INCORPORATING ART INTO BACCALAUREATE NURSING EDUCATION
Linda Pirruccello, Irene Morgan

HEALTH PROFESSIONS DISPARITY IN NURSING:
UNDERREPRESENTATION OF MINORITY STUDENTS
Olivia Catolico, Luanne Linnard-Palmer

GERONTOLOGY CONTENT INFUSION WITHIN PEDIATRIC UNDERGRADUATE NURSING COURSE
Julie Lyn Valentine

CLINICAL INQUIRY PROJECTS IN A DOCTOR OF NURSING PRACTICE PROGRAM

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Purpose: A critical competency for Doctor of Nursing Practice program graduates is improvement of clinical care and health outcomes. The purpose of this paper is to describe how DNP students are prepared to conduct Clinical Inquiry Projects (CIPs) to bridge the gap between generation of knowledge and its translation into practice.

Description: The development of the CIP begins early in the program with the research methods course which focuses on clinical research designs for quality improvement, program evaluation, and other types of relevant studies. Periodically students are asked to describe development and refinement of the project proposal. Information about the setting and population are acquired. An extensive literature review is done and an evidence table created. Students develop a framework for the study and write a proposal with guidance from faculty. A rubric is used to guide evaluation of proposals. A CIP Committee of two doctorally prepared faculty is required with the option of including a reader from the clinical agency. Intensive writing workshops assist students with IRB and plans for protection of human subjects, refinement of methods and statistical analyses. A systems analysis helps identify the stakeholders and the support needed for successful project implementation. Students develop project management plans with timelines to guide implementation.

A financial analysis is completed. Students acquire further knowledge in a substantive area during a nine month clinical residency which is integrated in the CIP project. Collaboration with experts in various disciplines provides opportunities to develop the additional clinical expertise needed and infuses the projects with resources and support.

Outcomes: Data collection, analysis, and interpretation are completed within 4-5 months. The diverse projects have clear clinical impact, involving pediatric pain management, sexually assaulted women, care of returning females veterans, secondary prevention of heart disease and metabolic syndrome. These projects are disseminated in a variety of forms to clinical agencies and professional colleagues.

Conclusions: Commitment to improving practice and competence in using the tools needed to accomplish this are nurtured throughout the program. Consequently, we can expect DNP graduates to lead health care improvements.

CPR SIMULATIONS: RESULTS FROM A PILOT STUDY

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Purpose: The purpose of this study was to evaluate a group of second semester nursing students' retention of Basic Life Support (BLS) skills and their ability to provide effective cardiopulmonary resuscitation (CPR) in a simulated scenario.
Background: Early high-quality CPR and defibrillation are associated with improved survival rates from cardiac arrest. Nurses are frequently the first to witness and respond to in-hospital cardiac arrests and therefore play an essential role in improving patient outcomes from cardiac arrest. However, research examining nurses' competence in performing high quality CPR has consistently shown deficits in this skill area.
Methods: This pilot study was part of a larger study to evaluate learning outcomes between varying fidelity levels of human patient simulation. In the pilot study, groups of second semester nursing students participated in an acute coronary syndrome (ACS) simulation as part of their Nursing Practice in Acute and Chronic Illness course. All students had completed BLS for Healthcare Providers prior to entering the nursing program the previous semester. After the ACS lecture, 8 groups of 4 students participated in an ACS simulation with human patient simulators. The simulation culminated in the patient requiring CPR. The administrator of the scenario prompted the students by saying, "at this point the patient has stopped breathing." The scenarios were video taped and the tapes were used to collect data related to the students' performance of specific CPR and defibrillation skills.
Results: None of the groups performed effective CPR as defined by the American Heart Association. One quarter of the groups correctly initiated the chain of survival by calling a code. None of the students correctly performed any of the key components of effective CPR: shake and shout the victim, give two breaths that enter the lungs, and provide chest compressions in the 30:2 ratio with correct hand placement. All of the groups correctly placed the AED pads on the patient and operated the AED correctly.
Implications: Great emphasis is placed on ensuring that all nursing students are "card carrying" BLS providers. However there is mounting evidence that nursing students are not proficient in providing effective CPR. This could have tragic implications for patients who need CPR in the hospital. Improvements are needed in teaching and reinforcing CPR and resuscitation skills for nursing students. Further research is needed to determine what the best approach is to ensure acquisition and retention of CPR skills.

INTEGRATING HUMAN PATIENT SIMULATION INTO NURSING CURRICULUM

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Purpose: (1) To describe the current human patient simulation (HPS) resources at community and technical colleges in Washington State. (2) To describe experiences, facilitators, barriers, and incentives identified by nursing faculty at Washington State community and technical colleges related to the use of HPS.
Background: Human patient simulation continues to gain importance in nursing education, and nursing programs across the country are investing resources in equipment and training for human patient simulation. Experiences, successes, and challenges should be measured, analyzed, and shared to maximize the potential of this pedagogical approach.
Methods: This study utilized 2 author-designed online surveys to explore the current HPS resources purchased by associate degree nursing programs in Washington State as well as the use of these resources by nursing faculty. Twenty-seven deans and directors of associate degree nursing programs in Washington State were contacted to ask if they would participate in the study and to get permission to contact the nursing faculty at their institution. Eleven participating deans/directors or their designees were sent a survey about current resources, cost, faculty training, and utilization of HPS resources at their institution. Seventy-six nursing faculty from participating institutions were sent a survey about their current use and knowledge of HPS, barriers, or facilitators they identified related to integrating HPS into nursing courses, and opportunities they identified for improving the use of HPS at their institution and throughout nursing education.
Results: Four deans/directors of nursing or their designees responded to the survey about current resources, cost, faculty training and utilization of HPS at their institution and 24 nursing faculty responded to the survey about their current use and knowledge of HPS, barriers or facilitators related to integrating HPS into nursing courses, and opportunities for improving the use of HPS at their institution and throughout nursing education. The responses were analyzed and descriptive statistics were used to assess the baseline data from the surveys completed by the deans/ directors of nursing or their designees. The responses from the surveys completed by the nursing faculty were analyzed for themes. The survey responses indicated that nursing programs spent a disproportionately large amount of money on the initial investment in HPS equipment compared with the ongoing spending on maintenance and support for HPS. Nursing faculty identified barriers to integrating HPS into the courses they teach including lack of time, lack of support, and lack of appropriate equipment. They identified facilitators to integrating HPS into the courses they teach including helpful and thorough training, individual initiative, and support from colleagues and administrators. Finally, the faculty recommended incentives for improving the integration of HPS into the nursing curriculum including the provision of additional paid time for simulation, additional training, and additional support resources.
Implications: Descriptions of the experiences of nursing faculty at community and technical colleges related to their use of HPS provided valuable data for beginning discussions about possible strategies for improving those experiences and maximizing investments made in HPS technology. Further research is needed to evaluate and optimize the integration of HPS into nursing curriculum. The surveys used in this study can now be revised and administered to a larger, more representative sample. This investigation will provide valuable data about what factors contribute to the success of HPS programs and will improve the future of nursing education and health care for our nation and world.

CAN A GERONTOLOGY COURSE CHANGE STUDENT ATTITUDES TOWARD AGING?

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Background: Widespread negative attitudes in society toward aging are obstacles to the recruitment and training of high-quality care providers for the elderly. Few studies, however, have addressed the problems posed by those debilitating attitudes.
Purposes: To determine student attitudes toward older people and investigate the changes in those attitudes through a semester.
Methods: A total of 137 students taking a gerontology course in a nursing program completed three measures twice at the beginning and the end of semesters: (1) Kogan's scale of attitudes toward older people; (2) facts-on-aging quizzes (FAQ); and (3) journal entries expressing the respondents' beliefs, affects, and experience regarding older people. Data from all three measures were quantified and analyzed for positive, negative, physical, and social views.
Results: In the subjective measures (Kogan's attitude scale and journal writing), the respondents reported more positive attitudes than negative attitudes, while the objective measure (facts-on-aging quizzes) indicated a more anti-aged bias than a pro-aged bias. In journal entries, respondents expressed more toward the social and physical functions toward aging than emotional views.

A paired t-test indicated that the respondents showed significant improvements in positive attitudes in all three types of measures and a significant reduction in negative attitudes in Kogan's attitude scale and journal entries. In addition, the journal entries revealed the respondents significantly less expressed in social aspects in journal entries over time. However, the anti-aged bias score in FAQ and physical expressions in journal entries did not reveal a significant difference over time.
Conclusions: The gerontological course education was effective to change student views toward aging. Students significantly improved their positive views and eliminated their negative views toward aging through learning process.

SCHOLARSHIP, SERVICE, AND PRAXIS: A TRIAD OF FAIR PLAY FOR NURSING STUDENTS

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Purpose and Background: Scholarship, service, and praxis are a vital triad of components to incorporate into curriculum for nursing students. Nurse educators are challenged to prepare nurses of the future to embrace these components to enhance the future of the nursing profession. A family health fair was integrated into pediatric curriculum for students to capture this triad in a Bachelors of Science nursing program at a private liberal arts university. Contributions to primary prevention in children's health in a Midwest inner city school system was the ultimate goal of implementing this curriculum. Alarming increases in childhood obesity, teenage substance abuse, infectious diseases, accidents, injuries, environmental hazards, and internet dangers for the pediatric population prompts nurses to investigate strategies that will decrease these problems. Research shows that preventative health programs are effective in decreasing these health risks in children and families (Stanhope and Lancaster, 2006).

Methods and Process: The family health fair was a forum to do preventative health teaching, while supporting scholarship, service, and praxis for nursing students. Individual booths were presented by students to teach children and families topics on nutrition, drug awareness, infection control, first aid, dental health, bike and sport safety, and internet safety. Scholarship was emphasized through student preparation of research papers in support of evidence on each topic prior to the fair. Service was supported by contracting to serve a vulnerable population in an inner city school system. The elementary school principal and school nurse together with the pediatric faculty aligned to serve 400 students and their families by having the fair during parent teacher conferences. Finally, praxis was embraced through reflective evaluation of health prevention teaching strategies by students and faculty after completion of the fair.

Outcomes and Implications: This creative teaching strategy assisted nursing students to practice the vital role of client teaching in a real world setting. Support of scholarship, service, and praxis through education has implications for future nurses to become better prepared to care for patients and families in a demanding health care arena. Recommendations for research would include a follow-up analysis of the effectiveness of preventative teaching. In addition, long-term follow-up of students exposed to this triad would be vital to explore whether an impact was made on their continued scholarship, service, and praxis as registered nurses.

References:
Stanhope, M and Lancaster, J. (2006). Foundations of nursing in the community: Community oriented practice (2nd ed.). St/ Louis: Mosby.

EVALUATION OF RN-BSN EDUCATION: COMPARISON OF TWO UNIVERSITY PROGRAMS

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Purpose: The purpose of this study was to compare and contrast RN-BSN program evaluations at two California State Universities to increase student satisfaction/completion.
Background: One program, CSU Chico, is offered solely online, and the other program, CSU Bakersfield, consists of a mixture of on-campus, Instructional Television (ITV), and online or WebCT-enhanced courses. Individual program evaluations are commonly done.
Description: A 13-item survey asked about overall student experiences and prompted more specific replies including: community health nursing experiences and preparation, most helpful/least helpful classes or experiences, perceived barriers/facilitators and hours worked, as well as suggested changes. Online evaluations (using Survey Monkey®) were completed by RN-BSN graduates at both universities. Emails were sent to 60 CSU Bakersfield and 40 CSU Chico RN-BSN graduates. A total of 12 email addresses were no longer valid (4 CSUB/8 CSUC). Responses were received from a total of 31 graduates (18 CSUB/13 CSUC) for an overall response rate of 35% (32% CSUB and 40.6% CSUC).
Outcomes: The majority of graduates reported a good overall experience (54.8%), with the most frequently cited reason for success as supportive faculty and helpful advising. Community Health Nursing courses were noted as the most helpful (61.2%), along with Senior Practicum (19.3%) and Pathophysiology (16.1%) courses. Few graduates highlighted courses as "least helpful" (<17%), and 42% stated that faculty support helped the most to facilitate their progress in the programs. Almost 26% reported that self-motivation or commitment was "most helpful," and 16% indicated that online and ITV classes were beneficial. Few graduates cited barriers, however, 12.9% mentioned technical problems, and almost 10% experienced a lack of student support/isolation or problems with the schedule/configuration of courses. Lack of online upper division courses outside of nursing was a difficulty for 29% of graduates, and 16.1% reported a burden with the amount of class work required. More than one-third of respondents stated no program changes were required and over 19% found flexible hours in the Community Health Nursing clinical course the most helpful thing about the public health experience. Home visitation and caseloads, along with working in their own communities, were also cited, along with preceptors (12.9% for each). The majority of graduates worked full-time during their course of study (55.6% CSUB and 61.5% CSUC worked between 31-40 hours/week).
Conclusions: Individual programs can benefit from program comparisons that may illuminate further areas of needed improvement that are not always readily apparent in a standard program evaluation. Nurse educators need to find innovative ways to facilitate RN-BSN education and remove barriers, even with flexible online programs. The most important factor identified by RN-BSN students was supportive faculty and advisors. Faculty mentors who took the time to assist RN-BSN students with educational and career planning and helped them navigate the university systems were vital to student success.

EVALUATION OF IMPLEMENTATION FIDELITY IN AN RN TO BSN PROGRAM

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Background/Rationale: The University of Washington Bothell Nursing Program recently completed a complete curriculum revision of its RN to BSN program. As a large program offered on two sites, each core course is offered in multiple sections taught by different faculty. Implementation fidelity is how accurately a program is delivered as it was intended. In evaluating the implementation fidelity of the new curriculum, it was important to assess how consistently the program and course objectives were being implemented across sections of the same core course taught by different instructors. A team of MN students in a graduate course on program planning, implementation, and evaluation collaborated with faculty to accomplish this task.
Purpose: To evaluate the syllabi of the RN-BSN program for implementation fidelity of the new curriculum.
Methods: The MN student evaluation team compared each syllabus with the specific core competencies that were to be addressed in that course. These competencies are based on the AACN Essentials for Baccalaureate Education for Professional Nursing Practice. The classes selected to be reviewed were new five credit core classes developed for the revised curriculum. Each course selected for review combined elements of more than one previously existing 3-credit core courses. The syllabi reviewed were from BNURS 350 (Critical Thinking in Nursing), BNURS 403 (Evidence Based Practice and Nursing Inquiry), BNURS 409 (Practicum with Populations in Community Health Settings), and BNURS 430 (Relational Leadership in Nursing). For each course, the team adapted and customized a worksheet that had been developed by RN-BSN faculty during their curriculum revision process. This worksheet cross-referenced the competencies in the AACN Essentials with their intended course location in the revised curriculum. The evaluation team compared if and how well the identified competencies were applied within the course objectives, assignments, readings, and class activities in each syllabus.
Findings: After reviewing the syllabi, it was clear the instructors developed courses well aligned with the AACN competencies with only a few areas that need improvement. The limitation of the findings is that a review of a syllabus is by no means a conclusive review of a course. By reviewing a syllabus alone, there is no way to determine how each individual class conducts itself, how each assignment is presented in the class, and the dynamics of each unique class and instructor.
Conclusions/Implications: Assessing implementation fidelity in a program is an important step in outcome evaluation. Desired outcomes are linked to a program which is implemented true to its design. A more thorough evaluation of implementation fidelity could be pursued with a revision to the original worksheet used. In the future, using a Likert-type scale that addresses how strongly each essential is reflected in the syllabi with respect to class work, readings, assignments, and other activities would allow for a more quantitative assessment of implementation fidelity.

GEOGRAPHICAL INFORMATION SYSTEMS IN NURSING

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Purpose: The purpose of this systematic review of current literature is to provide an up to date analysis of the use of Geographical Information Systems (GIS) in nursing practice, research, and education.
Rationale: GIS refers to a computer-based system for the integration and analysis of geographic data (1). This rapidly evolving tool provides a graphic mechanism to examine and analyze spatial data. Moss and Schell (2) provided an extensive review of the use of GIS in nursing in 2004, which revealed few applications of GIS by our discipline. Phenomena within the metaparadigms of nursing subject to GIS examination were noted to include person, health, and environment (2). GIS has been used extensively by other health care disciplines to examine the geography of disease, health, and health care (3). An up-to-date review of the use of GIS in nursing is needed to assist further nursing utilization of this powerful tool for inquiry.
Methods: The *CINAHL*, *Cochrane*, and *Gale* databases along with *Google Scholar* were systematically examined. Search terms included "GIS + Nursing," "Geographical Information Systems + Nursing," "Geographic Information Science + Nursing," and the combination of "Geographic Information Systems" or "Geographic Information Science" with "Nursing Education," "Nursing Research," and "Nursing Practice." "Public Health Nursing + GIS" was also included. The search was limited to articles published in the United States in referee journals between January 2004 and December 2008. Articles were identified and reprinted. Articles were then categorized according to areas of nursing focus including education, research, or practice. The articles were then further analyzed for the metaparadigms of person, health, and environment (2). Following classification of articles, summaries relating the focus of each article, population, GIS methods employed, and results will be presented.
Results: Published articles are being systematically added and evaluated until December of 2008. Articles examined so far show a focus on both education and research with environment being an often used metaparadigm.
Implications and Conclusions: GIS is a modern, useful tool to examine spatial data relating to nursing metaparadigms of person, health, and environment. Applications of GIS to nursing practice, education and research are increasing. However, nursing as a discipline has underutilized this tool. Hopefully, publication of this extensive literature review will lead to an increase in the use of GIS as a tool for nursing research, education, and practice.

1. Cromley, E. & McLafferty, S. (2002). *GIS and Public Health*. New York: Guilford.
2. Moss, M. & Schell, M. (2004). GIS © A scientific framework and methodological tool for nursing research. *Advances in Nursing Science,* 27(2), 150-159
3. Gattrell, A. (1999) Health and health care applications. In Paul Lonhgley, M.G. Maquire, & D. Rhind (Eds.), *Geographical Information Systems* (pp. 925-938). New York: John Wiley and Sons.

IDAHO SIMULATION NETWORK: DIVERSE DISCIPLINES WORKING TOWARD A COMMON GOOD

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Purpose: The purpose of this presentation is to discuss the development, current activities, and future goals of the multi-disciplinary Idaho Simulation Network (ISN).
Background: In September 2007, the Idaho Simulation Planning Committee convened the Idaho SimSummitt Meeting in Boise, Idaho. The group included representatives from hospital agencies, academic institutions, administrators, and health care professions including nurses, physicians, and EMS providers. A major goal of the committee was to propose a plan that would lead to orderly development and implementation of current and future simulation efforts throughout the state of Idaho. The committee strongly supported the idea that large economies of scales could be realized by developing strategies to share resources. Simulation equipment and implementation of simulation strategies, whether in health care facilities or academic environments, is expensive. Participants agreed that working together for a common goal of developing and advancing simulation in the state of Idaho was a mechanism to decrease some of these expenses. Additionally, the group wanted to assure quality delivery of simulation experiences in the state. The group looked to successful simulation models previously developed in Oregon, California, and Colorado.
Process: The ISN was developed in a collaborative manner with shared knowledge and learning guiding activities of the network. A fee structure for voluntary participation has been developed. Academic institutions pay a pre-established rate. Hospital participation fees relate to hospital size. EMS agencies pay according to population of area served. Clearly delineated membership opportunities and responsibilities have also been established by the ISN Steering Committee.
Outcomes: The ISN currently has expanding membership from hospitals, academic institutions, health care organizations, and health care disciplines. Activities presented by the ISN have included simulation workshops and conferences. Membership allows access to monthly conference calls for dissemination of simulation development and activities in Idaho. Also, workgroups focusing on simulation activities for Emergency Medical Systems and curricular issues have been established. Both workgroups are developing strategic plans pertinent to the needs of the state.
Conclusion and Recommendations: The Idaho Simulation Network is progressing toward many of its established goals. As membership increases more and more organizations will benefit from this collaboration. Continued development and monitoring of ISN activities are proposed and additional funding resources are being explored.

INCORPORATING ART INTO BACCALAUREATE NURSING EDUCATION

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Purpose: The purpose of this innovative project was to explore the application of art as a medium for beginning baccalaureate nursing students to express their developing concepts of nursing.

Description: An assignment was given during a post-clinical conference in nursing practicum fundamentals. Students were directed to paint a representative picture of what their individual perspectives were of "what it means to be a nurse." Additional instructions included adding a narrative along with the painting to supplement student expression. Art supplies and paper were provided.

Outcomes: Course instructors were initially unsure how students would react to this nontraditional use of clinical educational seminar. Students relished the idea to be involved in this creative experience. There were no signs of hesitation to participate in this project. Students were enthusiastic about this opportunity and participated eagerly. Each student in this clinical section produced one picture and one narrative. Students relayed that they were surprised how effective this teaching method was to bring out deep inner thoughts about what it means to them to be a nurse. The artistic expressions were symbolic rather than concrete renditions. Narrative descriptions were helpful in furthering interpreting the whole meaning behind the art.

Conclusion: Esthetic meanings in nursing education are too often neglected in favor of empirical patterns of knowledge. This project highlighted the value of incorporating "alternate" clinical education techniques. Students benefited from this project by being exposed to other ways of expressing professional role self-image.

HEALTH PROFESSIONS DISPARITY IN NURSING: UNDERREPRESENTATION OF MINORITY STUDENTS

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Purpose: This presentation highlights strategies to recruit and retain underrepresented minorities to the nursing profession at a 4 year private university. Project goals relevant to this presentation were to: (a) increase admissions efforts to recruit minority nursing students, and (b) implement efforts to encourage graduating students to seek out professional employment in underserved areas.

Background: Less than 9% of the 2.2 million nurses employed in the US are African American, Hispanic American, and American Indian (Sullivan Commission, 2004). Persistent socio-cultural, economic, and institutional barriers steer underrepresented minority group members away from nursing (Sullivan Commission, 2004). In California, the overall Hispanic population is 34.8%, yet only 5.6% of the RN workforce is Hispanic. Similarly, the overall African American population comprises 6% in California and the RN African American workforce is less than 4.0% (Center for Health Professions, California, 2008). In attempts to address the health professions disparity gap in nursing, the nursing student body at Dominican University of California reflects successful recruitment of students of color. In Fall 2006, 56% of the undergraduate nursing majors and 37% of the graduate nursing students were students from African American, Hispanic, Asian, and Native American groups (Institutional Research, 2006). Forty-five (45%) BSN degrees were awarded to students from underrepresented minority groups (Institutional Research, 2006). Nonetheless, issues related to admissions, attrition, and academic progression of underrepresented minority students require closer attention and scrutiny.

Method: A focus group consisting of graduate and undergraduate faculty, admissions staff, and undergraduate students of underrepresented minority groups, and a nursing executive of a large county hospital met together to participate in group dialogue. All participants gave permission to be tape-recorded. Participants were informed that personal identities will remain anonymous, and shared information would be used to guide the principal investigators in identifying future actions to address the project goals. The group was led by one of the faculty who set an informal tone at the beginning of the meeting. This allowed students to speak freely and encouraged inquiry and comment from non-students. A semi-structured interview guide with open-ended questions was used to facilitate dialogue. Students were invited to address the following major issues: (a) the single most decisive factor that brought them to the university, (b) the single most difficult hurdle they faced, (c) whether or not they felt supported, (d) whether or not they were getting help and assistance from the nursing faculty to be successful in the program, (e) intent to work in underserved communities after graduation, and (f) intent to pursue advanced education.

Outcomes: Students identified rapid and timely responses from admissions in their decision to attend this university. Financial aid concerns were a commonality to these students. Nonetheless, they perceived the attainment of their educational goal as the single positive motivational factor to continue in the program. All of the students indicated they felt supported academically and identified traits, characteristics, and actions of specific faculty who were especially supportive of them. Students also shared common experiences and interactions with faculty who promulgated discrimination, stereotypes, and prejudices about certain ethnic minority groups. The students in this focus group expressed intent to "give back" to their communities.

Conclusions: The findings of this project have implications for ongoing faculty development and integrated curriculum development in the area of diversity and cultural sensitivity. These findings also have implications for supporting students of underrepresented minority groups, both academically as well as holistically.

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GERONTOLOGY CONTENT INFUSION WITHIN PEDIATRIC UNDERGRADUATE NURSING COURSE

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Purposes/Aims: With the rapidly growing geriatric population, the study of gerontology is an increasingly important focus within current and future undergraduate nursing education. The purpose of this project is to introduce gerontology content within a pediatric undergraduate nursing course.

Rationale/Background: The American Association of Colleges of Nursing (AACN) advises universities to "fully infuse geriatrics into your curriculum" and to "consider innovative ways to integrate content" (Thornlow, Latimer, Kingsborough, & Arietti, 2006, p. iv). Recently Broome (2008) editorialized on the merits of increasing pediatric content in the undergraduate curriculum, and Mezey, et al (2008) presented a counter-editorial for increasing gerontology content in the undergraduate curriculum. In the 2000 United States Census, 2.4 million grandparent caregivers were identified (Simmons & Dye, 2003). Other studies have indicated a significant increase in grandparent caregivers over the past twenty years with 5.5% of children living with grandparents as primary caregivers in 1997 (Grinstead, Leder, Jensen, & Bond, 2003).

Description of the Undertaking including Approach/Methods/Processes: Based on the belief that the existing curriculum element of pediatrics can be enhanced by incorporating a geriatric unit on grandparent caregivers, an instructional development activity, in the form of a podcast, was developed to teach students in pediatrics about the special and unique needs of grandparent caregivers. After viewing the podcast, students were asked to address the question, "How can a nurse, working with a child under the care of a grandparent, provide holistic care incorporating the needs of the grandparent and the child?" within their online reflective journals.

Outcomes Achieved/Documented: This presentation discusses the development and tryout results of the prototype teaching tool for helping undergraduate students understand the importance of incorporating geriatric concepts in the pediatric clinical setting.

Conclusions/Recommendations: Innovative presentations of gerontology content are needed within all aspects of undergraduate nursing education, including pediatric courses, to provide optimal nursing care across the lifespan.

References:

Broome, M.E. (2008). Preserving today with an eye on our future. *Nursing Outlook, 56*, 45-46.

Grinstead, L.N., Leder, S., Jensen, S. & Bond, L. (2003). Review of research on the health of caregiving grandparents. *Journal of Advanced Nursing 44*(3), 318-326.

Mezey, M., Beverly, C., Buckwalter, K., Keller, C., Kolanowski, A., Pepper, G.A., Strumpf, N., Wallhagen, M., Wyman, J.F., Young, H.M., & Archbold, P.G. (2008). Guest editorial: Response to "Preserving today with an eye on our future." *Nursing Outlook, 56*, 141-142. Simmons, T. & Dye, J.L. (2003). Grandparents living with grandchildren: 2000. *Census 2000 Brief*.

Thornlow, D., Latimer, D., Kingsborough, J., & Arietti, L. (2006). Caring for an aging America: a guide for nursing faculty. American Associations of Colleges of Nursing.

NURSING WORKFORCE & WORKPLACE ISSUES

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A PILOT TEST OF A COMPREHENSIVE NURSING WORKLOAD MEASUREMENT SYSTEM

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Purpose: The purpose of this study was to pilot the measurement system for a structural equation model of nursing workload in hospitals. Objectives of the pilot were to determine the measurement protocol for use in the final study, to establish inter-rater reliability of data collectors, establish reliability and validity of measurement instruments, determine data collection costs, and test the effects of subject compensation on sample response rate.
Conceptual Basis: The measurement model was based on the theory of Donabedian (1980) determining elements of structure, function, and process that create demands for nurses and contribute to workload. Additional work by Mitchell (1998) demonstrated the cyclical nature of the model, and Brewer's model (2008) enhanced the conceptual basis by focusing on the contextual elements that impact care delivery.
Methods: Data were collected from nurses using the Work Environment Scale, the Professional Practices Inventory, and a self-assessment of competency. Additional demographic and educational data were collected via survey. Surveys were administered in a private conference room and nurses were compensated with a gift card. Patient level data were collected from assigned nurses via structured interview using a standard set of questions with prescribed response sets. Variable interview methods were tested, including: reading the interview questions, asking the nurse to read the interview questions, and a combination. A research team member also coded responses enabling calculation of inter-rater reliability using Cohen's Kappa. Unit level data were collected from the charge nurse relative to perceived workload and adequacy of nurse staffing.
Results: Fourteen patient care units submitted data representing 69 patients (96% response rate) and 80 nurses (93% response rate). Three data collectors were checked for inter-rater reliability on-site and one was checked with a mock interview in a university setting. The reliability of the Work Environment Survey and the Professional Practice Inventory were all greater than the a priori standard of .80. Users of the interview guide provided feedback that resulted in revisions to both interview questions and response sets. The combination interview method resulted in the most reliable responses. Mock interviews were as effective as on-site interviews in establishing inter-rater reliability. Direct costs per nurse were $37.04 and mean time per survey was 22 minutes.
Conclusions: Engagement of unit leaders, continuous communication with staff, and compensation with gift cards resulted in dramatic response rates. Mean time per data collection element was less than anticipated, providing prospective subject hospitals with more accurate data to determine their time investment. Inter-rater reliability was confirmed with mock interviews as opposed to the more costly on-site interviews. Pilot testing a measurement system can provide actionable information that improves both process and content of research, particularly those in which complex measurement systems are planned, the error of measurement must be minimized, and population representation is critical.

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PRESSURE ULCER PREVENTION: EFFECTS OF DISPOSABLE UNDERPADS VS. WASHABLE UNDERPADS

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Research Objective: To determine if the use of disposable underpads decreases the incidence of hospital-acquired pressure ulcers in the ICU.
Theoretical Framework: Brown's (1995) Perineal dermatitis conceptual framework guides the study. It is based on the Braden Scale and incorporates the Institute of Healthcare Improvement's prevention of pressure ulcer guidelines.
Research Method, Design, Study Sample, and Instruments: A two-group comparison experimental design compares the use of washable underpads to disposable underpads on the prevention of pressure ulcers in the Medical Intensive Care Unit (MICU). The following data are collected during MICU day 1 thru MICU day 5: Age, Daily Braden Scale Score, daily moisture score from Braden Scale Score, daily turning compliance, Day 1 and Day 5 Prealbumin level, and the Sequential Organ Failure Assessment score (SOFA) Score.
Data Analysis Procedure: The data is being analyzed using univariate statistics to describe the sample and bivariate statistics to determine if there was a significance difference in the prevention of pressure ulcers with the use of disposable underpads.
Results: As of June 30, 2008, 13 patients (10 males and 3 females) enrolled in Group 1 (washable underpads) and 11 patients (7 males and 4 females) enrolled in Group 2 (disposable underpads). There are no significant difference between the two groups for the independent variables of age, Braden Scores, moisture scores, and prealbumin level. Group 1 had a higher turning compliance by nurses and higher SOFA Score (more severely ill). Group 1 has 4 occurrences of pressure ulcers compared to Group 2 with no occurrence. Current data support research hypothesis: disposable underpad will decrease the incidence of hospital-acquired pressure ulcers. Data collection continues until November 2009.
Discussion and Implications for Nursing: Hospital acquired pressure ulcer incidence is dependent on many factors, many of which are nurse sensitive. By using disposable underpads to minimize moisture and folds under patients is one strategy to decrease the incidence of hospital-acquired pressure ulcers.

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ROLE CONFLICT, ROLE AMBIGUITY, AND JOB SATISFACTION IN NURSE EXECUTIVES

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Purposes/Aims: The purpose was to determine if Nurse Executives (NEs) perceive role conflict and role ambiguity and if they are satisfied with their current position.
Background: Health care organizations have seen remarkable and unprecedented changes and as a result, the role of the NE has expanded significantly. According to a 2003 study, the average age of an NE is 49 years (Ballein Search Partners, 2003) with many expected to retire over the next 12 years. The potential exists for a leadership vacuum. Despite drastic changes in health care and nursing practice, changes in nursing education have not kept pace.
Methods: A cross sectional survey of 1000 members of AONE was conducted with the Job Conflict and Ambiguity Scale developed by House, Schuler, and Levanoni , the Job Satisfaction Index developed by Schriesheim and Tsui, and the Center for Epidemiological Studies Depression Scale as developed by Lenore Radloff. Participants had the option of participating electronically or via paper surveys. The data were analyzed using descriptive statistics, MANOVA, and *t* test comparisons with a previous survey.
Results: The data revealed low to moderate levels of role conflict (3.04) and role ambiguity (2.91), high levels of job satisfaction (4.01), and low levels of depression (7.42) among those surveyed. No relationship was identified between NE age and any of the four dependent variables; with some degree of relationship with educational level.
Implications: This study provided a baseline of the status and condition of the NE. Further research should include leadership skills, strengths, weaknesses, and coping strategies of the nurse executive.

A COMPARISON OF BURNOUT IN ONCOLOGY NURSES

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Purpose: The purpose of this study is to explore the presence of burnout in oncology nurses working in adult and pediatric inpatient and outpatient settings at St. Luke's Regional Medical Center and examine the extent to which demographic factors influence burnout in this population.

Background: Burnout is a gradual process beginning with enthusiasm, advancing to stagnation, augmenting to frustration, and ultimately resulting in apathy (Lewis, 1999). Nurses suffering from burnout experience a decline in quality of work, conflict with colleagues, indifference and cynicism towards patients, increased alcohol intake, family pressure, relationship breakdowns, and increased irritability (Quattrin et al., 2006). Nurses who work in oncology are at an increased risk for burnout because of the intense and ongoing losses inherent to oncology nursing (Lewis, 1999). The majority of literature on burnout focuses on the presence of burnout in a single nursing unit; however there is a gap in the literature when comparing the presence of burnout on pediatric and adult inpatient and outpatient settings.

Implications: Cancer nurses are a valuable resource and retention of oncology nurses is vitally important (Barrett, 2004). Burnout is costly, not only in turnover, but it affects quality patient care. Nurses who remain in areas where burnout is endemic have shown signs of increased rates of absenteeism and reduced productivity (Leiter, Harvie, & Frizzell, 1999). Burnout results from prolonged high levels of stress at work, and when left untreated can result in an exodus of health care works from the emotionally intense situations.

Methodology: This study has received approval from the St. Luke's Regional Medical Center Institutional Review Board. The research is a descriptive, correlational study that is designed to examine the presence of burnout in oncology nurses working in inpatient and outpatient adult and pediatric oncology units. Licensed Registered Nurses will be asked to complete three questionnaires: the Maslach Burnout Questionnaire, a questionnaire on nursing satisfaction, and a demographic data questionnaire developed by the researchers. Data will be analyzed to evaluate factors that are closely associated with burnout and also to compare levels of burnout in adult and pediatric inpatient and outpatient settings.

References:

Barrett, L. & Yates, P. (2002). Oncology/hematology nurses: A study of job satisfaction, burnout, and intention to leave the specialty. *Australian Health Review,* 25(3), 109-121.

Lewis, A. (1999). Reducing burnout: development of an oncology staff bereavement program. *Oncology Nursing Forum,* 26(6), 1065-1069.

Quattrin, R., Zanini, A., Nascig, E., Annunziata, M., Calligaris, L., & Brusaferro, S. (2006). Level of burnout among nurses working in oncology in an Italian region. *Oncology Nursing Forum,* 33(4), 815-820.

EXAMINING NURSING SURVEILLANCE IN THE ACUTE CARE SETTING

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Purpose/Aim: The purpose of this study is to identify and describe concepts of nursing surveillance by describing a surveillance event in the acute care setting.
Rationale/Background: Surveillance has been described as an important antecedent of the outcome failure-to-rescue (FTR), defined as the inability to prevent a hospitalized patient from deteriorating after an adverse occurrence or complication has occurred (Aiken, 2003). Nurses conduct surveillance to recognize complications early and initiate action to prevent mortality. While more literature is emerging on FTR, the role of surveillance still remains elusive. In order to prevent FTR events, it is important to understand the antecedent of surveillance and its role in decreasing the FTR rate.
Methods: A systematic review of the literature identified definitions of surveillance across disciplines and identified attributes of nursing surveillance. Semi-structured interview questions developed from the literature and were used to elicit concepts associated with surveillance in the clinical setting from 10 acute care nurses. Calling the rapid response team (RRT) was used as a proxy for nursing surveillance and each nurse interviewed has called the team at least once. Registered nurses were asked questions about the monitoring, assessing, critical thinking, and evaluation in the events leading up to the initiation of the RRT. Interviews were recorded and transcribed and detailed coding of the recorded transcripts identified themes associated with nursing surveillance.
Outcomes Achieved/Documented: Three relevant categories of themes were identified from the interviews: intuitive thinking, patient safety, and team support. Intuitive thinking was supported by evidence in the literature, aligning with concepts of expertise and decision making to keep patients safe. Nurses identified teamwork concepts of "all hands on deck" to pool knowledge and experience when patients were deteriorating. While thoughts of anxiety and apprehension were associated with the event, nurse's confidence was increased with teamwork and decision making to initiate the RRT.
Conclusions: This study identified and described concepts associated with nursing surveillance. Future research is needed to evaluate nursing surveillance in other situations and settings. This work will help develop items for an instrument to measure nursing surveillance and examine the system characteristics that influence it. Examining surveillance can contribute to the understanding and prevention of FTR events.

BIAS IN THE NURSING WORKPLACE: IMPLICATIONS FOR RETENTION

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Purpose and Aims: The nursing shortage coupled with health inequities makes it imperative to retain nurses, and especially nurses of color in the workplace. The purpose of this study was to measure the prevalence of bias in the nursing workplace. Further aims were to develop and test a scale to measure bias in the workplace and to develop an operational definition of the term "bias" from data provided by nurses participating in the study.
Rationale/Conceptual Basis/Background: While some studies have been conducted on implicit bias in health providers, there has been little written about the experiences of nurses of color, or even nurses in general, concerning bias between nurses in the workplace. It is known that the work environment affects retention of nurses. Thus, discovering how much bias is occurring, what constitutes bias as experienced by nurses, and how it relates to intention to stay or leave a place of employment are important to the retention of nurses in the workplace.
Methods: Human Subjects permission was obtained from the University of Washington prior to beginning the study. The survey consisted of 22 questions and a demographic questionnaire. The survey tool was designed to measure the prevalence of bias and the effects of bias on nurse retention in the nursing workplace. Questions for the survey were created based on a review of the literature as well as from data obtained during a prior study with Latina nurses and nursing students. Nurses attending a national conference were given information about the study then asked to complete the study instrument. The instrument included a Likert-like scale as well as questions about descriptions of bias requiring short answers. The demographic form included questions about age, gender, level of education, presence of an accent, and intention to remain in the participants' current workplace.
Results: Data from the study indicate that nurses of color experienced bias on a regular and ongoing basis, and also reported witnessing it on a regular and ongoing basis. White nurses reported that they rarely experienced bias, and reported rarely witnessing bias. There was a positive correlation between experiencing bias and intent to leave employment.
Implications: As the nursing shortage continues and increases in severity, retaining nurses becomes as important as creating new nurses. We cannot afford to lose nurses because of bias. Nurse managers, hospital administrators, and nurse educators must develop strategies to support nurses of color as well as to educate and promote non-biased interactions between nurses in the workplace. Further study is planned and will include surveying a greater number of nurses of color from a variety of racial/ethnic groups, as well as nurses across a health care system. Higher numbers are needed to continue to test the validity and reliability of the study instrument.

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INTERPERSONAL RELATIONS AND SUICIDAL IDEATION IN NURSES IN KOREA

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Purpose: The purpose of this descriptive study was to identify relationship among types of interpersonal relationship and suicidal ideation in Nurses in Korea.
Background: The types of interpersonal relationship among nurses have been considered as major variables to influencing factors on health care problem and suicidal ideation. However, little research has been done on interpersonal relationship and suicidal ideation among the nurses in Korea.
Methods: Data were collected over a 3 month period on 274 nurses in 2 national cancer hospitals and 3 general hospitals in Korea. Validated questionnaires were used to suicidal ideation scales and interpersonal relationship scales. Data were analyzed using descriptive statistics, pearson correlations.
Results: Results indicated significant negative correlation with the stable type of interpersonal relationship with suicidal ideation ($P<.05$). Also suicidal ideation showed positive correlation with the denial type and fear type of interpersonal relationship ($P<.05$). Therefore the stable type of interpersonal relationship decreased suicidal ideation and the denial fear types of interpersonal relationship increased suicidal ideation. Data from this study suggest that stable, denial, and fear types of interpersonal relationship are significant influencing factors on suicidal ideation in nurses in Korea.
Implications: These results have important implications for the development and testing of suicidal prevention program for the nurses in Korea. In developing suicidal prevention program, the major influencing variables described above need to be carefully evaluated. As the suicide rate continues to increase, it is essential to develop nursing interventions that are cost effective and maximize interpersonal skill.

MOTIVATORS AND BARRIERS TO RETURNING TO SCHOOL FOR ADVANCED NURSING DEGREES

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Purpose: The purpose of this study was to examine factors that promote or prevent registered nurses from returning to school to obtain advanced degrees.
Background: There is no question that more nurses are needed to meet the diverse health care needs of Americans. In fact, nursing will continue to be the highest demand occupation through at least 2012. But the area in which the greatest nursing shortage exists is at the master's and doctoral level. Advance practice nurses increasingly fill gaps in primary and acute care and provide leadership at unit and organizational levels. Doctorally prepared nurse scientists are essential in producing and disseminating new knowledge and theories to improve health and advance the profession. Yet a 2004 nationwide nursing survey conducted by the Health Resources and Services Administration revealed that a meager 13% of the profession held degrees at the master's or doctoral level. In the state of Nevada, the picture is much worse. In 2005, a survey of licensed registered nurses in Nevada revealed that only 8.3% held master's degrees and a mere 0.8% held doctoral degrees.
Methods: A descriptive survey design was employed. A survey composed of 14 demographic and 17 Likert-type questions was developed by the researchers for online access. A survey invitation postcard was mailed to 2,500 randomly selected Nevada registered nurses. A reminder postcard was sent three weeks later. Data were analyzed using descriptive statistics and content analysis for written participant comments to determine themes.
Results: One hundred and thirty four completed responses were obtained. Thirty percent of respondents had 5 to 15 years of work experience and 54% had over 15 years. Eighty-two percent were currently working as RNs and 85% were working full time and not attending school for advanced degrees. Respondents reported personal enrichment, salary, and job promotion as the most common motivators, while family obligations and work schedules were the most common barriers to returning to school. Seventy-four respondents also provided written comments regarding motivators and barriers to returning to school. Themes included the need to have an in-state DNP, more program flexibility to accommodate home and work schedules, the need for a fast track RN to MSN program, and considering BS to MSN and PhD options.
Conclusions: The small *n* of this sample precludes the ability to generalize any findings. Yet it is clear that nurses desire a return to nursing school to obtain an advanced degree. However, family obligations and work schedules appear to be major barriers. The need for an in-state DNP program within the state university system is important. A working committee composed of nursing faculty from 2 Nevada Schools of Nursing has been established to develop this education program for Nevada nurses.

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NURSING STUDENTS' PERCEPTIONS OF THE NURSING SHORTAGE

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Purpose and Background: A qualitative research study examining undergraduate nursing students' perceptions of the nursing shortage was conducted by six doctoral students in nursing as part of their Qualitative Research course. The purpose of the study was to explore individual nursing students' perception of the shortage and the implications on their education and future opportunities. Although students had been surveyed regarding issues associated with the shortage, no research engaged them in a discussion of their perceptions of the shortage and the impact on their learning and career decisions.
Methods: A convenience sample of 12 nursing students from associate degree and bachelor degree programs across the United States were recruited by the student researchers. A semi-structured interview approach was used to explore the participants' perceptions of the nursing shortage and its influence on their education and future opportunities. Structured questions were followed up with probes specific to the participants' responses, such that each participant was encouraged to fully explain his or her unique experiences and perceptions. The interviews were transcribed and analyzed through a series of steps based on immersion and crystallization techniques which provided an iterative, contemplative and reflexive approach to data analysis. Each student researcher analyzed his/her own interviews first and then engaged in a group process to develop thematic categories across all interviews.
Results: Five common themes were identified among the participants that included: (1) reasons for entering the profession, (2) difficulties in the nursing curriculum, (3) issues with the actual work of nurses, (4) opportunities related to the nursing shortage, and (5) challenges and fears of the students.
Implications: These results identified a variety of suggestions by nursing students on ways to improve their learning and preparation for the challenges in the current health care arena. Implications from the results of this study are directed toward informing educators in nursing programs and nurse preceptors in health care settings of these suggestions. This will ensure enhanced recruitment and retention of the people who will inevitably resolve the shortage of nurses in the future.

TYPES OF BULLYING BEHAVIORS ASSOCIATED WITH SELECTED CHARACTERISTICS

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Purpose: The purpose of this study was to examine the prevalence and types of bullying behaviors associated with gender, age, education level, sexual orientation, and ethnicity.
Background: With the well-documented nursing shortage, studies have focused on understanding ways to retain nurses. The nursing practice environment seems to be a major influence in nurse recruitment and retention. However, only recently have studies begun to focus on negative workplace effects, finding an association between this negative environment and propensity by nurses to leave their current job and also the nursing profession.
Methods: A descriptive study was done to determine the overall prevalence of bullying and to examine if selected demographic variables were associated with certain types of bullying behaviors. The Negative Acts Questionnaire-Revised (NAQ-r) was sent to 767 nurses who were members of the Washington State Emergency Nurses Association.
Results: The return rate was 32.5%. Using answers about 22 bullying behaviors and the operational definition that bullying exists when an individual experienced two or more negative acts weekly or more often for six months, the overall bullying rate was 27.3%. When bullying behaviors were simply counted, there were no significant differences by gender, age, education level, sexual orientation, and ethnicity. However, additional analysis was done to determine if specific types of bullying behaviors were experienced based on these variables. Factor analysis was done using principal component analysis extraction with varimax rotation with Kaiser normalization. Five factors were identified which accounted for 55.8% of the variance. These factors were: (1) Hostile Environment Factor (six behaviors), (2) Work Devaluation Factor (seven behaviors), (3) Personal Ridicule Factor (three behaviors), (4) Intimidation Factor (three behaviors), and (5) Slander Factor (two behaviors). Using these factors, no significant differences were found based on gender, age, or education level. However, significant differences were found in the types of behaviors experienced by subjects who identified themselves either as gay/lesbian/bisexual/transgender (GLBT) or as non-white ethnicity. The GLBT subjects (n=10) had higher factor scores on the Intimidation Factor (p=.049) and also on the Slander Factor (p=.06). Those who identified their ethnicity as non-white (n=19) had a higher factor score on Personal Ridicule Factor (p=.004).
Implications: There is a paucity of studies that look at bullying behaviors beyond calculation of prevalence rates. This study is unique in that it begins to provide information as to the specific type of bullying behaviors experienced by nurses who might be potentially marginalized. While further research is needed, information about specific patterns of bullying will help define potential interventions that might be used to stop these types of behaviors. The need for interventions is even more critical in that the literature reports that many bullied nurses chose to leave their job, as alternative organizational procedures do not stop the bullying. In fact, in this study, nurses who were bullied were more likely to plan leave their job (p<.001) and the nursing profession (p<.001). Thus, in addition to the social justice issues associated with the need to reduce bullying, there are the economic costs associated when a nurse leaves the organization.

STAFF TRAINING IN ASSISTED-LIVING RESIDENCES: EVALUATING TREATMENT IMPLEMENTATION

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Purpose: This paper is a report of an evaluation of treatment implementation of a multi-modal approach to training direct care workers (DCW) in dementia care strategies for residents of assisted living (AL) settings.

Background: Effective approaches for improving dementia care in AL are increasingly important given a high prevalence of cognitive impairment, depression, and behavioral symptoms in older adults. The importance of effective training programs for DCW in AL is highlighted by reports of inadequate dementia training, limited communication systems, and limited supervision of DCW. Evaluation of treatment implementation is critical for credible and reliable interventions and for planning successful translation of evidence-based treatment programs into the context of practice settings. There are limited reports on treatment implementation in general and none addressing the issue in AL settings.

Design and Methods: Forty-four DCW in 8 AL settings in 3 states participated in Staff Training in Assisted-living Residences (STAR) an evidence-based training program. Multi-modal dementia care strategies were taught to DCW by trained interventionists with the goal of augmenting skills of DCW who approach, interact, and care for residents with dementia. Comprehensive treatment implementation components were assessed utilizing observations and surveys of interventionists and AL supervisors and self-report of DCW.

Results: Findings indicate that the program was delivered as intended in diverse AL settings and DCW understood and were able to clearly demonstrate new skills. Furthermore, successful enactment of STAR strategies in "real life" was reflected by self-report and observations of DCW successfully using strategies aimed at improving the affect and behaviors of residents with dementia.

Implications: AL will continue to grow as an option for individuals with cognitive impairment, therefore identifying and developing effective intervention strategies will only become more important. Translation of evidence-based interventions in AL will be strengthened by research and adaptations informed by comprehensive evaluations of treatment implementation.

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UNDERSTANDING WORKPLACE STRESS AMONG NURSE MANAGERS

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Introduction and Background: Nurse managers are the direct interface between upper management and the point of care nurse providers. The literature is replete with evidence about the importance of nurse managers in establishing a positive work environment, increasing or maintaining job satisfaction, and helping retain nurses. Unfortunately, many nurse managers feel the compression of competing priorities, such as organizational performance and budgetary targets, staff needs, physician demands, and regulatory and compliance requirements. We expect this role to become more demanding, with nurse managers experiencing significant and increasing workplace stress, which may hamper the ability of the nurse managers to be successful in their roles.

Purpose: This study adopts an interdisciplinary approach to measuring the sources and outcomes of workplace stress experienced by nurse managers working in acute care health care settings. The relationships between stressors and outcomes and the hospital characteristics (e.g., Magnet status, unionization, academic settings, specialty hospitals, hospital size, rural or urban setting) that buffer managers from stress-related outcomes will be reported.

Significance: This study is significant because of the influence that nurse managers have on their clinical nurses. It is also increasingly difficult to recruit and retain nurse managers because of the role stress they experience. Aspiring nurse leaders have many other options to further their careers without assuming the stress of the management position. Identifying the stressors and outcomes experienced by nurse managers will offer insight into potential interventions that can be developed to facilitate their success in the leadership role.

Conceptual Framework: This study is based on the General Stress Model and Role Stress Theory from organizational psychology. A conceptual model illustrates the relationships among the variables of: (1) workplace stressors, such as role conflict, role overload, role ambiguity, interpersonal conflict, and organization constraints; (2) outcomes, such as burnout, job satisfaction, organizational commitment, and turnover; and (3) hospital characteristics as moderators of stress, such as Magnet designation, unionization status, and affiliation/type/size.

Methods: The study uses a cross-sectional, correlational design with a non-probability convenience sample drawn from a population of nurse managers working in 34 hospitals in the southwest region of the US. The sample size is expected to be approximately 400 subjects and includes nurse managers with 24/7 or 12/7 direct supervision of clinical nurses. Study variables (stressors, moderators, and outcomes) are measured using previously published scales with demonstrated psychometric properties. IRB approvals have been obtained from SDSU and each study site.

Results: Data collection is approximately 60% complete as of October 2008 and will be completed by December 2008. Data will be analyzed and results ready for presentation by March 2009.

Funding: This research was supported in part by the 2008 Sayre Memorial Fund from ANF.

IMPLEMENTING RESEARCH: IMPROVING CARE OF PATIENTS WITH PRESSURE ULCERS

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Purpose/Aim: Incidence of pressure ulcers in acute care have increased due to an aging population, chronicity, increased medical advancements, and issues with nursing care. The Centers for Medicare and Medicaid have recently adopted new regulations which significantly impact reimbursement requiring hospitals to identify patients with pressure ulcers upon admission versus patients who acquire pressure ulcers during their hospital stay. These new regulations were the impetus behind a community hospital reviewing their policies, practice, and care of patients with pressure ulcers. New evidence was identified, current care practices were measured and benchmarked, and changes in practice were implemented resulting in improved performance. The purpose of this study is to outline the quality improvement process, implementation of new nursing practice, and describe positive results which have demonstrated improved performance and care in patients with pressure ulcers.

Background: Pressure ulcers are a significant challenge in the care of patients resulting in questionable quality, increased patient costs, decreased reimbursement, and quality of life issues for patients. Nurses are an important factor in the prevention and care of patients with pressure ulcers. Evidence suggests if nurses understand how to appropriately assess patients for risk factors and implement appropriate preventative and treatment measures, pressure ulcers can be prevented and treated leading to improved quality of care. However, changing nursing practice based on evidence can be very difficult and challenging. Evidence suggests the success of translating research into practice is based upon understanding current evidence, appropriate staff training, and consistent follow up for compliance monitoring.

Methods: Using the quality improvement model and evidence from translating research into practice/implementation science, a community hospital instituted changes in the process of identification and care of patients with pressure ulcers. Data was collected pre and post intervention to measure prevention and treatment of patients with pressure ulcers along with outcomes of the change process.

Results: Significant differences between pre and post implementation were identified and improved performance was noted in the identification and care of patients with pressure ulcers. Ongoing and continual measurement and improvement in care of this population continues.

Implications: Patients who are at risk for developing pressure ulcers or care of the patient with pressure ulcers continues to provide challenges to nursing staff and hospitals. Understanding and utilizing the best evidence is important in the care of patients with pressure ulcers. In addition, understanding and implementing new and successful changes into nursing practice is a necessity in the current health care environment.

ASSESSING MENTORING EXPERIENCES AND EXPECTATIONS AMONG NURSE PRACTITIONERS

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Purpose: The purpose of this project was to complete a needs assessment focused on exploring, identifying, and understanding Utah Nurse Practitioners (UNP) members' mentoring needs, experiences, and expectations.
Background: As nurse practitioners (NPs) graduate and transition from the academic setting to independent clinical practice, a tumultuous role transition takes place. The role of the nurse practitioner is multi-faceted, complex, and extends well beyond the role of the registered nurse creating multiple role transitions and professional challenges. Little information exists in the literature regarding mentoring needs, experiences, and expectations of NPs across the range of years of experience.
Methods: A convenience sample was utilized of nurse practitioners who are current members of Utah Nurse Practitioners, Inc., with recruitment through current UNP email list. The study design was a cross sectional, descriptive research design, predominantly quantitative, with a qualitative adjunct. The needs assessment questionnaire was completed in September 2008 online through SurveyMonkey to address the mentoring experiences and expectations among nurse practitioners in Utah. Data analysis is descriptive, including both quantitative and qualitative analysis.
Results: Overall the majority of mentee (87.2%) and mentor (80.4%) experiences were reported as positive. Positive experiences identified by mentees included support, encouragement, patient and practice management, and development of the professional role. Negative experiences as a mentee were reported by 19.1% of respondents and included mentors who were not supportive or did not understand the NP role. Positive experiences as a mentor were reported (80.4%) and included personal satisfaction and the ability to teach patient management and give professional advice. Negative mentoring experiences were reported by 40.4% of respondents and focused on the time requirements of mentoring as well as mentor/mentee relationship issues. Many respondents reported difficulty with role transition and cited lack of preparation, confidence, and support as contributing to this challenge. Two respondents (4.8%) reported feeling confident to assume the new role of nurse practitioner. Forty respondents (85.1%) felt that a mentoring program for NPs would be helpful and the majority would be willing to act as a mentor.
Implications: As NPs continue to provide primary care services for an increasing number of Americans, support for post graduate mentoring programs will be necessary. In 2003, 25% of the NP graduates had less than 5 years experience and less than 10% of graduates reported feeling well prepared to assume the role of the NP. Assessing and identifying mentoring needs is important, as funding is sought to facilitate development of new mentoring programs. Understanding the needs of newer NP graduates as well as the experiences of the more seasoned NP will help foster creation of valuable mentoring programs. These programs can facilitate successful role transition and contribute to the addition of necessary human resources to address the shortage of primary care providers in the US today.

HOW RAPID RESPONSE TEAMS PERFORM AS A TEAM

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Purpose: The purpose of this qualitative study is to explore and describe the factors perceived to contribute to team performance of a Rapid Response Team (RRT) from the perspective of the RRT members and those involved in the design, implementation, and evaluation of the RRT at a large, teaching hospital that has a two year history with this safety intervention and has demonstrated an evolution in their process of identifying patients at risk for clinical instability and successfully rescuing these patients.
Background: Safe health care service delivery systems prevent avoidable deaths. Specifically, research reveals that signs and symptoms of clinical deterioration and impending code arrest are present six to eight hours prior (Franklin and Matthew, 1994; Hillman et al., 2001). This evidence has brought to light that code arrests are preventable and patient's symptoms and clinical status should be managed to prevent this adverse event. Not to do so constitutes an error. One care process/safety intervention designed specifically to identify and manage patients who are at risk, clinically unstable, or deteriorating is the rapid response team (RRT). A RRT is a responding team designed to address a patient crisis and mediate a mismatch between available unit-level resources and the immediate needs of unstable hospitalized patients (DeVita et al., 2006). Teams are the critical component of any rapid response system. The IOM identifies the development of effective teams as a redesign imperative and views high performing patient-centered teams as a fundamental component of the care system for the 21st century (IOM, 2001). Yet, the focus of most of the literature on RRTs has been only on the outcomes of this safety intervention through reporting of mortality rates, frequency of non-ICU code arrests, and unplanned admissions to the ICU. A description of how a RRT responds and performs as a team is needed.
Methods: This qualitative study using grounded theory methodology has been carried out in a large, public, teaching hospital in the northern California bay area. Observation and semi-structured interview methods were used to identify the factors that contribute to performance of the RRT. Nine observations were conducted of RRTs responding to calls from eight in-patient units and one ambulatory clinic on various days, including Saturday and Sunday. Data from field notes will be used to inform analysis of the narrative data. Narrative data regarding team structure, communication processes, and team effectiveness was collected in private, semi-structured interviews. Theoretical sampling was used to select 23 key informants. Interviews were digitally audio-recorded and transcribed verbatim. Qualitative content analysis including coding, comparing, contrasting, and categorizing data will be carried out using a grounded theory approach for data analysis.
Results: Data analysis will be completed by February 2009**.** Findings will be presented.
Implications: Findings from this study have implications for identifying the unique and challenging structure employed by RRTs, as often, the team members responding are different each time. Such loosely coupled teams have little opportunity to develop team skills. Teams such as these, even when they function expertly to respond to patient needs, may have a greater need for team work training than teams that work together regularly and who are under less time pressure to perform.

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AHRQ PATIENT SAFETY INDICATOR VALIDATION PILOT AND ITS RELEVANCE TO NURSING

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Purpose: The Patient Safety Indicator (PSI) Validation Pilot Project was designed to: develop medical record abstraction tools, gather evidence on criterion validity through medical record review, improve guidance about how to interpret PSI rates, evaluate potential specification changes, and pilot a system for ongoing validation studies. **Rationale:** Hospitalized patients are at high risk for iatrogenic complications and safety-related events. The AHRQ PSIs, based on ICD-9-CM discharge data in the US, has become a widely used tool for identifying these potentially preventable and often serious events.
Methods: The study was divided into three temporal phases. In Phase I, the focus of this presentation, we set out to determine the positive predictive value (PPV) (the proportion of all positive cases that were true positives) of five PSIs (Accidental Puncture or Laceration, Iatrogenic Pneumothorax, Postoperative DVT/PE, Postoperative Sepsis, and Selected Infections Due to Medical Care). Phase II is addressing the PPV of five additional PSIs (Foreign Body, Postoperative Hemorrhage or Hematoma, Postoperative Metabolic Derangement, Postoperative Wound Dehiscence, and Postoperative Respiratory Failure). Phase III is addressing missed cases (sensitivity or false negatives). For Phase I, volunteer hospitals across the US were recruited to abstract up to 30 records flagged as positive per PSI per hospital using standard medical record abstraction tools. Besides case ascertainment, abstraction tools targeted processes of care, diagnosis, treatment and associated outcomes. Support to volunteers was provided through training webinars, written documents, electronic discussions, and central feedback.
Results: For "postoperative DVT/PE" (N=155; 25 hospitals), the PPV was 83%, although it dropped to 48% if pre-operative thromboses and thromboses involving superficial, upper extremity, and thoracic veins were classified as incorrect or false positive cases. The PPV for "postoperative sepsis" (N=164; 21 hospitals) was 68%. For "selected infections due to medical care" (N=189; 27 hospitals), PPV was 61% with 54% of confirmed events being central-catheter-related. For "accidental puncture and laceration" (N=250; 22 hospitals), the PPV was 91% with 69% of events requiring a reparative procedure. PPV for "iatrogenic pneumothorax" (N=200; 28 hospitals) was 78% with 42% of events due to Central-Venous-Catheter placement. Abstracted data on nursing interventions that may affect these PSI rates include postoperative ambulation, DVT prophylaxis, management of indwelling catheters, PICC insertion, central catheter management, surgical site prep, and antibiotic management in the surgical patient.
Implications: The PPVs of the phase I AHRQ PSIs in a sample of US hospitals varied from 61 to 91%. Proposed coding changes and use of "present on admission" data is expected to improve most of these PPVs. Additional work is needed before using the PSIs for national reporting or pay-for-performance. The PSIs can be used internally to evaluate patient safety through the review of rates and flagged cases. Abstraction tools may be used to further assess processes of care and related-outcomes, such as those associated with nursing care. Phase I indicators most relevant to nursing include: postoperative DVT/PE, selected infections due to medical care, and postoperative sepsis.

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

OVERVIEW: NUTRITIONAL STATUS IN A SENIOR POPULATION:
A CLASS PROJECT
Karen Zulkowski

INTRODUCTION OF GERIATRIC CONTENT IN AN UNDERGRADUATE RESEARCH CLASS
Gretchen McNeely, Karen Zulkowski

COMPARISON OF TWO NUTRITIONAL INSTRUMENTS
Julie Pullen

RELATIONSHIP BETWEEN SLEEP, DEPRESSION, QUALITY OF LIFE, AND IADLS ON NUTRITIONAL STATUS
Carol Moore

EXAMINATION OF PREDICTIVE FACTORS FOR NUTRITIONAL STATUS IN OLDER ADULTS
Karen Zulkowski

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

Overview: Nutritional Status in a Senior Population: A Class Project

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Conducting a meaningful "hands-on" project as part of an undergraduate research course is challenging. Consequently, Fall semester 2008 we decided to conduct a project that would add needed geriatric contact and provide useful data on senior citizens in Billings, MT. The aims of this study were to (a) examine the relationship between sleep, depression, quality of life, and Instrumental Activities of Daily Living (IADL) on nutritional status; (b) compare 2 nutritional instruments (Mini Nutritional Assessment [MNA] and Determine Your Nutritional Health) for percent at nutritional risk; and (c) examine which factors (sleep, depression, quality of life, and IADL) are most predictive of nutritional status in older adults.

The 40 students enrolled in the research class were divided into 5 groups. Each group was given a topic and had to decide on a survey instrument. The instruments were compiled into a booklet and each of the second semester junior students enrolled in the class is currently collecting data from 8-10 persons over age 65 living in Billings, MT. This will result in a sample size of 320-400 persons. Class groups also had the responsibility to conduct literature reviews, complete and submit IRB forms, arrange for data collection sites, establish inter-rater reliability for class mates and enter data into statistical software. Data collection sites include senior citizen and assisted living centers, senior volunteers at local hospitals, and a local infusion therapy center. All work will be completed by December 2008.

Data analysis will include use of descriptive statistics for demographic information and Pierson correlations for total scores by tool and individual items within each tool. T-tests will be used to look for differences in persons with and without nutritional deficiencies. Finally, tool results will be entered into a logistic regression to determine which items may be most predictive of nutritional deficiency in a senior population. Analysis and interruption of results will be done jointly between instructors and students.

Results of this work will help students understand the research process as well as provide information important in practice. This is one way to translate research into practice in an undergraduate class. Further, results will help practicing nurses understand what types of factors may be impacting nutrition in their senior clients.

INTRODUCTION OF GERIATRIC CONTENT IN AN UNDERGRADUATE RESEARCH CLASS

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As part of the revised undergraduate curriculum at Montana State University College of Nursing, the stand alone geriatric course was eliminated and content assimilated into all course work. To determine if there were differences in what geriatric content students learned, all final semester seniors were given a geriatric content test for the last 2 semesters that included the old course and the 2 semesters following the new curriculum implementation.

The College of Nursing is under Montana State University- Bozeman but has campus locations across the state. Each campus uses the same Master Resource Outline (MRO) and course objectives but course implementation varies by location. To examine content final examinations were obtained from each instructed that had taught the class during a 1 year period. Questions were classified by content and final test questions reflected overall class content. The final test had 47 questions.

A total of 273 students took the test (143 took the geriatric content and 130 had the integrated curriculum). There was no significant difference in mean scores between the group that had the geriatric course (70.5) and the integrated curriculum group (69.5). The most frequently missed questions were found in all areas including mobility issues (ADL and IADL), psycho/social considerations, and physiologic changes associated with aging.

Faculty were informed of the results at a general faculty meeting. The Undergraduate Academic Curriculum Committee (UAAC) has focused on increasing geriatric content throughout all courses in the curriculum. As the population ages, ensuring uniform and adequate information on older adults is of paramount importance.

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

Comparison of Two Nutritional Instruments

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Physical, social, and environmental factors contribute to nutritional problems that become more pronounced after the age of 65 years. Inadequate nutritional status is not always readily apparent but is estimated to affect 37-40% of community dwelling elderly. Consequently tools to easily assess nutritional status are needed. In hospitalized elderly, morbidity and mortality have been found to increase even when there are no overt clinical signs of malnutrition. It is estimated that 52-85% of institutionalized elderly, and over 55% of hospitalized elderly, can be considered malnourished.[5, 13-16] Social concerns also increase an elderly person's risk of poor nutritional status. Elderly who live alone who rely on social security/pensions only or who have difficulty with mobility are at high risk for malnutrition. In several studies of rural residents, 14% reported not having enough money for food on a regular basis and several people said they had crackers and peanut butter at least 1 day a week because that was all they could afford. It was estimated that between 6-16% of respondents have experienced food insecurity.[8, 21, 22]

However, over or underestimating nutritional risk is problematic. Therefore the purpose of this study is to compare 2 nutritional instruments (Nutritional Screening Initiative [NSI] and Determine Your Nutritional Health) for differences in percentages of seniors determined to be at nutritional risk.

Data is presently being collected and will be completed by November 1, 2008. A sample size of 320-400 participants over age 65 years is anticipated. Senior and assisted living centers, hospital volunteer offices, and infusion centers have agreed to be data collection sites. The Mini Nutritional Assessment (MNA) and Determine Your Nutritional Health are being compared. Both are widely used nutritional assessment tools. The MNA has 6 screening and 12 assessment questions. The Determine tool has 10 screening questions and includes item explanations.

Past research on a small sample showed significant difference in screening estimates. Results of this study will examine the differences between screening instruments and between screening and assessment information. Results will help nurses determine which tool is appropriate for both patient assessment and future research activities

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

Relationship between Sleep, Depression, Quality of Life, and IADLs on Nutritional Status

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Older adults encompass a large age range with individuals varying in age from 65 to well over 100 years of age. The US has an increasing large population of persons over 65 years of age. The 2000 US census indicates that there are 35 million persons over the age of 65 years in the US, which is approximately 12.4% of the total US population. The number of older adults are expected to increase by an additional 80% over the next 25 years.[2] These older adults live in a variety of settings ranging from their own homes to assisted living centers and to complete care institutions. Maintaining health, independence, and quality of life in this senior population is an important consideration for health care providers. However, along with aging comes increased risk for malnutrition.[4] Poor nutritional status often leads to prolonged hospitalization, less successful treatment outcomes, poor wound healing, and higher mortality rates.[5, 6] Often poor nutritional status is compounded by the presence of chronic illness with approximately 67% of "well" elderly in the US reporting the presence of at least one chronic illness.[7] The purpose of this study is to examine the relationship between sleep, depression, quality of life, and Instrumental Activities of Daily Living (IADL) on nutritional status.

Data is presently being collected and will be completed by November 1, 2008. A sample size of 320-400 participants over age 65 years is anticipated. Senior and assisted living centers, hospital volunteer offices, and infusion centers have agreed to be data collection sites. Instruments include the Pittsburgh Sleep Quality Index (PSQI), Geriatric Depression Scale (GDS), Missoula-Vitas Quality of Life, Instrumental Activities of daily Living Scale, and Mini Nutritional Assessment (MNA). All have established reliability and validity and are recommended by the Hartford Institute for Geriatric Nursing for use with an older population.

Analysis will include descriptive analysis of demographics and correlations between total instrument scales and individual items. Items will be considered significant if they are correlated at the <0.05 level of significance.

Results will help nurses in all settings understand the relationship between nutrition and other age related problems. Future research may expand on items found to be related to nutritional status.

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

Examination Predictive Factors for Nutritional Status in Older Adults

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Physical change experienced by older persons may also account for nutritional problems.[25] Teeth and mouth problems are increasingly common in elderly persons and may further limit food choices. As many as 91% of persons over age 85 have periodontal disease, which can make eating painful and lead to tooth loss.[26] More than 26% of adults over 65 have dentures, which reduces their ability to chew food by 30-40% and if the dentures are loose fitting up to 85%.[27] Problems with chewing means high protein items like meat that may be difficult to chew and these foods are eliminated from the diet. Furthermore, mouth and gum problems often go undetected as many elderly do not have regular dental visits.[6] Normal peristalsis of the elderly person's gastrointestinal tract is reduced and may have a detrimental impact on absorption of macro- and micro-nutrients including vitamins and minerals. The basal metabolism rate decreases with age, meaning elderly persons require fewer calories for fuel and may gain weight without changing what they normally eat.[25] This decreased caloric need can result in increased body weight but decreased muscle mass.[28] Increased weight then leads to an increased risk of diabetes, may limit mobility, and exacerbate other existing chronic conditions.[29] The purpose of this study is to examine which factors (sleep, depression, quality of life, and IADL) are most predictive of nutritional status in older adults.

Data is presently being collected and will be completed by November 1, 2008. A sample size of 320-400 participants over age 65 years is anticipated. Senior and assisted living centers, hospital volunteer offices, and infusion centers have agreed to be data collection sites. Instruments include the Pittsburgh Sleep Quality Index (PSQI), Geriatric Depression Scale (GDS), Missoula-Vitas Quality of Life, Instrumental Activities of daily Living Scale, and Mini Nutritional Assessment (MNA). All have established reliability and validity and are recommended by the Hartford Institute for Geriatric Nursing for use with an older population.

Analysis will include descriptive demographic information. Individual tools and individual items from within those tools that were correlated at a <.10 level of significance with the MNA assessment nutritional risk will be entered into a step wise logistic regression analysis to look at predictors of nutritional status. Differences between groups with and without risk will be presented.

Results from this study will help researchers and nurses focus on specific problems associated with nutritional status in an aging population. Future research may expand on predictive items and attempt to explain additional factors associated with nutritional status in older adults.

OLDER ADULTS: HEALTH & ILLNESS ISSUES

ASSESSING PHYSICAL FUNCTION IN THE ELDERLY: SINGLE GAIT SPEED OR COMPREHENSIVE EXAMS?

Jie Yu

RESONATING RELATIONSHIPS BETWEEN NURSES AND ELDERS IN LONG TERM CARE

Beverly Hewett

PREDICTORS & OUTCOMES OF EARLY ADHERENCE TO THE USE OF AN ASYNCHRONOUS TELEHEALTH DEVICE

Jenice Guzman, Gwen van Servellen, Theodore Hahn, Janet Mentes, Betty Chang

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A CLINICAL GUIDELINE FOR THE ASSESSMENT AND MANAGEMENT OF PAIN IN OLDER ADULTS WITH ACUTE RIB FRACTURES

Blaine Winters, Patricia Berry, Diana Thurston

OLDER ADULTS' PARTICIPATION IN HEALTHY BEHAVIORS AND PREVENTIVE SCREENING

Amy Silva-Smith

SELF-PERCEPTION OF AGING SUCCESSFULLY IN OLDER ADULTS

Amy Silva-Smith

ASSESSING PHYSICAL FUNCTION IN THE ELDERLY: SINGLE GAIT SPEED OR COMPREHENSIVE EXAMS?

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Background: An expanding aging population, which will represent 20% of the population by 2030, is one of the key factors impacting health care services. Specifically, functional deterioration among older adults is closely associated with crucial negative life events and significantly influences their quality of life. Accurate, simple, and timely assessment of physical function is vital in promoting successful aging.
Purpose: The purpose of this study was to describe the extent to which the variable of gait speed correlates with the modified comprehensive physical function, which was measured by the combination of balance and sit-to-stand tests.
Sample: Seventy subjects of 65 years old or above were enrolled from three independent living retirement communities in Columbia, Missouri. Using Mini Mental State Exam (MMSE) as a cognitive function screening test, none was cognitive impaired. The mean age of the sample was 80 (SD=7.53, range: 65-97). The majority was female (68.6%), had at least a college degree (75.7%), and was either married (44.3%) or widowed (45.7%).
Methods: Data on three instruments (MMSE, SF-12 (Short Form Health Survey) and SPPB (Short Physical Performance Battery Test)) were extracted from a larger study examining the validity and inter-rater reliability of seven functional instruments. The researcher investigated the relationship between gait speed and comprehensive functional assessments. Gait speed was assessed from a timed walk over an eight foot distance and comprehensive functional measurement consisted of balance and chair rise tests.
Findings: The average gait speed was 2.35 ft/sec and ranged from 0.69 to 4.62 ft/sec. The mean score of the comprehensive functional assessment was 5.53 (SD=2.38, range: 0-8) with lower score representing poor functionality. The correlation between gait speed and modified comprehensive assessment of physical function was statistically significant ($r=0.77$, $p<0.0001$).
Conclusion: Results of this study suggest that it is valid and feasible to use the single variable of gait speed as a surrogate measurement of comprehensive functional assessments. Elder care professionals should pay close attention to gait speed and monitor its changes closely and routinely to provide elders with appropriate assessments of physical function.

RESONATING RELATIONSHIPS BETWEEN NURSES AND ELDERS IN LONG TERM CARE

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Purpose: The purpose of this study was to discover a central theory as to why RNs choose to work in long term care.
Rationale: The demand for nurses to be prepared to care for the elderly is ever increasing. Baby boomers will soon start to turn 65 years of age, therefore increasing the need for health care workers deciding to care for this vulnerable population, especially nurses working in long term care (LTC) facilities.
Methods: A grounded theory approach was decided upon to emphasize the perceptions of Registered Nurses in words and feelings rather than in preferences registered as statistics.

Grounded theory allowed the participants to provide information about their decision making to work in LTC, their values and reasons for staying, and the social processes that are part of the decision to remain employed in the area of LTC. Participants were asked: What influenced you [the RN] to decide to work in a long term care facility? What influenced you to continue working in a long term care facility? and What/who influenced you to decide to choose this specialty area of geriatrics? The interviews were tape-recorded and transcribed. Data was analyzed using Strauss and Corbin guidelines and the reflective coding matrix by Scott. One hundred and fifteen concepts were assigned to 19 categories. Five themes emerged and a theory written. Verification was accomplished by rich, thick description of the shared experience, member checks, an outside reviewer for fit and completeness, and an extensive audit trail.
Results: Nine participants from LTC facilities in the western region of the US were interviewed. They had a mean age of 44.6 and a mean employment of 10.7 years. The theory is: "Resonating relationships [of RNs] nurture holistic care through daily interactions with residents within their LTC home." The nurses' focus on relationships built bonds with residents and their families. Examples of how nurses' values and beliefs underwrite their perceptions of what constitutes quality practice and how this impacts residents' quality of life will be given. These values also impact administration of LTC facilities and promote the LTC nursing profession.
Implications: The "Resonating relationships [of RNs] nurture holistic care through daily interactions with residents within their LTC home" theory permits further exploration of how relationships impact long term care employment. Educators may want to use the theory to foster student/resident relationships. This would be the next step in furthering this research to explore the best practices of experiential learning to help students determine fit with long term care. This will give future nurses an opportunity to explore career options that can be emotionally satisfying, knowing that they will impact the quality of life of the elderly. Administrators may also wish to explore the themes for interview instrument development to identify suitability within long term care arena or professional assessment.

PREDICTORS & OUTCOMES OF EARLY ADHERENCE TO THE USE OF AN ASYNCHRONOUS TELEHEALTH DEVICE

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Purpose: The first purpose of this research study is to describe adherence to an asynchronous telehealth device called the Healthy Buddy® System, the most commonly used telehealth device by older veterans with heart failure (HF) enrolled in the Veterans Administration (VA) Office of Care Coordination, Care Coordination/ Home Telehealth (CCHT) Program. The second purpose of this study is to determine the predictors of adherence to Health Buddy® in the first 90 days of enrollment. The third purpose is to determine the association between adherence to Health Buddy® and outcomes in the same sample of patients in the first 90 days of enrollment.

Background: Patient non-adherence to home telehealth is a problem voiced by nurses/ care coordinators. There is a paucity of studies that have examined predictors of adherence to home telehealth use or how adherence to home telehealth is related to outcomes.

Methods: This retrospective cohort study will use secondary data. Veterans enrolled in the VA CCHT program in VISN 22 between 6/1/06 and 6/1/08, who are over the age of 65, and who have HF identified as a Disease Management Program used in the Health Buddy® system will be included. Patients' adherence to Health Buddy®, perceived health status, and satisfaction will be obtained through Health Hero, VA vendor who collects VA data from veterans via the Health Buddy® system and stored on a server at the VA Austin Information Technology Center. Sociodemographic data, diagnoses, health status, and health care utilization will be obtained from VA National Patient Care Database. A programmer experienced in working with VA databases will de-identify and merge the datasets prior to analysis. Multiple linear regression and block entry design will be used to determine the extent to which predictors explain variance in adherence. Simple linear and logistic regressions will be used to examine the relationship between adherence and outcomes.

Expected Results: This study will increase our understanding of factors predicting adherence to an asynchronous telehealth device and will shed light on whether early adherence is associated with improved health outcomes.

Implications: This study can provide to nurses and program developers, who are interested in initiating a telehealth program for community-dwelling older adults, guidance to decide which patient population to target, to encourage systematic review of adherence, and to utilize health outcomes that are sensitive to early adherence in order to effectively evaluate program success.

A CLINICAL GUIDELINE FOR THE ASSESSMENT AND MANAGEMENT OF PAIN IN OLDER ADULTS WITH ACUTE RIB FRACTURES

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Purpose/Aims: The purpose of this project was to develop an evidence-based clinical guideline for the assessment and management of pain in older adults who have experienced rib fractures following a traumatic event.
Background/Rationale: It is expected that over the next decade the population of older adults in the United States will increase dramatically. As the older adult population increases, the number of older adults involved in traumatic accidents is also expected to climb. Rib fractures in older adults produce significant pain and lead to increased morbidity and mortality. Effective pain assessment and management is crucial for these patients. Practitioners caring for these adults will need to use an evidence-based approach for the assessment and management of pain in an attempt to provide the best care possible and to limit complications and poor outcomes.
Brief Description of Process: This guideline was developed following an extensive literature review in the areas of traumatic injury in older adults, rib fractures, pain assessment, and pain management in older adults.
Outcomes Achieved/Documented: The guideline provides an approach for pain assessment and a clinical algorithm for the treatment of pain, which includes modalities such as epidural analgesia, paravertebral analgesia, patient-controlled analgesia, and the use of short-acting and long-acting opioids.
Conclusion: It is believed that the implementation of the principles included in this guideline will lead to fewer complications and better outcomes when caring for older adults with acute rib fractures.

OLDER ADULTS' PARTICIPATION IN HEALTHY BEHAVIORS AND PREVENTIVE SCREENING

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Purposes/Aims: The purpose of this study was to gain understanding of older adults' self-perception of aging successfully and their participation in healthy behaviors and preventive screening.
Background: Debate is ongoing with regard to the best way to operationally define successful aging. Objective variables associated with physical and cognitive function have been traditionally used to measure successful aging. Recently, more emphasis has been placed on older adults' own perceptions of whether or not they are aging in a successful manner.
Methods: For this study, self-perception of aging successfully was measured using two items. A survey design was used for this sample and recruited from three primary care clinics. The three clinics included two nurse practitioner [NP] only practices and one NP/MD collaborative practice. Healthy behaviors included exercise, breakfast, tobacco, alcohol, and seatbelt use. Preventive screening included immunizations (influenza, pneumonia, tetanus), screening tests (PAP, mammogram, PSA, digital prostate exam, colonoscopy), and screening examinations (skin, dental, vision). Data analyses used to answer the research questions included frequencies and descriptive statistics.
Results: The sample size was 205 adults aged 60 and older; 76 were men and 129 were women. The mean age of participants was 70.5 years old with a range of 60 to 95 and eighty-five percent were white/non Hispanic. Nearly twenty-four percent reported that their income was inadequate or marginal. The majority of participants resided with a spouse or partner and the majority were married. Most were retired (71%); however, twenty-two percent were working either full or part-time. Fifty-four percent of participants reported that the statement "I am aging well" was "mostly true." When asked, On a scale of 1 (least successful) to 10 (most successful) how well do you believe you are aging? the mean response was 7.54 (SD=2.076; n=202). Only eight percent reported being current smokers and the number of nonsmokers and past smokers were equal at forty-five percent in each group. Twenty-six percent had not received an influenza vaccine in the past year and thirty-one percent had not had a dental exam in the past year. Limitations of the study are discussed.
Implications: It is important for health care providers to understand older adults' participation in both preventive screening and healthy behaviors. Based upon the findings of this study, participation in prevention does not meet current clinical recommendations. Health care policy may be impacted by the current state of participation in healthy behaviors and preventive screening by older adults. It is also crucial for health care providers to learn more about how older adults view their own degree of aging successfully. By increasing knowledge of older adults' perceptions and behaviors, health care providers may be able to assess and intervene more effectively. Further research is needed to develop interventions that engage older adults in participation of health behaviors and prevention. The current study is intended to contribute to the knowledge that will lead to innovations in these efforts.

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SELF-PERCEPTION OF AGING SUCCESSFULLY IN OLDER ADULTS

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Successful aging research, as it relates to clinically important outcomes, is interwoven with variables associated with health promotion and disease prevention. However, authors who have tested interventions related to disease prevention have reported variability in the willingness of older adults to participate in primary prevention strategies such as dietary restriction (Resnick, 2003). It remains unclear whether there are relationships between older adults' self-perception of whether or not they are aging successfully and their choices to participate in healthy behaviors and preventive screening. The purpose of this research was to answer the following questions: (1) Which demographic variables are associated with higher scores on the self-report of aging successfully? (2) Which healthy behaviors predict higher scores on the self-report of aging successfully? (3) Do higher scores on the self-perception of aging successfully predict participation in preventive screening and immunizations? By understanding these relationships, health care providers and researchers may be able to construct interventions that encourage and support older adults' participation.

This study used a survey design. Healthy behaviors and prevention strategies were selected based on research that reported strategies that contribute to healthy aging and current clinical guidelines. Self-perception of aging successfully was measured using two items: one Likert scale and the other interval scale. The sample for this study was 205 adults between the age of 60 and 95 (x=70.51; SD=7.682). Data analyses used were frequencies, descriptive statistics, Pearson r correlation, Spearman rho correlation, ANOVA, and linear regression. Significant correlations were found between successful aging and age, race, income, and employment status. The health behaviors alcohol consumption, breakfast, and exercise were significant predictors of self-perception of aging successfully. Preventive screening examinations that were positively correlated with self-perception of aging successfully were skin and dental exams. Higher scores on self-perception of aging successfully predicted participation in screening tests taken as a whole. Limitations of this study are reviewed. Findings from this study provide insight into relationships and predictors of variables related to self-perception of aging successfully and older adults' choices to participate in healthy behaviors and prevention. Additional research is needed to continue to develop a model to explain the variables that contribute to and predict successful aging in older adults, not just from the perspective of researchers and health care providers but from that of the older adults themselves.

This study was funded through the generous support of the AANPF Goolsby Research Grant.

PREGNANCY & POSTPARTUM EXPERIENCES

HOW CAREGIVERS DEAL WITH PAIN AND DISTRESS IN SECOND STAGE LABOR

Linda Bergstrom, Lori Richards, Janice Morse, Joyce Roberts

GRAND MULTIPS PERCEPTIONS OF PROFESSIONAL LABOR SUPPORT: A WORD FROM THE EXPERTS

Susan Fleming, Phyllis Eide

BECOMING MOTHERS AND FATHERS: THE PERSPECTIVES OF NEW PARENTS

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COMPARING EXPECTATIONS OF LABORING WOMEN AND CARE BY REGISTERED NURSES

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MATERNAL REPORT OF FETAL DISTRESS DURING LABOR MORE COMMON IN INDUCED LABORS

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METHAMPHETAMINE USE IN PREGNANT AND PARENTING MOTHERS: A GROUNDED THEORY PROPOSAL

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Kathleen Schachman

EVIDENCE OF MATERNAL HEALTH DISPARITIES IN SURVEY FINDINGS

Pat Camillo, Barbara Frohnert

HOW CAREGIVERS DEAL WITH PAIN AND DISTRESS IN SECOND STAGE LABOR

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Purpose/Aims: To describe how laboring women and their caregivers interacted and negotiated care when pain or distress existed in second stage labor. Pain occurred during labor contractions and distress (an emotional response to pain) manifested primarily between contractions.

Background: Morse's praxis theory of comfort was used as the theoretical framework. During trauma and urgent care, providing comfort is depicted as a cyclical process, which is always patient-led and initiated when the caregiver recognizes the patient's comfort need. The caregiver responds with comfort strategies, evaluates the resulting care and modifies it as needed.

Method: Secondary qualitative analysis of video data using conversational and observational methods.

Results: Four patterns of women's behavior were identified: (1) no pain or distress, (2) low-level pain and/or distress, (3) focused working, and (4) severe pain and/or distress. Several patterned sequences of distress were described. Successful care was identified as enabling the woman to maintain herself in any state other than severe pain and/or distress. Particular modes of speech used by the caregiver (i.e., ordinary birth talk), enabled the attainment of successful care when the woman was not in severe pain or distress. When problem states existed, innovative caregiving transitioned the woman to another state. Successful intervention strategies included (1) giving innovative directions and (2) "talking down."

Implications: In the presence of high levels of pain or distress, the repertoire of ordinary birth talk, used primarily during contractions with a focus upon maternal bearing down, was inadequate to help move a woman from a problematic state to a goal state. Women needed additional help to get themselves back into control. A large repertoire of possible techniques is necessary for caregivers to be effective with a wide variety of laboring styles, and especially for women who have moved into severe pain and/or distress states.

Support: The original data for this research was generated by the Second Stage Labor Project, (Grant No. 1 RO1 NR 01500-003, NCNR, NIH, DHHS), directed by Joyce Roberts CNM, PhD, FAAN, FACNM. This paper was supported by grants from the Gamma Rho Chapter of Sigma Theta Tau and the Research Committee of the College of Nursing, University of Utah.

GRAND MULTIPS PERCEPTIONS OF PROFESSIONAL LABOR SUPPORT: A WORD FROM THE EXPERTS

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Aims: The specific aims of this study are: (1) to describe the perceptions of Grand Multips (women who had given birth to 6 or more babies, > 20 weeks gestation) regarding professional labor support (PLS) by nurses as described by Sauls' six dimensions (2006), and (2) to describe the women's perceptions of technology use in labor and how this affects nurses' interactions with laboring women providing labor support.

Background: Labor support is essentially "mothering the mother" and has been described as the supportive care given by others (doulas, husbands, nurses, partners, etc.) to pregnant women during the birthing process. When specifically speaking of nurses the term professional labor support has been used. Sauls describes Professional Labor Support as *…the intentional human interaction between intrapartum nurses (labor and delivery nurse) and the laboring client (mother in labor) that assists her to cope in a positive manner during the process of giving birth* (Sauls, 2006). Sauls describes PLS using six dimensions identified by intrapartum nurses. These dimensions are: tangible support; advocacy; emotional support assurance; emotional support creating control, security and comfort; emotional support nurse caring behavior; and informational support. In recent years there has been an increase in technology application in healthcare. Technology can enhance labor outcomes; however, it can also be a distraction for nurses regarding supportive care. Some research suggests that this has dehumanized the birthing experience and removed nurses from providing supportive care.

Methods: This study will utilize a qualitative descriptive method in which Grand Multips will be interviewed for their expertise on their perceptions of professional labor support and the use of technology by nurses during their childbirth experiences. Rural women residing in Eastern Washington will be selected and interviewed individually regarding their childbirth history and questions about PLS and the use of technology. The interviews will be audio taped and transcribed. A target sample of 12 -14 women will be recruited using a convenience sampling method that may include snowball recruitment. Inclusion criteria: English speaking women who have given birth to 6 or more babies, delivering at least 4 of their babies in a hospital, did not deliver in the last 12 months, and delivered at least one baby after 1980 (Electronic Fetal Monitoring was widely introduced in the late 1970's).

Results: Thematic analysis of the interviews will be conducted and the results will be compared to Sauls' six dimensions of PLS. Thematic analysis of the interviews will be presented.

Implications: This study will identify the intersection between increasing technological applications in intrapartum periods and the support offered to the laboring woman. The information gathered in this study has potential to educate intrapartum nurses and influence their nursing practice with laboring women giving birth in hospital settings.

Sauls, D. (2006). Dimensions of professional labor support for intrapartum practice. *Journal of Nursing Scholarship 38(1)*, 36-41.

BECOMING MOTHERS AND FATHERS: THE PERSPECTIVES OF NEW PARENTS

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Purpose: The purpose of this descriptive study was to describe the perceptions of American childbearing couples about their birth experience, the provision of health care, and making the transition to parenthood. The study is part of a global comparative study.

Background: There is currently literature documenting maternal perceptions of childbirth, and a growing body of knowledge of paternal perspectives. However, no international comparative studies of maternal/paternal perspectives on becoming parents were found in the literature or study of childbearing couples' perceptions of the provision of health care. It has been recommended that cross cultural comparisons of childbearing couples should be made, and the need identified for further inquiry.

Method: A convenience sample of 94 couples, 18-45 years of age, who had given birth to their first child during the past twelve months completed maternal and paternal surveys developed by a Finnish nurse researcher. In addition, couples answered open-ended questions. Data were analyzed as appropriate for qualitative inquiry. Qualitative findings will be reported in this presentation.

Findings: Themes emerging from the data include: (a) giving birth as a transcendent life event, (b) feeling positive about birth when health care providers demonstrated respect and provided individualized supportive care, (c) facilitating paternal involvement, and (d) needing more parental education across the childbearing year. One mother said, *"Care providers need to assure women they can do anything and that their bodies were made to give birth. Laboring women need lots of support. If a woman is able to birth in the way she wants, she feels empowered and strong."* One father said, *"Being at my son's birth was one of the greatest days of my life."* Some couples found that making the transition to parenthood was more challenging than they expected and expressed the need for more anticipatory guidance and education. These findings will be compared to the perspectives of childbearing families in Europe, the Middle East, Scandinavia, the Peoples Republic of China, and the United Kingdom.

Conclusions and Recommendations: Identifying and comparing the needs of childbearing families around the globe is essential in order to promote positive outcomes in childbearing families and enhance the delivery of family centered care.

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COMPARING EXPECTATIONS OF LABORING WOMEN AND CARE BY REGISTERED NURSES

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Purpose/Aim: Matching patient expectations of care with actual care received is a major challenge for nursing and other health care clinicians. This major challenge can be observed in many hospitals, especially in Labor and Delivery units. Differences between informed laboring women and registered nurses can cause mismatched expectations and perceptions, leading to dissatisfaction. Because women are the major power brokers when decisions are made related to future health care needs of their family, satisfaction of women is a major issue for hospitals and health care clinicians. Research has been completed on the perceptions of women during the birth experience and perceptions of nurses providing supportive care to laboring women, but there is a lack of research comparing and contrasting the difference and similarities between these two groups. The purpose of this qualitative descriptive study was to identify, compare, and understand differences in perceptions and expectations between laboring women and registered nurses who provide labor care.

Background Information: Birth is a powerful, complex, and life changing event that leaves a lasting impact on childbearing women. This impact can be positive or negative depending on the women's perception of the birth experience. Today's childbearing women are more informed about options related to care and support during the labor process. Studies have reported a positive birth experience when women felt in control; when effective communication was used by clinicians; when power was shared related to decision making; and when women felt supported, valued, and treated with respect by nurses and other clinicians. Conversely, women with a negative birth experience felt a lack of support and control, reporting lower satisfaction rates. Research has demonstrated the strongest predictor of patient satisfaction is the quality of care provided by nurses. Carlton, Callister, and Stoneman (2005) determined that adding to the complexity and difficulty of the laboring process is support or lack of support by nursing staff. Nurses bring to the laboring process knowledge, skill, past clinical experience, their own bias, and the nurses' own personal birth experience. Because of the expertise and experience nurse, numerous studies have indicated that decision making control is sometimes shifted from patient to clinician.

Methods: A purposive, convenience sample of two distinct groups, twenty (20) women who recently had a birth experience in three birthing units in the western United States and seventeen (17) Labor and Delivery nurses, from five (5) hospitals were interviewed. Interviews were audio-taped and transcriptions analyzed for common themes.

Results: Indications of a successful and positive birth experience were identified along with key differences in providing labor support were identified between childbearing women and nurses. Unrealistic birth expectations by patients and unrecognized actions by nurses create a gap between expectations and actual care received. Environmental challenges along with other barriers to providing supportive care were identified by nursing staff. Issues of control, predictability, confidence, efficiency, and calculability were identified in both childbearing women and nurses.

Implications: Nurse must provide a higher level of support and patient must be better prepared if birth is to be perceived as a positive experience. Barriers, biases, and differences must be addressed to maximize support during birth. In addition, issues of control, predictability confidence, efficiency, and calculability must be further explored to understand issues of satisfaction and provide a positive birth experience.

MATERNAL REPORT OF FETAL DISTRESS DURING LABOR MORE COMMON IN INDUCED LABORS

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Purpose: The purpose of this study is to describe the maternal perception of fetal distress with labor induction.
Rationale: Little literature is available exploring labor inductions from the mother's perspective. Labor induction involves external chemical or physical measures to begin a non-spontaneous labor. Studies comparing and contrasting induction methods can be found, with risk for fetal distress as a commonly accepted outcome. Fetal distress is defined by an abnormal fetal heart rate on external monitoring. With fetal distress, however, there is also an increased likelihood of operative delivery, physical and emotional trauma, and postpartum depression. These maternal outcomes have not been adequately addressed in the literature.
Methods: As part of a randomized clinical trial, data were collected among a sample of 152 primiparas. Information regarding labor and delivery experience was collected via phone interview, using a demographic information script. Responses were collected verbatim and transcribed into an SPSS data set and coded. Data about induction, cesarean delivery, labor, and neonatal complications were all obtained by maternal report.
Results: The sample was 148 moderately well educated women, with low-to-moderate income level, between 18-42 years of age, and 57% indicated that labors were induced. Of those inductions, methods used included artificial rupture of membranes, balloon catheter cervical dilation, prostaglandin insertion behind the cervix, or pitocin, IV drip. Of those inductions, fetal distress occurred in 24% of labors, whereas only 10% of spontaneous labors exhibited fetal distress (Chi Square=4.9, p=.027).
Implications: These findings suggest that fetal distress in induced labor, as understood by the mother, occurs more frequently than in spontaneous labors. As there is a subsequent increased risk secondary to fetal distress of operative delivery, physical and emotional trauma, and postpartum depression, new mothers who undergo induced labors should receive careful postpartum physical and emotional assessment.

Funding: NIH Training grant (2 T32 NR007088-11, K. Lee, PI).

METHAMPHETAMINE USE IN PREGNANT AND PARENTING MOTHERS: A GROUNDED THEORY PROPOSAL

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Purpose: To explore factors that influence methamphetamine use and factors that impact the maintenance of a drug free lifestyle among pregnant and parenting women who are chemically dependent to methamphetamine as a primary drug of choice.
Background: Self-reported reasons for initiating methamphetamine use include relief of depression, weight control, or just to get high. Research about drug-using women outlines the complexity of their lives, including childhood histories of family disruption, drug-using parents, physical and sexual abuse, and psychological comorbidities. The context of the social environment for many women is that they are isolated from the social mainstream. As a drug of choice and in combination with other complementary drugs, methamphetamine use presents a public health concern that is exceptionally high for women who become pregnant and who have children in the household. On becoming pregnant, methamphetamine-using women are known to avoid or delay prenatal care, attend fewer prenatal visits, and sustain greater risk for poor pregnancy outcomes. A drug-using lifestyle is more likely to interface with law enforcement related to violence, drug courts due to involvement in criminal activities, and child forfeiture to foster care. Whereas the threshold for neurobiological damage to mother and offspring from the effects of methamphetamine are only beginning to be understood, and treatment for methamphetamine use can be successful for highly motivated persons. The influences of pregnancy and parenting on the lives of women who use methamphetamine are considered by many to be windows of opportunity for instituting lifestyle change.
Methods: A qualitative design will be used to engage a minimum of 20 pregnant and parenting women who have used methamphetamine in a dependent pattern of use within the last 6 months, in a minimum of two semi-structured interviews during pregnancy and/or within the first year after the birth of a child. Recruitment of participants will include outpatient and residential drug treatment facilities for women with programs that include pregnant and parenting women in Southern California, the County Health Departments for Los Angeles, Riverside and San Bernardino Counties, and snowball contacts. The interviews will be analyzed using Symbolic Interactionism and Grounded Theory methods to identify themes within the stories of the women's lived experiences. Demographics and selected information regarding methamphetamine initiations, patterns of use, and triggers for craving will be solicited, as well as number of attempts to terminate methamphetamine use, and relapse will be solicited.
Expected Findings: Life experiences of methamphetamine users during pregnancy and in the first year postpartum are expected to uncover compelling and reliable data pertaining to methamphetamine dependence behaviors and concerning their struggle to live a drug-free lifestyle as mothers with dependent children.
Implications: It is expected that the experiences of these women will prompt theory development to improve provider screening techniques, support individualized clinical management, and improve treatment referrals among women who use methamphetamines.

ONLINE FATHERING: THE EXPERIENCE OF FIRST-TIME FATHERHOOD IN COMBAT-DEPLOYED TROOPS

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Background: Paternal involvement during childbirth has been shown to facilitate the childbirth process, enhance parental feelings of self-worth, strengthen the couple relationship, and foster paternal role attainment (Barclay & Lupton, 1999; Callister, Matsumura, & Julkunen, 2003). In Western society, most expectant fathers plan to accompany their partners during childbirth and expect to be active participants in the childbirth process. Each year thousands of fathers are absent during this important life transition due to military deployment to combat regions. Yet no studies have been conducted that investigate how this population experiences new fatherhood.
Objective: The purpose of this qualitative study was to explore the lived experience of first-time fatherhood from the unique perspective of military men who are deployed to combat regions during birth.
Methods: A phenomenological approach was used to investigate first-time fatherhood in combat-deployed troops. Seventeen men who were stationed in Okinawa, Japan and had recently returned from combat deployments were recruited for this study. Unstructured, in-depth interviews were conducted 6 to 12 weeks after birth. Participants were asked what it was like to become a father while deployed overseas to a combat region. Interviews were audio-taped, transcribed, and analyzed using Colaizzi's (1978) method.
Results: The overarching theme was "disruption of the protector/provider role" with six categories emerging: (1) "worry then relief," (2) "lost opportunity," (3) "guilt," (4) "fear of death and dismemberment," and (5) "pride and joy." The sixth and final category, "communication: the ties that bind," highlighted the role of online communication with their partner (e.g. e-mail, instant messaging, Facebook™, blogs, and chat rooms) in restoring balance to the protector/provider role.
Implications: This study provides insight for military nurses and the interdisciplinary health care team into the needs of first-time fathers who are combat-deployed during the birth of their baby. Understanding these experiences helps the military health care team offer targeted support and communication access for deployed fathers. In addition, this information can set the stage for a healthy reunion, which may take place at military bases and within communities across the globe, and thus is of benefit to all nurses working with military families.

Barclay, L. & Lupton, D. (1999). The experiences of new fatherhood: A socio-cultural analysis. *Journal of Advanced Nursing, 29*(4), 1013-20.
Callister, L., Matsumura, G., & Julkenen, K. (2003). He's having a baby: The paternal childbirth experience. *Marriage & Families*. Retrieved from http://marriageandfamilies.byu.edu/issues/2003/January/baby.aspx
Colaizzi, P. (1978). Psychological research. In R. Valle, & M. King (Eds.), *Existential phenomenological alternatives for psychology* (pp. 48-71). NY: Oxford Press.

EVIDENCE OF MATERNAL HEALTH DISPARITIES IN SURVEY FINDINGS

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Background: Every year in the United States one thousand women die from pregnancy related complications, a rank of forty-one among developed countries. African American women are four times more likely to die than their Caucasian counterparts. Racial disparities in the United States present a particular challenge due to the complexity of interacting social forces.
Purpose: The purpose of this project was to look for evidence of health disparities among Black and White women as evidenced in data from The Pregnancy Risk Assessment Monitoring System (PRAMS). PRAMS is a surveillance project of the Centers for Disease Control and Prevention (CDC) and state health departments that collects state-specific, population-based data on maternal attitudes and experiences before, during and shortly after pregnancy.
Description: This poster presents data collected in Minnesota, a state with relatively little diversity, which demonstrates statistically significant disparities between Black and White women who were residents in the state and experienced a pregnancy between 2004-2006. These data were analyzed in preparing a proposal to address obstetric morbidity among African American women.
Outcomes: Although there are several questions on the survey that address and demonstrate significant and not surprising structural barriers to health care, there are others that are more personal and less likely to be addressed in the current system of care. They were grouped into four major categories of stressors that included traumatic, financial, emotional, and partner related. In every category except emotional, Black women indicated significantly more stressors than White women. Additional questions in the survey were analyzed which addressed evidence for social support. Among Black women respondents every option, including husband/partner, mother/father/in-laws, friends, other family members, someone else, resulted in statistically significant lower levels of support than White women.
Conclusions: In synthesizing these data, the possibility emerged that the stressors were so significant for this population that they likely represent at least one reason why disparities in maternal outcomes continue to exist. This is especially interesting when noting that the leading cause of maternal death in Minnesota is largely cardiac related. Although the numbers of women dying each year in Minnesota from pregnancy related causes are relatively small, the disparity between Blacks and Whites persist. The loss of even one woman is a devastating event with long standing implications for not only her immediate family but also her community. This poster presentation will focus on evidence for these disparities evident in the Minnesota PRAMS survey. These findings can illuminate nursing practice in women's health as well as support continuing research into the causes for these disparities.

PROFILE, JOURNEY, AND TRANSITION OF INTERNATIONAL NURSES

OVERVIEW: PROFILE, JOURNEY, AND TRANSITION OF INTERNATIONAL NURSES

Yu Xu

CHARACTERISTICS OF INTERNATIONALLY EDUCATED NURSES IN THE US

Yu Xu, Helen Zaikina-Montgomery, Jay Shen

TRANSITION BARRIERS OF FOREIGN-EDUCATED NURSES: STAKEHOLDERS' PERSPECTIVES

Prachi Thekdi, Barbara Wilson, Yu Xu

PROFILE, JOURNEY, AND TRANSITION OF INTERNATIONAL NURSES

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With an increasing number and proportion of international nurses joining the US registered nurse (RN) workforce, international nurses are playing an important role in providing care to Americans. According to the Health Resources and Services Administration, internationally educated nurses constituted 3.5% of the estimated 2.9 million US RN workforce in 2004 (Health Resources and Services Administration, 2005). However, other studies (Aiken, Buchan, Sochalski, Nichols, & Powell, 2004; Polsky, Ross, Brush, & Sochalski, 2007) suggested much higher proportions ranging from 12-15.2%, depending on how "international nurse" was defined and what database and methods were used. This rising trend is also apparent at the state and local levels. According to a 2005 study conducted by the University of Nevada at Reno, 13.4% of Nevada's RNs are internationally educated and 15.6% of Southern Nevada (i.e. Clark County) nurses are foreign-trained. These figures did not take into consideration the estimated 10-15% under-reporting (T. Griswold, personal communication, June 1, 2007). This symposium provides a snapshot of the current profile of international nurses and describes their journey to become licensed in the US and their barriers in transition into their first job.

What is the profile of international nurses working in the US based on the 2004 National Sample Survey of Registered Nurses (NSSRN)? How does their profile compare to that of their US counterparts? Are there any new characteristics of international nurses emerging from the 2004 NSSRN? These are the questions that the first paper in this symposium will address. What is the passage of international nurses who have deficiencies in such areas as the English language to successfully pass the NCLEX-RN and become licensed and gainfully employed in the US? How to develop a training program to facilitate this process? These are questions the second paper will focus on. Then what happen to international nurses after being hired? What are the barriers during their transition into a new and different US health care environment? Is there any consensus on the transitional barriers from preceptors, clinical educators, and international nurses themselves? These are the questions the third and last paper attempts to shed light on. Together, this symposium extends our understanding of international nurses working in the US. Findings from these papers have direct implications for nursing education, clinical practice, research, and national nurse workforce policy.

References:
Aiken, L.H., Buchan. J., Sochalski, J., Nichols, B., & Powell, M. (2004). Trends in international nurse migration. Health Affairs, 23(3), 69-77.
Health Resources and Services Administration.(2007). 2004 National Sample Survey of Registered Nurses Report. Retrieved October 16, 2008, from ftp://ftp.hrsa.gov/bhpr/workforce/0306rnss.pdf
Polsky, D., Ross, S. J., Brush, B. L., & Sochalski, J. (2007). Trends in characteristics and country of origin among foreign-trained nurses in the United States, 1990-2000.
American Journal of Public Health, 97(5), 895-898.

CHARACTERISTICS OF INTERNATIONALLY EDUCATED NURSES IN THE US

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Purpose: To assess the demographic, educational, employment characteristics, and job satisfaction of internationally educated nurses (IENs) as compared with US educated nurses (USNs) using 2004 National Sample Survey of Registered Nurses (NSSRN). Additional comparisons were made with the 2000 NSSRN when appropriate.
Background: IENs are becoming a prominent part of the US RN workforce. In 2004, IENs constituted 3.5% of the US RN workforce. However, it is widely believed that this number is grossly under-reported. Little research on this proportion of the US RN workforce is available to date.
Method: Secondary analyses were performed on datasets of the 2004 NSSRN. Frequency analyses were performed on the data and differences were examined via chi square and t-tests.
Results: The highest proportions of IENs were from the Philippines (46.4%), Canada (23.9%), and the UK (8.0%). While on average IENs are younger (M=46.1) than USNs (M=46.6), in 2004 they were getting older as a group when compared to 2000 (M=45.0). A higher proportion of IENs than USNs held a baccalaureate degree (41.6% vs. 30.4%), whereas USNs mostly held an associate degree (8.7% of IENs vs. 41.6% of USNs). A significantly higher proportion of IENs held a baccalaureate degree in 2004 than in 2000 (47.8% vs. 38.3%). A significantly higher percent of IENs than USNs resided in urban areas (88.8% vs. 74.4%). More IENs than USNs reported being currently employed in nursing (91.2% vs. 88.7%) and more IENs worked full time than USNs (81.5% vs. 70.9%). IENs' and USNs' primary work settings differed significantly with more IENs working in hospitals (70.3%) than USNs (58.8%). Job satisfaction ratings also differed significantly between IENs and USNs. Fewer IENs reported being extremely satisfied with their job than USNs (18.8% vs. 28.4%) and more IENs reported being neither satisfied nor dissatisfied with their current job (12.2% vs. 7.7%). Job satisfaction ratings also differed for IENs between 2000 and 2004: fewer IENs were dissatisfied with their job (16.6% vs. 14.3%) and more were overall satisfied (73.8% vs. 68.2%) with their current position.
Implications: The data revealed that IENs retain some previously reported characteristics (still younger and better educated as a group, primarily living in urban areas, mostly working in direct patient care positions in acute care settings). The data also indicated that there are some new emerging characteristics (i.e. aging as a group, accelerating rate of being prepared at the baccalaureate level, higher overall job satisfaction). The observed characteristics of IENs has implications for recruitment, retention, and US nurse workforce planning and policy. In addition, the distributions of IENs' job satisfaction ratings and their tendency to be neutral toward job satisfaction, as well as their interpretation of job satisfaction warrant further examination.

TRANSITION BARRIERS OF FOREIGN-EDUCATED NURSES: STAKEHOLDERS' PERSPECTIVES

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Purpose: This study examined the experiences of foreign-educated nurses (FENs) working in a US health care system to identify core barriers encountered during their transition. In addition, it sought perspectives of multiple stakeholders to understand and validate these barriers.
Background: An increasing number of FENs arrive in the United States every year to supplement its growing nursing shortage. Successful adaptation of FENs is an important issue that affects patient safety and quality of care. To ensure adaptation of FENs, it is important to develop an understanding of transitional barriers encountered by FENs.
Methods: Six FENs within five years of their hire were interviewed. In addition, six clinical educators involved in developing transitional programs were interviewed. Also, four preceptors who had worked with FENs during initial orientation periods participated in this study. Semi-structured interviews with open-ended questions regarding adaptation experiences were used to understand the essence of the lived experiences of the FENs. The educators and preceptors were asked questions regarding their perceptions about FENs' transitional barriers and different issues concerning FENs' adaptation. The collected data were then transcribed, coded, and analyzed to identify central themes related to transitional barriers.
Results: Communication was a central theme identified by all three groups as a key barrier to successful transition. Other identified barriers included differences in nursing practice compared to original countries of education, lack of cultural understanding, and issues arising from uninformed employment contracts. Barriers also varied based on the individual educational and professional experiences before arrival in the US.
Implications: It is important to understand and address issues arising from language/communication difficulty and differences in culture, and nursing practice to ensure patient safety and quality of care, as well as improve the job satisfaction of FENs. It may be more effective if planned interventions are based on countries of origin of FENs.

RESEARCH RECRUITMENT AND DATA COLLECTION: POSSIBILITIES AND PITFALLS

OVERVIEW: RESEARCH RECRUITMENT AND DATA COLLECTION: POSSIBILITIES AND PITFALLS

Casey Shillam

RECRUITING OLDER ADULTS IN FIBROMYALGIA RESEARCH: POSSIBILITIES AND PITFALLS

Casey Shillam

USING ELECTRONIC MEDICAL RECORDS FOR RESEARCH: POSSIBILITIES AND PITFALLS

Lindsay Lancaster Kindler

STUDY RECRUITMENT OF ELDERS IN THE HOSPITAL SETTING: POSSIBILITIES AND PITFALLS

Colleen Casey

OVERVIEW: RESEARCH RECRUITMENT AND DATA COLLECTION: POSSIBILITIES AND PITFALLS

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While approaches to nursing research are wide and varied, there are two concepts common in most research: recruitment of participants and collection of data. The purpose of this symposium is to follow up on the 2007 Western Institute of Nursing symposium titled "Theoretical Approaches to Biobehavioral Nursing Research." At that time, the authors presented the theoretical approaches used to develop their studies in biobehavioral nursing. With the completion of these studies, the authors will now share their successes and challenges faced during recruitment and data collection using various strategies and techniques. These approaches include recruiting older adults in fibromyalgia research, using electronic medical records for research, and recruiting elders in the hospital setting.

RECRUITING OLDER ADULTS IN FIBROMYALGIA RESEARCH: POSSIBILITIES AND PITFALLS

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With the aging of the population, studies focusing on older adults and aging are increasingly critical areas for research. Recruitment of older adults for research is typically associated with diseases of aging such as arthritis or cancer or issues of aging such as caregiving or maintaining physical function. However, recruitment of older adults for research in diseases not characteristically associated with aging can be more difficult. This presentation discusses the history of excluding older adults from fibromyalgia (FM) research, and the successes and challenges faced by the author in recruiting this population for FM research.

FM research has historically excluded older adults or those with comorbid conditions. This lack of study is due in part to the attempts of researchers to reduce the confounding physiologic effects of aging on study outcomes. To learn the "normal" trajectory of this disease, it was necessary to control for confounding comorbid conditions that are often present in older adults. As those that have been diagnosed with FM in their 40s and 50s over the last 20 years continue to age, it is becoming increasingly important to understand the confounding effects of aging on this disease process.

The study sample was randomly drawn from the Oregon Health & Science University FM patient database and two equally-sized groups of 50 to 64 years of age and 65 years and older were invited to participate. While the database included a sufficient number of those over 65 years of age for statistical power, the two groups did not return the questionnaires equally. The older group did not return as many surveys, and the final sample consisted of twice as many in the 50 to 64 year group than in the older group.

Phone calls from potential participants revealed that they had previously been excluded from FM research for a number of reasons. Either they were conditioned to believe that by the very nature of being over 65 they were not eligible for participation, or the presence of comorbidities had previously led to their exclusion in any FM research.

This study shed important light on the impact of history on research participants. With newly-defined diagnostic criteria for syndromes like FM, it is necessary to understand the pathophysiology without the confounding effects of age or comorbidity. However, as the population of those 65 years and older is projected to grow to 70 million people by 2050, FM and other diseases not clearly understood pose serious health concerns for this age group. The lessons learned from this research study will be crucial to those recruiting any population of people that have excluded from research in the past.

Acknowledgements: John A. Hartford Building Academic Geriatric Nursing Capacity Scholars Program, Sigma Theta Tau Beta Psi Dissertation Award, OHSU Dean's Award for Doctoral Dissertation.

USING ELECTRONIC MEDICAL RECORDS FOR RESEARCH: POSSIBILITIES AND PITFALLS

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As the use of electronic medical records in patient care continually expands, one cannot ignore the benefit this technology brings to patient care and provider access to patient information. Less clear are the opportunities this growing trend presents for research. This presentation discusses the advantages and limitations encountered when using a health system's electronic medical record for a moderately-sized research study.

One obvious boon to using an electronic medical record is the opportunity to identify patients with specific conditions. The author's research study investigated patients with chronic back and neck pain. The searchable database allowed the investigator to identify 25 diagnoses that constitute chronic back or neck pain. The capabilities of the database allowed the search to include only patients who had been seen in a certain specialty clinic within a specified time period. These features helped identify 2,000 potential research participants within a matter of minutes.

While identifying patients by diagnosis presents great opportunities for inviting patients to participate in research studies or for disease prevalence studies, this seemingly straightforward approach carries its own risks. Even within a single health system, providers often do not have standardized criteria used to diagnose specific health conditions. The diagnostic code used typically relates more to the practitioner's preference for labeling a particular set of symptoms. Furthermore, a provider may not necessarily apply a diagnosis at the time a patient first presents with an illness, further influencing epidemiologic studies of disease prevalence and incidence.

Documentation of symptoms and treatment can also vary by a practitioner's level of detail in charting. To create increased consistency in charting, many systems have electronic questionnaires that the patient or provider complete. This automated data capture creates readily retrievable data that can be tracked over time, although exclusively charting in this manner could exclude more descriptive, clinically relevant details.

While the researcher must rely on busy staff for most clinical documentation, automated medication dispensing systems offer a slightly higher level of reliability. These systems help the researcher to approximate medication use according to dispense history, although a true reflection of what the patient consumed cannot be guaranteed.

The abundance of data available in electronic medical records presents great opportunities for research. Limitations related to scope of data, specificity of information, and consistency in reporting must be considered when using such data for research. However, development of thoughtful, retrievable approaches for additional clinical and research purposes represents an exciting extension of the data's potential.

Acknowledgements: NIH NINR 1F31NR010301-01, Sigma Theta Tau Beta Psi Dissertation Award, OHSU Dean's Award for Doctoral Dissertation.

STUDY RECRUITMENT OF ELDERS IN THE HOSPITAL SETTING: POSSIBILITIES AND PITFALLS

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Data collection and recruitment in the hospital environment presents both opportunities and challenges. Researchers must balance issues affecting the integrity of the study with the realities and complexities inherent in any acute care system. This presentation discusses the methodological issues that arose during the author's study, particularly related to recruiting research subjects. This instrument feasibility study examined whether two types of accelerometers were sensitive enough to detect typical clinical care activities (such as turning in bed) in an inpatient setting. Subjects 65 years and older were recruited through a peri-anesthesia, pre-admission testing clinic prior to hospitalization.

The initiation of an electronic medical record system at the beginning of recruitment and data collection created both delays in recruitment as well as new screening opportunities. Additionally, initial recruitment protocols had to be modified based on shifting job responsibilities, competing clinical demands, and limited experience with the new electronic system.

The study employed various recruitment strategies, including passive strategies such as brochures and tear flyers, as well as active efforts, such as the use of nurse coordinators within specific surgical clinics. Issues related to recruitment by surgical clinic staff included the inability to systematically identify eligible patients, willingness to participate in nursing research, identification of suitable clinic recruiter, and time constraints of the clinical environment.

Inconsistent protocols among various surgical services presented another challenge to subject recruitment. Variations included the utilization of the pre-admission clinic, service patterns, and duration of clinic appointments. Ultimately, the selection and training of specific, paid advanced practice nurse clinicians within the pre-admission environment resulted in successful recruitment of the sample.

Subject factors that affected recruitment efforts included patient age, the severity of illness requiring a surgical procedure, co-morbidities, travel distance, and scheduling constraints related to multiple appointments on a single day. Successful recruitment strategies involved screening potential subjects far in advance of their scheduled appointments, advance contact by the recruiter, and follow-up and enrollment by telephone prior to their appointments.

Essential to the success of study recruitment and data collection efforts were the clinical contacts of the primary investigator, with flexibility, patience, and creativity exercised when necessary. A positive clinic culture in support of nursing research developed around the project, promoted by the non-research clinic staff who participated in the study and learned more about various aspects of the research process.

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RURAL NURSING RESEARCH

OVERVIEW: RURAL HEALTH RESEARCH

Joanne Noone

INFLUENCES ON CHILDREN'S PHYSICAL ACTIVITY AND DIETS: PERSPECTIVES OF RURAL YOUTH

Nancy Findholt, Linda Jerofke, Yvonne Michael

BARRIERS, FACILITATORS, AND STRATEGIES IN PARENTAL COMMUNICATION ABOUT CONTRACEPTION

Joanne Noone, Heather Young

NETWORKING IN RURAL HEALTH RESEARCH TO SUPPORT RURAL NURSING

Juliana Cartwright, Tiffany Allen, Heather Young

USING HIGH FIDELITY SIMULATION TO ENHANCE RURAL NURSING EDUCATION

Stephanie Sideras

HEALTH STATUS AND READINESS IN A COMMUNITY-BASED INTERVENTION AMONG RURAL OLDER ADULTS

Tiffany Allen, Heather Young, Joanne Noone, Erva Zabel, Theresa Johnston-Duer

OVERVIEW: RURAL HEALTH RESEARCH

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The purpose of this symposium is to share the spectrum of nursing research occurring in the Oregon Health and Science University Office of Rural Health Research. This office, located in Ashland, Oregon, supports rural nursing research and researchers situated in rural settings throughout Oregon. It provides statewide support for the development and implementation of community, clinical, and educational research focusing on improving the health status and health care of members of rural communities. This symposium presents five papers addressing an overview of the Office of Rural Health Research and rural health issues across the life span and in different settings: children in community settings, mothers of adolescent daughters, older adults with chronic illness, and educating nursing students to practice in rural settings. The first paper describes how the Office of Rural Health Research was developed, critical resources that enable our success, and accomplishments to date. The second paper discusses the perceptions of rural children concerning environmental influences on their physical activity and food choices. The third paper presents findings from a qualitative study of the barriers, facilitators, and strategies around mother-daughter communication on pregnancy prevention in a rural setting. The fourth paper discusses the methodological issues and factors promoting success in a chronic disease management program of cardiac conditions among older adults in a rural community. The final paper presents how a rural school of nursing met challenges of limited clinical experience through the development of a curriculum of high fidelity simulation. This office has successfully enabled our geographically isolated faculty to develop a network of faculty researchers committed to improving the health care of rural residents through nursing science.

INFLUENCES ON CHILDREN'S PHYSICAL ACTIVITY AND DIETS: PERSPECTIVES OF RURAL YOUTH

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The purpose of this study was to explore the perceptions of rural children concerning environmental influences on their physical activity and food choices.

Although it is widely believed that environmental causes are at the root of the childhood obesity epidemic, research into the links between the environment and children's physical activity and eating habits is limited at this time. This limitation is particularly true in regard to the rural environment because nearly all of the studies that have explored the environmental correlates of children's eating and activity behaviors have been conducted in urban or suburban settings. Rural areas differ from urban and suburban places in ways that are physical, economic, and socio-cultural in nature, and these differences may have a profound effect on children's physical activities and food choices. Therefore, identifying factors that affect the diets and physical activity patterns of rural children is an essential step toward developing effective interventions for reducing obesity in this population.

Forty-one fifth-grade students from four public elementary schools in rural Union County, Oregon participated in one of eight focus groups. The discussions were tape-recorded and transcribed verbatim, and the resulting data were analyzed using a modified version of focused coding and grounded theory methods.

Factors identified as having a positive effect on food choices including the availability of gardens and orchards, as well as opportunities for hunting and fishing, while factors that hindered healthy diets included convenience stores near the schools, teachers who modeled unhealthy eating habits, and unappealing, processed foods served in school cafeterias. The popularity of youth sports and proximity to the natural environment (mountains, creeks, fields) were viewed as having a positive effect on physical activity, while unsafe roads, lack of bike lanes, and limited facilities and equipment for physical activity at school were perceived as hindrances to physical activity.

This study built on previous research by exploring the influence of the rural environment on children's physical activity and diets. While some of the factors identified in this study also occur in non-rural settings, the findings indicate that rural communities do have unique strengths and barriers that should be considered when developing obesity prevention interventions.

This research was funded by a grant from the Northwest Health Foundation (#14131).

BARRIERS, FACILITATORS, AND STRATEGIES IN PARENTAL COMMUNICATION ABOUT CONTRACEPTION

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Purpose: This study was conducted to explore rural mothers' experiences and perceptions of their parenting role in talking with daughters about pregnancy prevention. Specific aims include the identification of mothers' perceptions of facilitators and barriers to discussing pregnancy prevention with their adolescent daughters as well as the specific strategies mothers used.
Rationale/Background/Conceptual Framework: The United States continues to have the highest rate of adolescent childbearing among developed countries. Lack of access and disadvantage contribute to this problem which disproportionately impacts rural women. Given the increased difficulty to contraceptive access that rural young women face, parental communication and support play an even more vital role in assisting young women to navigate decisions about and access to contraception. The conceptual framework for this study focuses on parent-teen communication and the influence of rurality on issues surrounding pregnancy prevention and parent-child communication regarding pregnancy prevention
Methods: The design of this exploratory study is qualitative, using open-ended interviews of mothers of adolescent women. A semi-structured interview guide was used based upon the concepts that emerged from the literature review and the conceptual framework.

The sample included thirty mothers from three rural counties in southern Oregon. Thematic analysis within and across interviews using constant comparative analysis was used to explore barriers, facilitators, and strategies mothers identified in talking with their daughters about contraception. Mothers were selected as the parental focus as most parent-child communication surrounding birth control occurs through the mother and more adolescents prefer to talk to their mothers about how to prevent pregnancy than their fathers. In rural families, traditional gender roles are emphasized and the mother is often the traditional healthcare gatekeeper in the family.
Results: Barriers and facilitators to communications included characteristics and behaviors of the daughter and of the mother as well as contextual issues related to the topic and the environment. Specific strategies mothers used were grouped into the categories of setting the stage to talk, delivering the message, and empowering.
Implications: The context of living in a rural environment may present unique barriers to facilitate parent-child communication when discussing intimate topics. The design of interventions needs to take into consideration these issues particularly when attempting to serve hard-to-reach populations. Specific suggestions for intervention design will be presented. This study will inform intervention studies designed to help parents communicate with adolescents about sexuality and pregnancy prevention in rural settings and will improve the fit of an intervention through understanding their specific needs.

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NETWORKING IN RURAL HEALTH RESEARCH TO SUPPORT RURAL NURSING

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Purpose/Aims: This paper describes how the Office of Rural Health Research in the OHSU School of Nursing has created a network of rural nurse-faculty researchers who are supporting each other despite residing in different areas in Oregon and studying diverse populations and health issues.

Rationale/Background: Rural health research is a high priority for federal and non-profit funding organizations, and nursing research has a critical role in inquiry targeted at improving the health of people in rural communities. Yet, the challenges of conducting rurally-focused research are many and there are few nurse researchers in these settings. Rural nurse researchers often are geographically isolated from colleagues with whom to discuss ideas, share work-in-progress for feedback, and problem solve methodological and logistical issues encountered in rural settings. Further, with the growing faculty shortage, mechanisms are needed to recruit, support, and retain faculty who desire both to teach and conduct research in non-metropolitan communities.

Brief Description of the Undertaking: The Office of Rural Health Research was created in 2004 to stimulate faculty capacity to conduct rural health research. At that time, while some faculty were including rural samples in their studies, only one faculty had a program of research focused on rural health. The Office included a senior nurse scientist committed to rural health research who mentored junior faculty in developing their ideas, identifying funding mechanisms and submitting study proposals. With modest seed money from the school, limited support was provided for technical assistance including literature searches, instrument formatting, and data entry. The school also initiated a small intramural grant program that provided funds for pilot studies targeting rural health concerns. Areas of faculty interest are varied and include obesity prevention in school-aged children, contraceptive decision making by young women, hospice care and medication management in assisted living, and use of simulation for student learning.

Outcomes: Over the past four years, the Office has achieved an outstanding record of funding for rural research and the faculty members have disseminated their findings through local, regional, and national presentations and publications. Currently, the Office of Rural Health Research conducts quarterly writing retreats where rural faculty provide peer review for manuscripts or proposals, and have dedicated time for scholarly writing. At quarterly presentations broadcast across campuses, faculty share findings. Faculty members collaborate on projects, share resources, and collegially solve problems related to conducting nursing research in rural settings. Students participate on projects and discuss the impacts of findings in practice. Community agencies and residents have the opportunity to participate in studies, and the School enjoys opportunities to regionally publicize this aspect of nursing practice through local media.

Conclusions: This office has successfully enabled our geographically isolated faculty to develop a network of faculty researchers committed to improving the health and care of rural residents through nursing science.

USING HIGH FIDELITY SIMULATION TO ENHANCE RURAL NURSING EDUCATION

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Purposes/Aims: The purpose of this paper is to present how a rural school of nursing faced the challenges of limited clinical experience through the development of a curriculum of high fidelity simulation which allows faculty to directly observe student work and structure both the content and situational complexity to meet the learning needs of students.
Rationale/Background: High fidelity simulation plays a vital role in meeting the challenges of rural nursing education programs. A school of nursing operating within a rural setting faces specific challenges related to access to patients in the clinical setting and also faculty supervision and evaluation of student performance. The wide geographic distribution of clinical practice sites limits the amount of faculty contact with students. Rural hospitals, nursing homes, health departments, and other agencies may have smaller patient populations and variable censuses decreasing the likelihood that students will encounter specific types of patient populations that provide essential learning experiences (e.g., children who are ill, women experiencing childbirth, terminal patients requiring end-of-life care).
Brief Description of the Undertaking: Integration of simulation into the curriculum initiated using a faculty champion model. Two faculty were funded for development regarding use of the highly technological manikin as well as the educational methods specific to simulation. It was expected these faculty would lead in the development of simulation scenarios, demonstrate this method of teaching, and subsequently teach other faculty.
Outcomes: Within one year, simulation use expanded to engage all clinical faculty. The addition of a simulation technician to maintain the audiovisual data was essential. The deep, rich information about student clinical capabilities that is apparent to educators as they watch students work in a high fidelity simulation was effective in gaining faculty approval for this use of student clinical time. Faculty found the high fidelity nature of simulation facilitated their evaluation of the student's development of clinical judgment. Simulation is now a component of every clinical course with students typically participating in three sessions, caring for nine patients, per quarter. Scheduling is linked by clinical group and faculty. Use has expanded beyond the manikin to support student learning needs at any point it becomes difficult for faculty to find effective learning experiences—such as using standardized patients to present mental health alterations, or designing challenging interdisciplinary conversations. Simulation is also used to support learning when the complexity and pace of the clinical setting requires the student to enter with a higher level of experience—such as a health screening fair.
Conclusions: Use of tailored clinical cases in the high fidelity simulation laboratory allows faculty to structure both the content and situational complexity to meet the learning needs of students, and to directly observe student performance. This is particularly essential for rural schools of nursing when student practicum experiences may be limited. The high fidelity nature of the experience is helpful for clinical faculty assessment of student clinical judgment ability and further design of student education practice experiences. While the use of advanced technology as a teaching tool does require attention to faculty support and ongoing development, the perceived benefits of simulation education has kept faculty engaged in implementation of the method throughout the undergraduate curriculum.

HEALTH STATUS AND READINESS IN A COMMUNITY-BASED INTERVENTION AMONG RURAL OLDER ADULTS

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Purpose: The purpose of this paper is to present a baseline profile of the health status and interest of participants who enrolled in a community-based intervention to evaluate a chronic disease self-management program in improving the capacity of rural older adults at high-risk of cardiovascular disease to manage their health.
Rationale/Background/Conceptual Framework: Adult Oregonians have significant risk factors for cardiovascular disease. Overwhelming evidence suggests that cardiovascular disease can be prevented and/or modified through risk reduction activities. A chronic disease self-management series was evaluated based on the evidence-based Stanford University curriculum. In previous research, primarily done in university settings rather than community settings, the chronic disease self-management classes have demonstrated: (1) increased self-efficacy in the participants, (2) reduced emergency room use, and (3) improved health status. This study implemented the program in a rural, community-based setting.
Methods: A sample of 204 was recruited from patients admitted to two hospitals in Jackson or Josephine Counties for a cardiac condition and who resided in a rural community (as determined by criteria of the Oregon Office of Rural Health). Eligibility criteria included being English-speaking, living in a rural community, and having cardiovascular disease. After agreeing to participate, participants were randomized to one of two groups: the first received written information about health promotion and self-management of cardiac disease; the second group was referred to a six-class chronic-disease management series. This repeated measure, pre- and post-intervention study examined a variety of health indicators. For both groups, the evaluation included a health survey upon enrollment and after 6 and 12 weeks.
Results: The study had a 21% recruitment success, despite the fact that participants were older and had recently been hospitalized. Completed baseline data demonstrated significant health issues in this sample of rural older adults. Participants had a mean of 2.49 chronic conditions and, on average, took eight medications. Seventy-eight percent were overweight or obese. In general, the group was sedentary with moderate limitations to their activities of daily living due to their health.
Implications: The participants who enrolled in this study were well suited for the targeted intervention of a chronic disease self-management program. Despite a recent hospitalization, participants showed strong interest in enrolling in the study.

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.

ALASKA NATIVE MEDICAL CENTER

Anchorage, Alaska

DEVELOPMENT OF STATEWIDE NURSING COMPETENCY AND PRECEPTOR EDUCATION STANDARDS
Cynthia Roleff

HEALTH DISPARITIES IN CANCER SURVIVORSHIP: A RESEARCH OPPORTUNITY
Julie McNulty, Lillian Nail

BANNER GOOD SAMARITAN MEDICAL CENTER

Phoenix, Arizona

HARDINESS BETWEEN GENERATION X AND MILLENIAL NURSES
Mary Whitner, Susan Hurst

THE ROLE OF A PEANUT BALL FOR LABORING WOMEN
Chris Tussey, Emily Botsios

A NURSE DRIVEN PROTOCOL TO IMPROVE GLUCOSE MANAGEMENT IN ICU PATIENTS
Jackie Keith

IMPLEMENTATION OF E-B GUIDELINES FOR NURSE FLOATING
Sue Ann Kilgore

COUNTERING LATERAL VIOLENCE: A MAGNET HOSPITAL'S PROCESS TO ENGAGE NURSES THROUGH TRANSITION
Susan Phillips

SPIRITUALITY IN ONCOLOGY PATIENTS
Denise Gibson

BOISE STATE UNIVERSITY DEPARTMENT OF NURSING
Boise, Idaho

GROWTH AND DEVELOPMENT AMONG TODDLERS AND PRESCHOOLERS IN FOSTER CARE
Jessica Nelson, Jeri Bigbee

TRANSITIONING RURAL GRADUATES INTO PRACTICE
E'Raina Hatch, Mary Randall, Helen Ryan, Heather Taylor

BRIGHAM YOUNG UNIVERSITY COLLEGE OF NURSING
Provo, Utah

TECHNOLOGY IN NURSING EDUCATION: USE OF HIGH-FIDELITY PATIENT SIMULATORS
Patricia Ravert

THE PYSCHOMETRIC PROPERTIES OF THE SELF ASSESSMENT OF THE INTERPERSONAL RELATIONSHIP SCALE
Karen Dearing, Sheryl Steadman

ONCOLOGY NURSES' PERCEPTIONS OF OBSTACLES AND SUPPORTIVE BEHAVIORS IN END-OF-LIFE CARE
Renea Beckstrand, Josie Moore, A. Elaine Bond, Lynn Clark Callister

REASONS PARENTS HESITATE TO IMMUNIZE THEIR CHILDREN
Beth Luthy, Renea Beckstrand, Amanda Orme

ADULT AND CHILD WEIGHT PERCEPTIONS IN WENDOVER, UT
James Kohl, Karen Lundberg

LOMA LINDA UNIVERSITY SCHOOL OF NURSING
Loma Linda, California

TRANSITION INTO A NEW HOSPITAL USING HIGH-FIDELITY MEDICAL SIMULATION
Janice C. Palaganas

MAINTAINING WELL-BEING IN THE FACE OF THE CUMULATIVE LOSSES OF AGING
Julie Pusztai

LUCILE PACKARD CHILDREN'S HOSPITAL AT STANFORD

Palo Alto, California

COLLABORATIVE HEALTHCARE IMMERSIVE LEARNING DYNAMIC (CHILD)

Linda Hargreaves, Cassandra Bergero, Amy Nichols

IMPACT OF EDUCATING NURSES ABOUT EMERGENCE DELIRIUM IN A PEDIATRIC PACU

Ann Heinlen

OPTIMIZING PATIENT SAFETY THROUGH STANDARDIZED PROVIDER HANDOFFS

Sandra Staveski, Jennifer Bond, Kit Leong, Paul Sharek, Daniel Murphy, Stephen Roth

OTORRHEA IN INFANTS WITH TYMPANOSTOMY TUBES PRIOR TO SURGICAL REPAIR OF A CLEFT PALATE

Ginny Curtin, Anna H. Messner, Kay Chang

MONTANA STATE UNIVERSITY COLLEGE OF NURSING

Bozeman, Montana

LONELINESS: RURAL WOMEN WITH CHRONIC ILLNESS

Lisa Marcille, Clarann Weinert

EXPLORING CORRECTIONAL FACILITY NURSING IN THE INTERMOUNTAIN WEST

Amanda White, Laura Larsson

COMPARISON OF TWO NUTRITIONAL INSTRUMENTS

Clover Ernest, Karen Zulkowski

NUTRITIONAL STATUS IN A SENIOR POPULATION: A CLASS PROJECT

Lynn Nelson, Karen Zulkowski

RURAL NURSES ATTITUDES AND BELIEFS TOWARD EVIDENCE-BASED PRACTICE

Brenda Koessl, Charlene A. Winters, Helen J. Lee, Lori Hendrickx

RELATIONSHIP BETWEEN SLEEP, DEPRESSION, QOL, AND IADL'S ON NUTRITIONAL STATUS

Rebecca Fourneir, Elizabeth Borders, Karen Zulkowski

AN EVIDENCE-BASED APPROACH TO MANAGING DELIRIUM IN A RURAL HEALTH CARE SETTING
Danette Melvin, Linda Torma

NORTH COLORADO MEDICAL CENTER – BANNER HEALTH
Greeley, Colorado

NURSING PRACTICE CHANGES AND PRESSURE ULCER RATE AFTER MANDATORY EDUCATION
Carol Roehrs, Julie Roth-Carter, Monica Hupalo, Elly Peters, Meredith Taylor, Mary Scheid

CARING FOR FAMILIES COPING WITH PERINATAL LOSS
Carol Roehrs, Anne Masterson, Ruth Alles

A COMPARISON OF TYMPANIC AND TEMPORAL ARTERY THERMOMETER MEASUREMENTS
Kristy Munch, Lyla Rhoades, Natelle Perez, Nancy White

NORTHERN ARIZONA UNIVERSITY SCHOOL OF NURSING
Flagstaff, Arizona

QUALITY OF LIFE AT THE END OF LIFE: THE RESEARCH EXPERIENCE
Sonya Hendrickson

OREGON HEALTH & SCIENCE UNIVERSITY SCHOOL OF NURSING
Portland, Oregon

PRE-RECRUITMENT: ADOPTING COMMUNITY-BASED PARTICIPATORY RESEARCH PRINCIPLES
Connie Nguyen-Truong, Quynh-Anh Phan, Frances Lee-Lin, Vivian Gedaly-Duff, Lillian Nail, Tuong Vy Le, Zora Tu, Michael Leo

OVERCOMING BARRIERS IN ASSESSING FIBROMYALGIA PREVALENCE IN NATIVE AMERICANS
Molly Aultz

ASSESSING PAIN NEAR END-OF-LIFE IN NURSING HOME RESIDENTS WITH DEMENTIA
Rebecca N. Scobee, Lois L. Miller

FAMILY CAREGIVERS OF ASSISTED LIVING RESIDENTS ENROLLED IN HOSPICE
Miriam Volpin

UNIVERSITY OF CALIFORNIA SAN FRANCISCO MEDICAL CENTER
San Francisco, California

EVALUATING USE OF ULTRASOUND TO GUIDE PICC INSERTION IN PEDIATRICS
Anna Liang

ED FALLS PREVENTION PLAN
Tina Quon

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