Eighth National Conference on Cancer Nursing Research

February 3–5, 2005, Fort Lauderdale, FL

The Eighth National Conference on Cancer Nursing Research is the most comprehensive conference of its kind. Topics will include

- Cancer risk factors
- Quality of life
- Breast cancer
- Survivorship
- Symptom management
- Genetics
- Pain management
- Clinical trials
- Fatigue
- Cancer in underserved populations
- Caregiver needs
- Palliative and hospice care
- Radiation therapy.

Keynote Address
"Helping Families of Cancer Patients," Laurel Northouse, PhD, RN, FAAN

Oncology Nursing Society (ONS)/American Cancer Society State-of-the-Science Lecture
"Hot Flashes Within Context of Cancer," Janet S. Carpenter, PhD, RN

ONS New Investigator Presentation
"A Pilot Study to Predict Success With Guided Imagery for Cancer Pain," Kristine L. Kwekkeboom, PhD, RN

Plenary Session I
"What's Translational Research? Three Perspectives," Peter Houghton, PhD, Ruth McCorkle, PhD, RN, FAAN, and Ida Moore, DNS, RN, FAAN

Plenary Session II
"Using Data to Its Fullest," Jean Brown, PhD, RN, FAAN, William N. Dudley, PhD, Joan Haase, PhD, RN, and Manfred Stommel, PhD

Closing Session
"Out of the Shadows and Into the Light: Nursing Sensitive Patient Outcomes," Susan L. Beck, PhD, APRN, FAAN, and Barbara Given, PhD, RN, FAAN

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In the following pages, you will find the abstracts accepted for podium and poster presentations at the Eighth National Conference on Cancer Nursing Research. Abstracts appear exactly as submitted and have not been edited, nor have they undergone the *Oncology Nursing Forum* Editorial Board's review process. We have made every effort to be accurate; if any errors or omissions have been made, please accept our apologies. Abstracts appear in alphabetical order by first author. Abstracts that are not being presented do not appear.

Abstracts Accepted for the Eighth National Conference on Cancer Nursing Research

Abstracts to Be Presented at Podium Sessions

COMPARING MARITAL CHARACTERISTICS AND MARITAL SATISFACTION IN COUPLES WITH BREAST CANCER. Kathryn H. Anderson, PhD, RN, LMFT, Florida International University, North Miami, FL; Cherie Christopherson, BSN, RN, Flagstaff Medical Center, Flagstaff, AZ; Dianna Moll, BSN, RN, St. Mary's Medical Center, Madison, WI; Frances Marcus Lewis, PhD, RN, University of Washington, Seattle, WA.

Breast cancer (BrCA) is the most common malignancy among women in the United States. Identifying marital characteristics that influence whether couples move closer or become more distant or avoidant is important to determine.

Couple interaction characteristics have not been clearly identified that determine how couples relate with each other during the illness and thus, influence marital satisfaction. The purpose of this study was to determine whether identification by couple interaction characteristics predicts marital satisfaction ten months later in the illness course.

John Gottman's (1999; 2003) Sound Marital House Theory has 4 major components: (1) creating positive affect in non-conflict contexts, (2) creating positive sentiment override, (3) regulating conflict, and (4) creating shared symbolic meaning with specific descriptive identifiable behaviors.

The study design is a secondary analysis of couple interview data from the Family Home Visitation Study [FHVS] (Lewis, 1992–1996). The sample of 10 couples who both scored below the mean on marital satisfaction measures and 10 couples who both scored above the mean on marital satisfaction measure at T1 were randomly selected. Spanier's (1976) Dyadic Adjustment Scale (DAS) was used in the original study to measure marital satisfaction. Validity and reliability is well established for this tool.

The four constructs of Gottman Sound Marital House Theory were applied in the analysis of the couple interaction. Based on couple characteristics, couple description profiles were created and classified into high or low marital relationship based on the SMHT schema. The couple marital category was then compared to the couple's scores on marital satisfaction (Spanier, 1976), measured at T4 in the original FHV study.

Using the 4 levels of the Sound Marital House, the researchers assigned the couples to two groups, one with more positive couple characteristics and the other with more negativity. Using the characteristic descriptors, each couple was placed into a group hypothesized to represent high or low marital satisfaction. Marital characteristics of each group will be discussed and how the characteristics matched the marital satisfaction scores with implications for care of couples with breast cancer. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Aventis Pharmaceuticals.

THE MEASUREMENT OF MODESTY AMONG JEWISH AMERICAN WOMEN. Caryn Scheinberg Andrews, CRNP, PhD, Northwest Hospital Center, Randallstown, MD.

Cultural-modesty was found to influence breast and cervical cancer screening among Chinese, Hispanic, and Muslim cultures. It was hypothesized that highly observant Jewish women who practice strict practices of modesty may underutilize preventive health care services. However, the construct of modesty was not well-defined in the literature, and a measure was not found. "Your Views of Modesty" was developed to explore those relationships.

This research study aimed to develop and test an instrument to measure the general construct of modesty. The measure of modesty was tested in the context of breast cancer screening.

An expansion of Champion's Behavioral Model for Mammography Utilization was used.

Design: A cross-sectional mailed survey design was used.

Procedure: Hadassah, a Jewish women's organization, mailed out 2000 study packets to women on their mailing list.

Sample: Adult Jewish women, over the age of 18 were mailed surveys. Three hundred and seven Jewish women returned surveys (15% response rate). Ages 26–95 years (mean 67 years), 89% Ashkenazi Jewish, Sephardic 3%, 3% other/both. Religious group denomination: 5% no religion; 21% Reform; 54% Conservative; and 17% Orthodox.

Analysis: Internal consistency reliability was estimated using Cronbach's alpha and item-total correlations. Validity estimation included convergent, discriminant, and construct validity using hypothesis testing. Bivariate correlations and ANOVA related scores of "Your Views of Modesty", religiosity, with religious group denomination. Descriptive statistics provided measures of central tendency and dispersion of the total scores of the modesty and religiosity scales (summed scores).

Findings: Reliability for "Your Views of Modesty" was Cronbach's alpha of .92. Item-total correlations ranged from .34–.74 indicating high reliability. Modesty was correlated with religiosity (r = .26, p <.01). Total modesty scores and self ranked modesty were moderately related (r = .67, p < .01). Implications: Many qualitative studies identified modesty as a barrier to health care. Future research, testing the construct of modesty using "Your Views of Modesty" with Muslim, Chinese, and Hispanic women who have cultural rules about modesty will provide knowledge of modesty and health care utilization. In clinical practice, the understanding of cultural modesty is paramount for providing culturally tailored care. Funding sources: University of Maryland Women's Health Research Group.

IMPLEMENTION RESEARCH—THE EXAMPLE OF MUCOSITIS. Sanchia Aranda, Peter MacCallum Cancer Centre, Melbourne, Australia; Patsy Yates PhD, Queensland University of Technology, Brisbane, Australia; Kate White, PhD, Edith Cowan University, Perth, Australia; Diane Saward, Grad Dip, Peter MacCallum Cancer Centre, Melbourne, Australia.

Implementation of best evidence into practice is a priority research area. Barriers to research implementation are well described but few studies examine approaches to practice change.

Mucositis is a common problem for people receiving cancer treatment. Evidence shows that good oral hygiene reduces the incidence and severity of mucositis. In practice oral hygiene receives little attention and practices, such as reducing toothbrushing, militate against it. Oral care solutions are overused with no evidence they prevent mucositis. A previous educational approach to implementing good oral hygiene did not achieve sustained change. This project draws on Roger's theory of innovation diffusion, utilising facilitation by peers.

Three cancer units, inpatient haematology, day chemotherapy and outpatient radiotherapy, were the intervention targets. Clinical nurses were educated about mucositis prevention, oral assessment and practice change methods focusing on the role of faciliation. The nurses were time-released from practice to implement the oral care protocols, oral assessment tool and patient information brochure.

The project aimed to improve oral assessment frequency, patient access to oral care information and to reduce the unnecessary use of oral solutions in mucositis prevention. We also aimed to reduce the prevalence of severe mucositis. The results showed improvement in patient receipt of oral care information (p, 0.01), reduction in the use of oral solutions and improved documentation. The proportion of patients with an oral score of >10 using the oral assessment guide was reduced (p = 0.01). Changes were sustained at three months after removal of the facilitators, with some decline in use of the oral assessment tool and patient information brochure.

Peer facilitation may help introduction of practice change. Facilitators can make a routine topic interesting and raise interest and support for change amongst peers and interdisciplinary teams. Resistance may relate to perceptions that change indicates current practice is poor. Lessons include the need for rapid return of change data and for greater involvement of nurse managers. Future research will focus on strategies to reduce the decline in change over time. The use of peer facilitators is likely to be useful in a range of clinical settings for practice change but requires further research. Funding sources: National Institute of Clinical Studies, Targets Project Grant.

PEAK EXERCISE RESPONSE TO CLINICAL EXERCISE TESTING USING THE BRUCE PROTOCOL IN PATIENTS WITH CANCER WITH KNOWN CARDIOVASCULAR, PULMONARY, OR METABOLIC DISEASE. Sonya Arzola, BS, Brooke Army Medical Center/Geneva Foundation, Fort Sam Houston, TX; Stacey Young-McCaughan, RN, PhD, AOCN®, U.S. Army Medical Command, San

Antonio, TX; Kenneth Leclerc, MD, Brooke Army Medical Center, San Antonio, TX; Marilyn Nowlin, RN, BS, BSN, Brooke Army Medical Center/Geneva Foundation, San Antonio, TX.

To describe how a group of patients with cancer who had completed treatment with known cardiovascular, pulmonary, or metabolic disease responded to peak exercise using the Bruce protocol.

The American College of Sports Medicine (ACSM) recommends that individuals with known cardiovascular, pulmonary, or metabolic disease receive a clinical exercise test prior to starting a moderate intensity exercise program. To our knowledge a description of peak exercise response to the Bruce protocol in patients with cancer with known cardiovascular, pulmonary, or metabolic disease six months post surgery, radiation, or chemotherapy treatment has not been reported.

All subjects were cleared to participate in the clinical exercise test by their designated primary care provider, the study oncologist, and the study cardiologist. ACSM guidelines for clinical exercise testing were followed. The speed, grade, and duration of the clinical exercise test were dictated by the Bruce protocol. The McConnell formula was selected to predict maximal oxygen consumption, which was then converted into metabolic equivalent (METS). Of the 62 patients consented to participate in the study, approximately half (n = 33) had known cardiovascular, pulmonary, or metabolic disease. Of the 33 patients with known disease, 39% (n = 13) were post treatment. Subjects had seven different types of cancer at all stages of disease. At baseline testing peak oxygen consumption, mean METS was 6.6 (SD = 1.43), heart rate 145.9 bpm (SD = 23.31), systolic blood pressure 175 mm Hg (SD = 19.2), diastolic blood pressure 78.1 mm Hg (SD = 10.37), and perceived exertion 15.3 (SD = 2.02). Each of these measures was similar to what would be expected in a similar population of patients with known cardiovascular, pulmonary, or metabolic disease.

In this sample of patients with cancer with known disease six months post treatment, peak exercise response to the Bruce protocol was similar to that of non-cancer populations with known disease.

In a growing number studies that have investigated exercise rehabilitation in patients with cancer, dramatic improvements in physiological and psychological functioning have been documented. How clinical and research exercise testing should be safely conducted in this patient population is currently being defined and refined. This work suggests that standard ACSM precautions for exercise testing and training are appropriate for patients who have undergone treatment for cancer. Funding sources: Department of Defense Uniformed Services University of the Health Sciences TriService Nursing Research Program, N98-051.

PALLIATIVE CARE PROGRAM EFFECTIVENESS RESEARCH: DEVELOPING RIGOR IN SAMPLING DESIGN, CONDUCT, AND REPORTING. Marie Bakitas, MS, ARNP, AOCN®, Dartmouth-Hitchcock Medical Center, Lebanon, NH; Kathleen Lyons, ScD, OTR, Dartmouth College, Lebanon, NH; Jane Dixon, PhD, RN, Yale University, New Haven, CT.

As a newer model of care, few palliative care programs have undergone rigorous testing for clinical efficacy or effectiveness. Among the methodological difficulties of palliative care research, issues of sampling are prominent. The purpose of this presentation is to analyze the unique sampling issues of palliative care program effectiveness research including: identification of the target population, operationalizing the target population through the development of eligibility criteria, and clear reporting of the elements of the sample in the research report. Comprehensive review of sampling issues and approaches to these challenges has received only scarce attention in the literature.

Sampling issues are not unique to palliative care, however palliative care does have unique sampling issues. These require a rigorous approach and attention not only during study design, but also throughout data collection, data analysis, and interpretation and dissemination of study results. For example, palliative care RCTs and evaluation research have identified challenges with recruitment of appropriate types and numbers of patients; at times preventing study completion. In studies with adequate enrollment, highly selective or overly broad eligibility criteria have limited program generalizability.

During design researchers must assure that appropriate types and numbers of patients are available and that eligibility criteria will represent the target population. During the study, monitoring recruitment and adherence to sample selection procedures ensures adequate accrual and detection of sample selection biases. During data analysis, identified sample imbalances may be managed via statistical means. Upon study completion, the sampling strategy and participants should be described in sufficient detail to allow the reader to evaluate the extent to which established quality criteria have been met.

The steps of rigorous sampling design will be illustrated in the design and conduct of an RCT testing the integration of a palliative care program in a cancer center. Following these approaches can minimize threats to study internal and external validity, which can reduce study relevance.

As the number of palliative care programs of various models increases, it is necessary that rigorous methods are applied to identify cost-effective and of high quality care models. Careful attention to sampling issues is critical to building this evidence base. Funding sources: NIH/NCI- 1 R01 HS013336-01.

SYMPTOM CLUSTERS IN CANCER PATIENTS UNDERGOING THERAPY. Andrea Barsevick, DNSc, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; William Dudley, PhD, Susan Beck, PhD, APRN, University of Utah, Salt Lake City, UT; Kyra Whitmer PhD, RN, University of Cincinnati, Cincinnati, OH.

Although individuals undergoing cancer therapy are likely to experience multiple concurrent symptoms, most research has examined individual symptoms. The clustering and pattern of cancer symptoms in patient groups is not well understood. Likewise, little is known about the antecedents and consequences of symptom clusters.

This presentation reports a secondary data analysis describing groups of cancer patients with unique patterns of clustered symptoms including fatigue, sleep disturbance, and depressive symptoms. Clinical and demographic antecedents as well as clinical outcomes associated with the symptom cluster groups are examined.

The updated Theory of Unpleasant Symptoms (Lenz et al., *ANR,* 1997) provides the conceptual basis for the analysis.

Data were derived from a randomized clinical trial of energy conservation to manage fatigue during cancer therapy (Barsevick et al., *Cancer,* 2004). The sample consisted of 278 individuals treated for a variety of cancers with chemotherapy, radiotherapy, or combination therapy. Data collected 48 hours after the second chemotherapy or at the end of radiotherapy were used in the analysis. The Profile of Mood States Depression Scale, General Fatigue Scale, Pittsburgh Sleep Quality Index, and Functional Performance Inventory were the valid and reliable measures used.

Hierarchical cluster analysis identified three homogeneous groups based on the presence and severity of the three symptoms. Parametric and non-parametric statistical procedures were used to examine the relationships with antecedents and consequences.

Three symptom cluster groups demonstrated significant differences in all symptoms (all p < .001). Group #1 (N = 154) had the lowest symptom levels. Group #2 (N = 89) had lower fatigue and depression but moderate sleep disturbance. Group #3 (N = 35) demonstrated the highest symptom levels. Two antecedents were associated with symptom cluster group membership: group #2 had a higher percentage of married individuals; group #3 had a higher percentage who received combination therapy. Group #3 had the worst consequence in overall functioning.

The findings demonstrate that different cancer patient groups can be distinguished by the presence and severity of three common symptoms. Differences in outcome for symptom cluster groups were also evident. It is possible to use clinical and demographic antecedents to identify those at risk for high symptom levels. Funding sources: NINR grant 04573.

SYMPTOM EXPERIENCE OF RURAL AND URBAN OLDER ADULT CANCER SURVIVORS. Susan Beck, PhD, FAAN, AOCN®, William N. Dudley, PhD, Karen Lindau, MS, University of Utah, Salt Lake City, UT.

There is a ten-fold increase in cancer incident rates for those over 65, a population that is growing exponentially in the U.S. The Institute of Medicine has rec-

ommended research to establish baseline data regarding the cancer experience in medically underserved populations including the elderly and those living in rural communities. Such underserved populations may have insufficient access to information, resources, and social support following cancer treatment.

The aims of this study are: 1) to document the symptom experience and quality of life in older adult cancer survivors during the period of early survivorship and 2) to compare urban and rural survivors.

The study was guided by the Theory of Unpleasant Symptoms which includes three major concepts: the symptoms, influencing factors, and situational factors.

This descriptive, comparative, repeated measures study compares elderly cancer survivors in rural and urban settings following completion of cancer treatment. At one, three, and fifteen months post-treatment, each participant was mailed a questionnaire addressing their symptom experience using psychometrically sound tools (i.e., Brief Pain Inventory, General Fatigue Scale, Pittsburgh Sleep Quality Index, Geriatric Depression Scale and the SF-12).

Measures of central tendency and repeated measures ANOVA were used.

Twenty-four females and 31 males ranging in age from 65–81 (mean age = 71.56) participated. Twenty-five percent (25%) were age 75 or older. A 1-year follow-up was completed on 33 (60%) of the participants. Survivors continue to experience a significant number (Mean = 3.9) of symptoms for up to 15 months post-treatment. Fatigue, insomnia, and pain persisted with a moderate severity level on average at each time point; there was no significant improvement over time (p > .10). The majority of participants were not depressed and scored highly on the SF-12 Mental Health Status. Physical functioning was less than the national norm for elderly individuals or those with a chronic disease but did significantly improve over time (p = .011). Those in rural areas reported less physical functioning at each time point (p = .08).

This study provides a foundation regarding the needs of older adult survivors and informs future studies to test interventions to improve the care of this underserved population. Funding sources: National Cancer Institute Supplement to 3P30CA42014-15 (S. Prescott PI).

PATTERNS AND RELATIONSHIPS AMONG SYMPTOMS AND FATIGUE DURING AND FOLLOWING ADJUVANT CHEMOTHERAPY FOR BREAST CANCER.

Ann Berger, PhD, RN, AOCN®, University of Nebraska Medical Center College of Nursing, Omaha, NE; Suzanne Bakken, MSN, RN, Avera Hematology and Transplant, Sioux Falls, SD.

Recent research findings identify the significant role symptoms play in influencing fatigue during and following adjuvant chemotherapy for breast cancer. It is essential that we know about relationships among physical and psychological symptoms and fatigue before designing fatigue intervention studies.

This study's purpose was to examine the patterns and relationships among physical (nausea, appetite, pain, concentration, bowels, appearance, sleep) and psychological (depression, anxiety) symptoms and fatigue during four treatments and 30, 60, 90 days after the last treatment and 1 year after the first treatment of adjuvant chemotherapy for breast cancer.

Theoretical framework was Piper's Integrated Fatigue Model.

This work is part of a prospective, repeated measures, quasi-experimental feasibility study that examines the outcomes of an intervention to improve sleep and fatigue.

Sample: 25 Caucasian, English-speaking women, post-surgery, who completed doxorubicin/cyclophosphamide chemotherapy for stage I or II breast cancer, mean age = 54.3, most married and employed full or part time. Reliable and valid instruments included Piper Fatigue Scale, Symptom Experience Scale, Hospital Anxiety and Depression Scale.

Descriptive, correlations, and regression analyses were performed.

All symptoms fluctuated during and following chemotherapy for breast cancer. After fatigue, sleep disturbance was the most frequent, intense, and distressing symptom. Mean total fatigue scores (PFS) also fluctuated over time (2.9–5.9, SD = 1.5–2.8). Significant correlations were found between fatigue (PFS) and the combined score of the remaining seven physical symptoms (SES) (r = 0.46–0.60, p < .02–.001) and between fatigue (PFS) and/or anxiety and depression (HADS) (0.46–0.79, p < .004–0.001).

Fatigue was most frequently correlated with the individual physical symptoms of sleep disturbance, pain and nausea and the psychological symptoms of depression and anxiety. Regression analyses identified specific clusters of symptoms associated with fatigue at all times except 1 year after the first treatment (R2=.33- .48; F= 4.82- 9.80, p=.02-.001).

Symptoms, including fatigue, sleep disturbances, pain and depression, are experienced both individually and in clusters at all measurement points during and following chemotherapy. Nurses must vigilantly assess symptoms in order to identify symptom clusters that influence fatigue during and following chemotherapy. Interventions are needed to prevent chronic symptom distress after chemotherapy ends. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.

WOMEN'S PERCEPTIONS OF THE EFFECTS OF BREAST CANCER ON THE SELF: A META-SYNTHESIS OF THE QUALITATIVE LITERATURE 1990–2003.

Carina Bertero, PhD, RN, Linkoping University, Linkoping, Sweden; Margaret Wilmoth, PhD, MSS, RN, University of North Carolina–Charlotte, Charlotte, NC.

Research from a variety of disciplines and perspectives report effects of breast cancer treatment on women, but the literature lacks synthesis of the qualitative literature on this topic. A meta-synthesis of the literature may identify cross-cultural effects of treatment on women's sense of 'Self'.

A meta-synthesis of the multidisciplinary qualitative research on the effects of breast cancer on the 'Self' was undertaken to discover deeper meanings of the breast cancer experience and possible presence of cross-cultural similarities.

The Hermeneutical phenomenological approach used to conduct this meta-synthesis stimulated new understandings of complex phenomena.

Sample: Inclusion criteria: research done in the qualitative paradigm between 1990–2003 on the keywords breast cancer and intimate relationship, togetherness, intimacy, sexuality, self-esteem and self. The search engines PubMed, Medline, CINAHL and PsycInfo identified 445 manuscripts. Use of a Primary Appraisal format and application of exclusion criteria resulted in 36 manuscripts for analysis that included women from Asian, European and American cultures. Exclusion criteria: research done solely in the quantitative paradigm, non-research articles and research on women with benign breast lesions or undergoing genetic testing for BRCA1 gene.

A hermeneutical approach was used in analyzing and re-interpreting findings using the framework of 'Experience of Breast Cancer on the Self'. Rigor to ensure credibility and dependability was applied.

Breast cancer impacts four aspects of the Self regardless of culture, marital status, race or age. These are an 'Awareness of Mortality', 'Living with an Uncertain Certainty', 'Attachment Validation' and 'Redefinition of the Self'.

Women desire information and support throughout their lives as they learn to live with breast cancer. They struggle to reach a deeper level of understanding about what impact breast cancer and treatment has on their 'Self as Woman'. These needs are consistent across cultures, thus bringing into question the current emphasis on identifying cultural-specific responses to this chronic illness. Adherence to current standards of nursing practice would facilitate women in their journey. Future areas of research include increased multi-cultural and multidisciplinary studies to enhance universal understanding about the process of living with breast cancer and its impact on a woman's 'Self'.

THE DIAGNOSIS OF BREAST CANCER: TRANSITION FROM HEALTH TO ILLNESS.

Marcia Boehmke, DNS, ANPc, RN, Suzanne Dickerson, Assistant Professor, University at Buffalo, Buffalo, NY.

Implications: Nurses need to be aware of the intense emotions of women newly diagnosed with breast cancer. While assisting women to manage symptoms and symptom distress experienced during treatment, nurses need to be mindful of a woman's view/perception of breast cancer that affect their experiences and response to symptoms encountered.

Purpose: To understand the lived-experience and symptom distress encountered by women with breast cancer during adjuvant treatment through interpretation of narrative stories. Questions: (1.) What were the common experiences and shared meanings of women with breast cancer during adju-

vant treatment? (2.) What were the women's perceptions of distress related to diagnosis and symptoms experienced?

Hermeneutic phenomenology was the interpretive approach used to understand women's experiences through analysis of narrative texts.

Methods: Hermeneutic phenomenological approach, emphasizing the complexity of the human experience and lived-experience was used for this study. Women who met inclusion criteria were interviewed and asked to tell their story about being diagnosed with breast cancer and their symptom experience.

Interviews were audio-taped and transcribed providing data for interpretive analysis that consisted of thematic analysis of the taped narratives and teamwork with a senior nurse scientist.

Findings: Four themes emerged: (1.) A woman's view of the diagnosis of breast cancer affected her experience and response to symptoms/symptom distress; (2.) Symptoms of severe bone, neuropathy, taste changes and diminished attention span were most distressing, affecting functioning; (3.) Experiencing a precipitous transition from "a state of health to illness overnight based on the results of a mammogram"; (4.) Erasing former personhood by experiencing a body altering (physical and emotional) life changing illness.

Conclusions: Women newly diagnosed with breast cancer experience a life transition and encounter symptoms that affect their attitude toward their body, their functioning and ultimately their quality of life. As more women become breast cancer survivors, this transition needs further exploration so that breast cancer survivors can go on to live the lives they have been given back.

CAREGIVER DISTRESS: A ROLE FOR SCREENING. Tami Borneman, RN, MSN, CNS, Jane Ingham, MBBS, FRACP, Georgetown University Medical Center, Washington, DC.

Caregivers (CGs) of advanced cancer patients often report emotional distress and unmet needs, yet no standard exists for identifying distress in the clinic setting. CG distress is often under-recognized by health care providers and risks impacting both CG well-being and patient care. Thus, the role of screening for CG distress is relevant and important.

Explore instruments that assess CG health and distress outcomes. Specifically explored were ranges of scores on several standard mental health instruments for CG's, and an evaluation of the validity of the "Distress Thermometer" —a self-administered screening tool for detection of distress.

A longitudinal study, using a conceptual model of the caregiving experience to evaluate relationships between CG unmet needs, burden, perceptions of CG distress and health outcomes.

Patient-CG dyads in an outpatient cancer setting completed self report questionnaires including mental and physical health and distress measures: the Center for Epidemiologic Studies-Depression Scale (CES-D), the SF-12 Health Survey-Mental (MCS 12) and Physical Components Summary Scale (PCS 12), and the use of a Distress Thermometer.

Descriptive and comparative statistics for pt and CG demographics; Pearson correlations to detect strength of association between CG health measures and CG distress thermometer self-rating; and a Generalized Linear Model (GLM) of CG distress (dependent variable) using health measures that were significantly correlated with the distress thermometer ($p < 0.05$).

45 CGs provided data. Mean age 55.6 (+9.8), 21.3% were male. CES-D Mean 14.4 SD + 10.1, Range 0–35.0, (Cut-off for depression 16); MCS (SF-12) Mean: 43.7 SD + 10.9 Range 20.6–59.8; Distress Thermometer Mean 4.97 (+2.5) Range 0–10 (0 = No Distress 10 = Extreme Distress). Mean CG distress correlated with the CES-D scores and the MCS (SF-12) but not with physical function. In the GLM the only significant association was between SF-12 MCS and CG distress. Conclusions were 1) CG distress is prevalent 2) CG distress thermometer may be worthy of further study as a screening measure for psychological distress in CGs. Nurses are in a prime position to help screen for CG distress thus facilitating interventions that would address or minimize their distress. Funding sources: Supported in part by NINR Grant 1R21NR05225-02.

THE EFFECTS OF PROVIDING INFORMATION ABOUT MAMMOGRAPHIC BREAST DENSITY IN A MAMMOGRAPHY SCREENING PROGRAM: A CONTROLLED TRIAL. Joan Bottorff, RN, PhD, SON, Pamela Ratner, RN, PhD, Joy Johnson, RN, PhD, Jane Buxton, MBBS, MHSc, FRCPC, University of British Columbia, Vancouver, British Columbia, Canada; T. Gregory Hislop, MD, British Columbia Cancer Agency, Vancouver, British Columbia, Canada; Weihong Chen, RN, MN, PhD student, Cornelia Zeisser BSc, MEd Student, University of British Columbia, Vancouver, British Columbia, Canada.

The density of a woman's breast has emerged as a moderate risk factor for breast cancer. Given this, there is a cogent argument that women should be informed about their mammographic breast density (MBD). Such an argument, however, must be weighed against any evidence that sharing such information leads to harm by causing excessive anxiety.

It is not routine practice in most screening programs to share MBD information with women or their physicians. The purpose of this study was to determine the consequences of providing MBD information to women with breast density greater than 50% of the breast volume with the results of their screening mammogram.

Risk communication theory includes domains of risk perception, cognitive processing, decision making under uncertainty, and health behavior.

A randomized experiment was conducted and included 618 women who attended one of five screening mammography centers (68% participation rate). The intervention consisted of reporting the presence of MBD in screening mammogram results letters along with a pamphlet that included a description of MBD and other risk factors for breast cancer, factors that influence MBD, and the importance of regular screening. Comparisons between the study groups at 4 weeks and 6 months post-mammogram were made by assessing breast screening practices and psychological outcomes including preoccupation with breast cancer, breast cancer worry, and psychological distress.

The study groups were compared on baseline demographic characteristics and personal background to determine equivalency. Dependent variables were examined for group differences via Chi-square analysis and Student's t-tests.

Comparison of study groups by breast cancer screening participation revealed a significant difference at 4 weeks for likelihood of having a clinical breast examination (CBE). More women in the intervention group reported being "very likely" to have an annual CBE than women in the control group. No statistically significant differences on the other variables measuring breast cancer screening participation at either 4-week or 6-month follow-ups were found. In addition, there were no statistically significant group differences in women's psychological responses at either the 4-week or 6-month follow-up. Providing MBD information in mammography screening results letters appears to be a cost-effective strategy for sharing risk information that may become increasingly useful in prevention decisions. Funding sources: Susan G. Komen Breast Cancer Foundation.

INCREASING TESTICULAR SELF-EXAMINATION IN ACTIVE DUTY SOLDIERS: AN INTERVENTION STUDY. Carlton Brown, RN, MSN, AOCN®, Walter Reed Army Medical Center, Washington, DC.

Testicular cancer (TC) is the most common malignancy in men 18–35. Approximately 80% of military men are at risk for TC. There was an increase in TC of 78% in military men between 1988–1996. Sixty-six percent of America's military do not perform monthly TSE; only half have ever received any education about TC or TSE.

The purpose of this study was to determine which educational information program, (printed materials and shower card reminder only method vs. a peer education video and shower card reminder) is the most effective in increasing the proportion of soldiers who practice testicular self-examination.

The Health Belief Model was used as a framework focusing specifically of perceived benefits, barriers, seriousness, and susceptibility.

Protocol was modified to a "post-test only". Blesch's Men's Health Belief Survey was used to collect data and Cronbach's Alpha for the four subscales include: barriers (0.78), benefits (0.85), susceptibility (0.64), and seriousness (0.34). Item analysis was also completed on Blesch tool.

Descriptive statistics were used to examine the sample and the group demographics. Nonparametric analyses were conducted to examine group differences in categorical dependent variables.

The majority of the participants had heard of TC (89.1%) and TSE (79.6%). Only 1/4 of the sample reported practicing TSE every month. More than half

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of the sample had never been examined for TC by a health care provider. No statistically significant differences were found between groups in performing TSE correctly (every month). However, no participant in Group B (Video Group) reported NEVER performing TSE. No statistically significant group differences were found on knowledge, benefits, susceptibility, or seriousness. There was a significant difference between Groups B (Video) and C (Control) in their beliefs regarding barriers to the performance of TSE (p = .047). This study has several implications for nursing and other health care professionals. First, soldiers need educational interventions for TC and TSE. Second, providers must make testicular exam a part of routine physical exams. Third, there is a need for further study of the effectiveness of these health promotion methods. Funding sources: Triservice Nursing Research Grant.

GENE EXPRESSION CHANGES IN AGED VASCULAR ENDOTHELIAL CELLS.
Rosaria K. Cabrera, BS, Honors Student, Physiological Sciences, Carrie J. Merkle, PhD, RN, FAAN, University of Arizona College of Nursing, Tucson, AZ; David W. Montgomery, PhD, Southern Arizona VA Health Care System, Tucson, AZ.

Death from breast cancer is due to metastatic disease. The mechanisms of metastasis are largely unknown, though the endothelium is involved.

Our goal was to determine if there are age-related changes in gene expression in human microvascular endothelial cells (HMVECs) that might facilitate breast cancer metastasis. The aims were to:

Aim 1: Age HMVECs in-vitro to form groups identified by population doubling (PD) number, Aim 2: Identify morphological differences in HMVEC age groups, Aim 3: Identify age-related changes in expression of angiogenesis, extracellular matrix/adhesion molecule, and stress/toxicity pathway genes.

Our previous work has shown that breast cancer cell addition to in-vitro aged, but not young, bovine pulmonary artery endothelial cells causes persistent gaps to form between neighboring endothelial cells and facilitates breast cancer cell transmigration of endothelial cells. These observations warrant additional study because: 1. endothelial transmigration occurs in metastasis, and 2. breast cancer metastasis causes death.

Aim 1: HMVECs from the lung of a three year-old female were obtained at PD 20 and serially aged. Aim 2: HMVECs of specific PDs were examined by microscopy. Cell size and density were determined. VE-cadherin, an endothelial adhesion protein, was quantified. Aim 3: RNA from HMVECs at PD 24, 31 and 40 was isolated. Using SuperArray GEArrayTM Q series kits, cDNA probes were formed and added to membranes containing genes for angiogenesis, extracellular matrix/adhesion molecules, and stress/toxicity pathways. Images were captured digitally and analyzed.

Aim 2: Data were analyzed by ANOVA. Aim 3: Data were analyzed by the manufacturer's protocol and definitions for gene expression, gene expression increases and gene expression decreases.

Aim 1: HMVECs were successfully aged to PD 43. Aim 2: As HMVECs age (increase in PD), cell area increases and cell density decreases. Higher PD HMVECs have less VE-cadherin. Aim 3: Expression of over seventy genes was identified. Expression decreased in two genes (caveolin and a catenin-related protein) and increased in seven genes (specific integrins, plasminogen activator inhibitor and a laminin). These changes may facilitate metastasis, a hypothesis being tested in rodents. Since vascular aging increases with high blood pressure, high lipids, and stress hormones, it is possible that interventions to reduce cardiovascular disease may prevent metastasis. Funding sources: University of Arizona Honors College and NIH P20-NR07794.

EXPANDING THE STAGES OF CHANGE TRANSTHEORETICAL MODEL THROUGH QUALITATIVE INQUIRY: MAMMOGRAPHY SCREENING AND AMERICAN INDIAN WOMEN.
Mary Canales, PhD, RN, University of Vermont, Burlington, VT; William Rakowski, PhD, Brown University, Providence, RI.

The presentation will focus on the process for translating qualitative data gathered from interviews with American Indian women (AIW) in Vermont, into statements used to empirically test how to integrate AIW themes into an existing model of behavior change—the stages of change, Transtheoretical Model (TTM). The TTM proposes a sequence of stages along a continuum of behavior change, from precontemplation (not intending to adopt), to contemplation

(considering adoption), to action (initial adoption), to maintenance (sustained performance). Relapse (inconsistent use) is also possible. Although TTM-based mammography research has been conducted since the early 1990s, AIW have not been a focus to date

Analysis from a qualitative study with AIW in Vermont suggested that traditionality influenced women's screening decisions. Is traditionality a separate dimension or can it be incorporated into existing TTM constructs? New items reflecting traditionality were developed for each of the TTM's major constructs (pros, cons, and processes of change), based on the qualitative analysis and a literature review. A separate traditionality scale was also developed, based on qualitative data and existing measures of ethnic identity, and tailored for AIW living off-reservation. The Vermont Breast Cancer Surveillance System, a statewide database of women who have had a mammogram in the state, was used to invite participants and compare self-report data from the survey with mammography registry data. This type of validation has not been reported with previous TTM research and provides another avenue for assessing the accuracy of self-report data.

This method for instrument development provides an example of how culturally relevant data and existing theoretical constructs can be combined to create an instrument that is specific for diverse populations. Through this tandem approach, existing theories can be usefully adapted for populations whose special features were not major considerations when the theories were originally developed.

Designing tailored mammography interventions so they are relevant for AIW requires understanding of their perspectives as well as having a strong theoretical foundation. The qualitative-quantitative approach for survey design presented holds much promise for developing future nursing interventions for AIW and other populations whose screening rates are currently below national objectives.

TAILORED VS TARGETED INTERVENTIONS TO INCREASE MAMMOGRAPHY ADHERENCE IN LOW-INCOME AFRICAN AMERICAN WOMEN.
Victoria Champion, DNS, RN, Indiana University School of Nursing, Indianapolis, IN; Jeff Springston, PhD, University of Georgia, Athens, GA; Terry Zollinger, DrPH, Indiana University School of Medicine, Indianapolis, IN; Robert Saywell, Jr., PhD, Katherine Russell, DNS, RN, Indiana University School of Nursing, Indianapolis, IN; Patrick Monahan, PhD, Quiangian Zhoa, PhD, Indiana University School of Medicine, Indianapolis, IN.

Breast cancer continues to be a major cause of mortality for African American women, ranking as the second leading cause of cancer death within this population. Low-income African American women are at relatively high risk for breast cancer mortality due in part to their limited mammography use.

The purpose of this randomized prospective study was to compare a tailored interactive computer intervention with a targeted video; both developed to increase mammography screening among low-income African American women who were non adherent to mammography at baseline. Both intervention groups were compared to a usual care group. Both targeted and tailored interventions used a combination of the Transtheoretical Model (TTM) and Health Belief Model (HBM) to develop intervention content.

A total of 299 African American women who were 45 to 75 and had not had a mammogram in the last 15 months were consented and randomly assigned to one of three groups: 1) Usual Care, 2) Targeted Video, and 3) Tailored Interactive Computer. Mean age was 50.63 and the average educational level attained was 12.34 years of formal school. A total of 33% were currently partnered and 67% did not live with a partner. Data were collected in person at baseline and at 3 months post intervention by telephone. Instruments measured theoretical beliefs of perceived risk, perceived benefits and barriers to mammography screening, self efficacy for mammography, and demographic variables. Validity and reliability had been established in prior work. Mammography status was measured by self-report and women were classified in Pre Contemplation (not thinking about having a mammogram), Contemplation (thinking about having a mammogram) or Action (had a mammogram after the intervention).

Results indicated that stage of mammography adoption did differ by intervention group (p < .04). For participants in the usual care group 32% were in Action at 3 months, versus 25% in the video group and 40% in the interac-

tive computer group. Results indicate that a tailored interactive intervention resulted in the highest level of adherence post intervention.

Results can guide nurses to deliver interventions that will increase mammography screening in low-income African American women. Funding sources: National Cancer Institute.

CANCER-RELATED SYMPTOM PROFILES BETWEEN DEPRESSED AND NON-DEPRESSED PATIENTS WITH CANCER. Mei-Ling Chen, RN, PhD, School of Nursing, Chang Gung University, Tao-Yuan, Taiwan.

Cancer patients often experience multiple symptoms caused by the disease or cancer treatment. Depression is common but easily overlooked problem in cancer patients. Uncontrolled cancer-related symptoms is identified as a high risk factor of depression.

(1) To compare the symptom profiles, including number of symptoms, symptom severity and symptom interference on daily function, between depressed and non-depressed cancer patients; (2) to identify symptoms that can be used to discriminate cancer patients' depression status.

Other than pain and fatigue, whether depressed cancer patients have different symptom experience from non-depressed cancer patients has not been systematically investigated.

A convenience sample of 117 patients with various cancer diagnoses was selected from a medical center located in northern Taiwan. Depression was measured by Hospital Anxiety and Depression Scale-Depression Subscale (HADS-D). A cutoff of 8 was applied to classify patients into depressed and non-depressed groups. M.D. Anderson Symptom Inventory (MDASI) was used to measure symptom severity (13 items) and interference (6 items). Both HADS-D and MDASI have valid and reliable Taiwan version.

Independent t test and discriminant analysis were used to analyze the data.

Around 80% patients experienced 5 or more symptoms simultaneously. The mean number of symptoms experienced was 10.22 for depressed patients (n = 73) and 7.76 for non-depressed patients (n = 44) (p = .001). Among 13 symptoms in MDASI, depressed patients reported significantly higher mean severity scores than did non-depressed patients on 12 symptoms (p < .05), including pain, fatigue, nausea, distressed, problem with remembering things, lack of appetite, drowsy, dry mouth, sad, vomiting, and numbness. Among 6 interference items, depressed patients also reported significantly higher symptom interference scores on emotion, work, relations with other people, and enjoyment of life. Stepwise discriminant analysis showed that two symptoms, sad and drowsy, were the significant predictors of patients' status of depression with a correct prediction rate of 72.6%. Compared to non-depressed cancer patients, depressed patients had an inferior symptom profile in terms of number of symptom, symptom severity and symptom interference. Screening the occurrence and severity of sad and distress may be used to identify potentially depressed cancer patients. Funding sources: Chang Gung University (grant number: CMRP1238).

PARENTAL STRESS, COPING STRATEGIES, AND PSYCHOLOGICAL RESPONSE IN PARENTS OF CHILDREN WITH CANCER: A LONGITUDINAL STUDY. Yi-Chen Chiang, Chang-Gung University, Taiwan, Tao Yuen, Taiwan.

Parenting children living with cancer is a complicated psychological and behavioral process. However, major advances in cancer treatment have dramatically improved survival rates for cancer patients, therefore, assessing psychological and behavioral process with time for mothers become a more concern issue. In Taiwan, there was few study investigate regarding the difference of parental stress, coping strategies, and psychological distress experienced by mothers of children with cancer with time.

The longitudinal study was aimed to investigate the parental stress, coping strategies, and psychological response experienced by mothers of children with newly diagnosed cancer (baseline), and six months after initial assessment (6-month follow up).

Stress and coping, suggested by Lazarus and Folkman was used to guide this study.

Longitudinal study design was used to collect data. The data included 35 mothers who served as subjects for this study and selected from a larger data

set of surveys from parents whose children were receiving treatment or follow-up care for cancer. After informed consent was obtained, a questionnaire packet was distributed to each subject. On average, the initial assessment of the mothers took place 1.92 months after the child's date of diagnosis. Subsequent assessment took place 6 months after the initial assessment. The measures used in this study include parental stress index/short form (PSI/SF), parental strategies inventory (PSCI), and Symptom checklist-35-revised (SCL-35R).

Paired-t tests were used to compare the differences of parental stress, coping strategies, and psychological distress experienced by mothers of children with cancer after child's diagnosis within baseline, and 6-month follow up.

These results demonstrated that mothers on baseline reported significantly high scores of parental distress and total parental distress than 6 months follow-up. At baseline, mother reported statistically more decision making strategy and less physical support strategy than 6 month follow-up. Mothers with children of newly diagnosed reported statistically higher depression and anxiety level than 6 month follow-up. However, there was no statistically significant difference in somatic complaint between baseline- and 6 month follow up assessment. In order to improve quality of care, the findings suggest that nurses health care professionals need to provide a thorough psychiatric consultation at the time of diagnosis for mothers of children who have cancer. Funding sources: The research was supported by a grant to Dr. Yeh from National Science Council, Taiwan (grant number 92-2314-B-182-092).

CANCER SYMPTOM MANAGEMENT RESEARCH IN DISADVANTAGED MINORITY PATIENTS: CHALLENGES AND OPPORTUNITIES. Fang-Yu Chou, RN, PhD, School of Nursing, University of California San Francisco, San Francisco, CA.

This paper addresses the challenges and opportunities in the cancer-related symptom management nursing research among disadvantaged minority oncology patients. An on-going study in cancer symptom management of Chinese immigrants is used to guide the discussion of recruitment issues in disadvantaged bilingual cancer patients.

Patients with low English proficiency are not recruited in most health care research due to language difficulties and socio-cultural barriers. As for Chinese Americans and recent immigrants, the majority of them who are not yet proficient in English often do not participate in research and surveys (Ren & Chang, 1998). Up to date, very few studies have investigated the cancer-related symptom experience and self-care among Chinese Americans and immigrants.

An on-going pilot study is conducted at a county medical center in San Francisco Bay Area to recruit Chinese-speaking immigrant cancer patients receiving Chemotherapy for exploring their symptom prevalence, self-care strategies, and quality of life. Most of the participants were not fluent in English and with low-income status. Translated standardized questionnaires and bilingual recruiters were used. There are about 30% refusal rate to participate in the study among eligible Chinese patients. Reasons patients refused to participate included such as "do not want to be bothered and/or talk about cancer"; "too busy";" family rejection"; "concern of privacy issue".

Reasons patients refused to participate in research studies were reported similarly in a study of Chinese family caregiver of dementia (Hinton, et al., 2000). Cancer can carries a social stigma among Chinese and research participation can be viewed as an intrusive event to reexperience distress related to cancer diagnosis. Strategies such as providing clear communication on the purpose of the research in participants' preferred language, emphasizing on the importance and benefit of the study to the society and themselves, and ensuring their privacy during the study could be helpful to recruit disadvantaged Chinese patients with active cancer treatments. Well-trained bilingual recruiters and data collectors are necessary.

As the cancer populations become more diverse in ethnic and socioeconomic status (Aziz & Rowland, 2002), especially at most urban areas, research studies within and across cultural subgroups are important to expand our knowledge of effective recruitment and retention in research studies, culturally-sensitive cancer care, and issues of potential health disparities. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.

Abstracts Accepted for the Eighth National Conference on Cancer Nursing Research

THE MEANING OF MOTHERHOOD IN ADOLESCENTS WHOSE MOTHERS HAVE BREAST CANCER. Donna (Danuta) Clemmens, PhD, RN, New York University Division of Nursing, New York, NY.

The potential burden of living with mothers' breast cancer presents adolescents with potentially devastating life experiences.

The purpose of this study was to describe the experiences of adolescents from their perspective, in living with and communicating about their mothers' diagnosis of breast cancer.

While research provides an initial picture of adolescent depression and worries, few studies include the adolescents' descriptions of their experience. An interpretive phenomenological philosophy and method guided the data collection and analysis.

Purposive sampling identified a mixed race sample of 11 girls and boys between 13 to 19 years of age, whose mothers were diagnosed with breast cancer within the past 2 years.

In-depth, semi-structured interviews were conducted with the participants regarding their experiences as both adolescents and children. Data collection continued until thematic redundancy was determined both in interview transcripts and through other data sources. Study rigor was established by considering the credibility, auditability, and fittingness of the data through consultations with both methodological and content experts in the field.

Major themes emerged from the findings highlighting the uniqueness and significance of "MOM" having breast cancer.

A "Life Unraveled" uncovered stressful feelings in the adolescents especially during initial diagnosis and maternal treatments for cancer, because it was Mom that was ill. Many of the adolescents "Learned To Be with Mom" in a different way when Mom was increasingly fatigued. "Turning to Self" included being strong for Mom, and coping by emersion in music, homework and activities. "Needing to Normalize" was a call by adolescents to be able to be adolescent children again with Mom there as Mom and not just as a patient. Finally, "Talking Out Openly" highlighted the need by adolescents to be included in all family discussions about Mom's cancer in an open, honest manner.

These research findings were used to develop an RO3 submission, developing a supportive care program for adolescent children whose mothers have breast cancer. Implications for practice and education include a call to help adolescents and mothers reframe their relationship around the cancer to foster both a growth in their relationship, and, for the adolescents, to promote their psychosocial development. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Genentech, Inc.

INTERVENTIONS FOR PARTNERS OF BREAST CANCER PATIENTS. Barbara Cochrane, PhD, RN, Fred Hutchinson Cancer Research Center, Seattle, WA; Frances Marcus Lewis, PhD, RN, FAAN, Family and Child Nursing, University of Washington, Seattle, WA.

To determine appropriate directions for future research with partners of breast cancer patients by critically evaluating published intervention studies to date.

Extensive previous research has documented the psychosocial distress of partners of breast cancer patients, its effect on the diagnosed patient, and the need for interventions to address these issues. However, there are few, if any, evidence-based services available for partners, with intervention research lagging far behind descriptive work. Interventions are needed that are based on empirical evidence, have high potential for improving psychosocial outcomes, and are feasible in today's health care environment.

An integrative review of the research literature in this area was undertaken, beginning with a comprehensive search of bibliographic databases covering 1966–2004. Thousands of titles were retrieved and full-text articles on interventions obtained. Only 12 intervention studies were identified that included partner outcomes. These reports were examined in depth to understand, value, and gain insights about current knowledge. Defining characteristics of each study were analyzed critically to determine methods to incorporate—or avoid—in future intervention work.

Only four studies offered evidence of intervention efficacy. Two of these reported outcomes, specifically, in partners of breast cancer patients. None of the studies fully incorporated appropriate methods for testing intervention

efficacy: randomized, controlled clinical trial designs; established theoretical and empirical foundations; adequate statistical power; clear descriptions of the target population and study sample; quality assurance monitoring; and outcome measures sensitive to partner concerns. Multi-site studies are needed to ensure adequate samples sizes. Recruitment efforts that target the diagnosed wife and her partner directly can maximize case-finding and minimize bias. Standardized intervention protocols should address documented partner concerns. Interventions delivered to individuals, not just groups or couples, are needed. Finally, both process and relevant outcomes should be measured using reliable and valid instruments.

Few evidence-based programs or services focus on the partners' experience with breast cancer. Oncology nursing research is needed that builds on the lessons learned from previous research to appropriately address the needs of this important, but underserved population. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Aventis Pharmaceuticals.

PATTERNS OF SMOKING IN WOMEN WITH LUNG CANCER. Mary Cooley, PhD, RN, Dana-Farber Cancer Institute, Boston, MA; Linda Sarna, DNSc, RN, FAAN, Leda Danao, PhD, BSN, University of California Los Angeles, Los Angeles, CA; Jean Brown, PhD, RN, FAAN, University at Buffalo, State University of New York, Buffalo, NY; Cynthia Chernecky, PhD, RN, Medical College of Georgia, Augusta, GA; Geraldine Padilla, PhD, University of California San Francisco, San Francisco, CA.

Smoking cessation after a cancer diagnosis is associated with decreased secondary malignancies, decreased treatment complications, and increased survival. Few studies describe tobacco use, readiness to quit, and cessation strategies in women after a diagnosis of lung cancer.

The purposes of this longitudinal study were to determine patterns of smoking at entry to the study, 3 and 6 months later, identify readiness to quit and cessation strategies at entry to the study, and examine factors associated with continued smoking over time.

The Transtheoretical Model was used to guide this study.

Data were collected from 230 women with non-small cell lung cancer at entry to the study, 3 and 6 months later. Complete data was available for 161 women. The mean age of the sample was 65 years, 84% were Caucasian, 11% were African American, and 81% had early stage disease. The mean time since diagnosis was 2 years. Data were collected through reliable and valid standardized questionnaires and interviews, medical record review, and anthropometrics. Current smoking was determined through self-report and biochemical verification with urinary cotinine.

Descriptive statistics, chi-square and t-tests were used for analyses.

Eighty-seven percent of women reported ever smoking, 37% reported smoking at the time of diagnosis, and 14% continued smoking at entry to the study, 13% at 3 months, and 11% at 6 months. Most smokers (60%) planned a quit attempt within the next month. Approximately one-third of smokers received assistance with cessation after their diagnosis. Nicotine replacement or buproprion was identified as the most common cessation strategies. Significant factors associated with continued smoking at all three data points included being unmarried, younger, and exposed to secondhand smoke. These findings suggest that the diagnosis of cancer is a strong motivator for behavioral change and that some patients need additional support in order to quit smoking. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Bristol Meyers Squibb Foundation and National Cancer Institute 1 K07 CA92696-02.

THURSTONE SCALING AS A MEASUREMENT MODEL IN CANCER NURSING RESEARCH. Lesley Degner, RN, BN, MA, PhD, Faculty of Nursing, Winnipeg, Manitoba, Canada; Carol Tishelman, RN, BN, PhD, Karolinska Institute, Stockholm, Sweden; Ruth Bond, MA, Manitoba Centre for Health Policy, Winnipeg, Manitoba, Canada.

The purpose of this paper is to describe a novel approach to measuring constructs of relevance in cancer nursing. Most often Likert type scaling approaches have been used in the past, but Thurstone scaling provides a different method for eliciting patient responses based on a paired comparison

technique. Patients consider pairs of stimuli that are arranged in every possible subset of two using the Ross matrix of optimal ordering to maximize the distance between items to avoid selection bias. This allows patients to judge each pair of stimuli on the attribute of interest. To date, we have used this scaling approach to elicit priorities among a set of 9 information needs in both women with breast cancer, and men with prostate cancer, in Canada, England and Sweden. We have also used this approach to elicit the salience of different dimensions of symptom distress (rather than current intensity) to patients with lung cancer in both Canada and Sweden.

The use of Thurstone scaling allows for production of "ladders" of information needs or of salience of different symptoms that are readily understandable to clinicians. The development of the programming to permit analysis of this data is now in the public domain on the website of the Manitoba Centre of Health Policy. Detailed information on data entry and analysis approaches are described, permitting investigators previously unfamiliar with Thurstone scaling to apply this scaling method in their research.

The development of a touch screen approach to measuring information needs using Thurstone scaling by Davison and colleagues in Vancouver further extends the potential usefulness of this scaling approach.

Calculation of coefficient of concordance among groups completing the Thurstone scales permit us to make recommendations as to whether a group or individual approach is most suited to the area of intervention under study. If patients and partners do the task independently, the results also permit analysis of the degree of concordance between the two groups.

Thurstone scaling has considerable potential for measuring a range of variables in the field of cancer nursing, and for providing an innovative way of displaying results that are more intuitively meaningful to both patients and clinicians.

COMPARING NURSES AND PATIENTS VIEW OF INTERNET USE FOR CANCER CARE. Suzanne Dickerson, DNS, RN, Marcia Boehmke, DNS, RN, ANP-C, Jean Brown, PhD, RN, FAAN, University at Buffalo, State University of New York, Buffalo, NY.

While there are a multitude of cancer-related web sites available, little research has been done to compare nurses' and patients' views of Internet use for cancer care.

The purpose of this study was to gain an understanding of the similarities and differences of oncology nurses' and patients' view of Internet use for cancer care through phenomenological interpretation of their narrative stories.

In the interpretive phenomenological approach underlying a Heideggerian hermeneutical study, the researchers discovers the common meanings the practical knowledge of Internet use for cancer care through interpretation of narrative stories.

Design: Hermeneutic phenomenology was the interpretive approach used to gain understanding of human experience through analysis of narrative text.

Population, Sample, Setting: 20 nurses and 20 patients comprised the informants. The nurses were recruited from local and national ONS meetings. Patients were recruited by the oncology nurses and had a variety of cancer diagnoses.

Methods: Participants were individually interviewed and asked to tell stories of Internet use. The interviews were audio taped and transcribed providing data for interpretive analysis.

Narratives [Texts] used in this study were interpreted by the seven-stage hermeneutical process (Diekelmann et al., 1989; Diekelmann & Ironside, 1998).

Findings: Similarities included: 1.) Varying Internet uses and computer competencies. 2.) Gaining information regarding cancer care from a variety of web sources. 3.) Redefining patient/provider relationships and 4.) Connecting to peer supports using the Internet. Differences included: 1.) Patients utilize computer savvy support network to gain information for decision making and validating treatment decisions, 2.) Differing views of ability to determine quality and appropriateness of Internet information. 3.) Variety of responses from providers regarding treatment option discussions especially when discussing alternative approaches. 4.) Value of peer interactions and knowledge gained from talking to others with similar diagnoses.

Implications: Computer savvy patients are creating the need for new interaction patterns and relationships with providers. Nurse patient partnerships may then dialogue to determine quality and appropriateness of Internet information. The movement suggests a need for nurse Internet competencies, environmental support, and consideration for patient access (digital divide). Funding sources: Funded by the ONS Foundation through an unrestricted grant from Bristol-Meyers Oncology.

EXPERIENCE OF WOMEN TREATED WITH HDR BRACHYTHERAPY USING THE MAMMOSITE CATHETER. Joy Dienger, DNSc, RN, University of Cincinnati College of Nursing, Cincinnati, OH; Lynne Brophy, MSN, RN, OCN®, TriHealth, Bethesda North Hospital, Cincinnati, OH; Patricia Berning, RN, OCN®, TriHealth, Good Samaritan Hospital, Cincinnati, OH.

Breast cancer is the number two killer of women in the United States. Many women diagnosed with the disease are eligible for breast conservation therapy consisting of lumpectomy followed by radiation therapy. A new method for delivering radiation therapy using high dose rate (HDR) brachytherapy and the MammoSite® Catheter is now available. Oncology nurses play a vital role in the care of women undergoing radiation therapy. Accurate information regarding the experience of women undergoing this method of radiation therapy is needed for nurses to effectively provide education, symptom management and emotional support.

Data reporting the experience of women undergoing HDR brachytherapy using the MammoSite® Catheter are limited. This pilot study sought to increase knowledge regarding symptoms experienced, ability to perform ADLs, and satisfaction with treatment outcome.

Forty-percent of women eligible for breast conservation therapy choose mastectomy to avoid the seven week regimen of external beam radiation (ERT) therapy. The treatment duration is especially an issue for women who live far from treatment centers, work full-time, and/or desire quick closure to the treatment stage of their disease. This HDR brachytherapy delivers the radiation dose over five days of outpatient therapy. It should appeal to many women, offer decreased symptom distress and improved quality of life (QOL) while providing treatment efficacy and cosmetic outcome equal to ERT.

Using a descriptive retrospective design, 14 women who completed the HDR brachytherapy using the MammoSite® catheter during the first nine months of availability participated in a structured taped telephone interview. The interview questions were based upon information found in the literature and recorded in radiation therapy treatment records.

Data were analyzed for type and frequency of symptom experienced.

Symptoms reported included: mild/moderate erythema, dryness, itching, and blistering of the skin; discomfort, bulky, heavy feeling associated with the catheter; and fatigue. Four worked during the treatment period. Most denied limitations to usual personal/household activities and 78.5% rated their cosmetic outcome as good or excellent. All claimed satisfaction with treatment, however lack of sufficient information remains. Data are being used to plan a larger prospective study, to develop patient education materials, and to refine symptom management techniques. Funding sources: Deans Research Award, University of Cincinnati, College of Nursing.

AN ANALYTIC STRATEGY FOR MEASURING AND MODELING CANCER SYMPTOMS. Ardith Doorenbos, PhD, RN, Barbara Given, PhD, RN, FAAN, Charles Given, PhD, Michigan State University, East Lansing, MI; Natalya Virbitsky, PhD(c), University of Michigan, Ann Arbor, MI.

Purpose: To propose an analytically based strategy for measuring and modeling cancer symptoms.

Description of the Methodological Issue: Research on cancer symptoms has focused on single symptoms, a summary score of a number of symptoms, and more recently on symptom clusters. However, the research literature does not provide clear direction for determining which approach is preferable, or how to incorporate these symptom measures into the context of multilevel longitudinal studies.

Theoretical Framework: Item response theory guided this methodological enquiry. It postulates that characteristics of symptoms, such as symptom

intractability, interact with a person's characteristics or condition to determine susceptibility to a given symptom.

Methods: The analyses used data amalgamated from three different descriptive cross-sectional studies. This data set consists of 21 symptoms reported across time by 1,389 individuals with cancer.

Analysis: A three level Hierarchical Linear Model (HLM) was used. Level-1 is the item response model which consists of symptom presence. Level-2 is the trajectory of each individual representing change over time of symptoms within person, and the person related variables that change over time such as depression and activities of daily living. Level-3 explains that trajectory via person-specific characteristics, such as age, cancer site, and gender.

Implications and Recommendations: The combined item response and hierarchical linear models extends the usual item response model allowing for multiple symptoms to be measured and examined rather than single symptom, or a symptom summary score. Additionally, it provides information on how symptoms group with one another.

Significance: Item response models can be used as a means to organize symptoms as a multivariate dependent variable. Embedding an item response model in a hierarchical linear model allows researchers to treat symptoms as a multivariate outcome at higher levels. This permits examination of symptoms both longitudinally and at the individual level.

NOVEL APPLICATION OF CUSUM TECHNIQUE TO EVALUATE CHANGES IN RECRUITMENT STRATEGIES ON REFERRAL AND ENROLLMENT: IMPLICATIONS FOR PROSPECTIVE RECRUITMENT MANAGEMENT. Karen Hassey Dow, PhD, RN, FAAN, University of Central Florida, Orlando, FL; Patrick McNees, PhD, Applied Health Sciences, Inc., Orlando, FL; Victoria Loerzel, RN, MSN, OCN®, University of Central Florida, Orlando, FL.

Lagging subject enrollment in longitudinal clinical trials is a thorny problem. Little empirical evidence show the differential utility of various recruitment strategies, and few analytic and management tools exist. The CuSum (CUmulative SUMmation) technique is a simple procedure often applied in statistical process control for quality improvement and for detecting small trend shifts in highly variable serial data. The researchers describe the first reported use of CuSum in oncology nursing research, and the first innovative empirical evaluation of CuSum to the recruitment process.

The purposes of this study are to: (a) determine effects of changes in referral strategies on subject enrollment in a longitudinal clinical trial using a novel application of CuSum and, (b) discuss implications of the CuSum as a tool for prospectively managing recruitment, referral, and enrollment.

This work is grounded in a Quality Improvement and Statistical Process Control framework based on Shewhart and Deming.

The randomized longitudinal trial tests the impact of targeted psychoeducational interventions among 250 recently diagnosed early-stage breast cancer survivors. Enrollment targets for the 4 year study projected an average of 12 referrals and 10 enrollments per month over a 25 month period. Changes in recruitment and referral strategies, with varying degrees of success, were used to achieve enrollment.

A CuSum analysis was used to evaluate whether changes in recruitment influenced referral and enrollment trends. Subsequently, the data were re-analyzed applying the CuSum as if it had been employed as a prospective management tool.

While monthly data were highly variable, an average of 8.42 referrals and 5.92 enrollments were realized during months 1–12. Accrual at 25 months would only have enrolled 148 subjects; 102 subjects short of target. CuSum clearly illustrated this trend. Subsequent shifts in enrollment trends were clearly shown with improvements in referral. Changes in referral trends are lead indicators of subsequent changes in enrollment. Research implications for prospective use of CuSum include (1) earlier detection of enrollment trend shifts and (2) earlier discrimination between effective and ineffective recruitment. Thus, CuSum has vital implications for both evaluation and for prospective recruitment management.

Funding sources: National Institute for Nursing Research and Office of Cancer Survivorship, National Cancer Institute.

A DISCURSIVE ANALYSIS OF THE MEANING OF HOPE FOR OLDER PALLIATIVE CANCER PATIENTS. Wendy Duggleby, DSN, RN, AOCN®, Natasha Murdock, BSN, RN, Master's in Nursing student, Karen Wright, PhD, RN, College of Nursing, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

Health care professionals who define hope as cure often view the hope of terminally ill patients as a form of denial or false reality. These views have been found to decrease palliative patients' quality of life (Hall, 1990). Therefore, oncology nurses who understand the meaning of hope for older palliative cancer patients can contribute to their quality of life.

A secondary analysis of data from a qualitative study exploring the experience of hope in older palliative cancer patients was conducted to understand the meaning of hope within the culture of the dying cancer patient while accommodating the historical context. The specific aim was to describe the meaning of hope for palliative home care patients with cancer within their social context.

The philosophical frame for this study was Potter and Wetherell's (1987) discourse theory, which explores the meaning of concepts using function, construction and variation. The few reported studies focusing on hope in palliative patients have not explored the meaning of hope within the social context of someone who is dying.

Saturation was reached with 10 palliative patients with advanced cancer (mean age 75 yrs) who were interviewed in their homes using open-ended questions. Six of the participants were able to complete a second interview where they reviewed their transcripts for accuracy and added additional information if they wanted.

Data were analyzed line-by-line examining how hope was used as function; it's construction in dialogue, and how it varied depending upon the social context in which dialogue occurred. As themes emerged memos were kept regarding the social context in which the meaning of hope was described. Throughout the analysis, the research assistant and PI selectively analyzed data separately and then would meet to compare the analysis.

Six themes emerged: hope as trust, duty, belief, control, value and worth, and emotion. Variation was encountered in the different stories that each participant described related to social context and function of the word. The results of this study provide a foundation for future research on hope and hope fostering strategies that can be used by oncology nurses to foster hope in older palliative cancer patients. Funding sources: The University of Saskatchewan Presidents SSHRC Research Grant.

A FEASIBILITY STUDY OF ONLINE SELF-REPORTING OF TOXICITIES, PERFORMANCE STATUS, AND QUALITY OF LIFE INFORMATION BY PATIENTS RECIEVING CHEMOTHERAPY. Dorothy Dulko, RN, MS, AOCN®, Ethan Basch, MD, Mary McCabe, RN, Deborah Schrag, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

Chemotherapy often causes distressing side effects in cancer patients. Monitoring of symptoms and performance status during treatment is a cornerstone of oncology nursing. Patients who suffer from the side effects of chemotherapy frequently have difficulty in adequately monitoring their symptom experience which can result in unmet needs. The use of computer based technology can improve communication of chemotherapy toxicity and result in improved symptom control.

As patients experience side effects of cancer treatment, their need for therapy alteration, supportive care, or informational services often change. There is limited literature on patients' willingness and ability to accurately self-record toxicity related symptoms and performance status during chemotherapy. This feasibility study investigates patient interest and willingness to report symptoms via a computer based program.

A two-page questionnaire using NCI CTCAE v 3.0 toxicity criteria was designed to evaluate the feasibility of a computer based self-reporting system. A convenience sample of 100 patients with cancer of the cervix, ovary, uterus, prostate, and lung were shown a paper version of the CTCAE toxicity criteria converted into patient language for seven symptoms: (1) nausea; (2) vomiting; (3) diarrhea; (4) constipation; (5) fatigue; (6) pain and; (7) dyspnea. ECOG performance status, available internet access, and willingness to use a computer to report symptoms were also evaluated.

The survey revealed that 83% of outpatients have access to a computer (95% CI; 72–90%) and 73% use the internet regularly (95% CI; 61–82%). Among those without internet access, 50% live with a regular internet user (95% CI; 39–61%). 100% of patients surveyed stated that they would like to report symptoms perpetually using the internet. The most frequently reported symptom was fatigue with 61% of patients reporting either mild or moderate fatigue.

Online self-reporting of symptoms during chemotherapy can empower patients to become active participants in their care experience. Data from our feasibility survey indicates that patients are receptive to reporting symptoms online. Based on the results of this survey, we are testing STAR (Symptom Tracking and Reporting for Patients) a system developed at Memorial Sloan-Kettering Cancer Center that allows patients to self record toxicity symptoms, performance status, and global QoL online (www.mskcc.org/STAR).

GENDER DIFFERENCES IN THE PSYCHOLOGICAL EFFECT OF A PSYCHOEDU-CATIONAL INTERVENTION DESIGNED TO IMPROVE CANCER PAIN MANAGE-MENT. Janet Edrington, RN, MS, Christine Miaskowski, RN, PhD, Claudia West, RN, MS, Marylin Dodd, RN, PhD, Steven Paul, PhD, University of California, San Francisco, San Francisco, CA.

Intervention studies with patients to improve cancer pain management are extremely limited. Even less is known about the effects of psychoeducational interventions on secondary outcomes such as mood and quality of life.

Therefore, as part of a larger study that evaluated the effectiveness of a psychoeducational intervention called the PRO-SELF© Pain Control Program, the purposes of this study in a sample of oncology outpatients with pain from bone metastasis (n = 174) was to determine if there were changes in the mood states of patients who participated in the intervention compared to those who received standard care and to determine whether or not these changes in mood states were different in men and women.

Orem's theory of self-care, as well as the concepts of academic detailing and nurse coaching were the theoretical foundations for the study.

A total of 174 patients participated in the 6-week intervention study that provided patients with education, skills training, and nurse coaching to improve cancer pain management. Following randomization into either the PRO-SELF© (n = 93) or standard care (n = 81) groups, patients completed the Profile of Mood States (POMS) at the beginning and at the end of the study.

A total mood disturbance (TMD) score was calculated for each patient at each time point.

Patients in the PRO-SELF© group reported significant improvements in knowledge about pain management and significant decreases in average and worst pain intensity scores at the end of the study. In addition, significant improvements in mood (as measured by a decrease in TMD score) were found in the PRO-SELF© group compared to the standard care group. However, a surprising finding from this study was that while female patients in the PRO-SELF© group reported significant improvements in mood, male patients in the PRO-SELF© group reported significant decrements in mood (i.e., an increase in TMD score) following the completion of the intervention. No changes in TMD scores were found in either males or females in the standard care group. These findings suggest that men may be at higher risk for mood disturbance following a psychoeducational intervention. Additional research is needed to determine the mechanism underlying this gender difference. Funding sources: National Cancer Institute.

UNSCHEDULED DNA SYNTHESIS IN WOMEN AT HIGH RISK VS. NORMAL RISK FOR BREAST CANCER. Julie Eggert, PhD, C-GNP, AOCN®, Clemson University, Clemson, SC; Cathy Romerez, MS, Greenville Technical College, Greenville, SC; Lyndon Larcom, PhD, Clemson University, Clemson, SC.

Breast Cancer is the most frequently occurring cancer in women. Developing a simple blood test that could identify early DNA changes in a sub-population of white blood cells could yield a variety of implications for earlier detection of this malignancy thereby impacting the medical, psychosocial and economic aspects for high-risk patients and their families.

The purpose of this pilot study was to determine 1) if there was a difference in unscheduled DNA synthesis (UDS) in a sub-population of white blood cells

common to the stress and chronic inflammation mechanisms of women at high-risk for breast cancer vs those at low-risk and, 2) if the UDS occurred in CD-14 cells.

The physiologic mechanisms of the body's response to stress and chronic inflmmation were used as the theoretical flamework.

The Gail Model was used to assess level of risk for developing breast cancer. Based on the literature a 1.7% Gail Model Risk was used to differentiate high versus low-risk women. Women with and without a family history of breast cancer were included in the sampling. White blood cells were separated from serum. Both control and experimental cell groups were aliquoted. A third sample was obtained for evaluation by cell flow cytometry. Experimental samples were damged with Ultra Violet light and treated with tritiated-thymidine to mark UDS. Both sample groups were incubated and lysed to obtain double-stranded DNA for identifying UDS. The levels of UDS were counted and compared for differences between the high and low-risk groups.

One sample group of cells was labeled with antibody to CD-14 cells and identified using cell flow cytometry.

T-tests were performed to determine the mean UDS difference between high and low-risk groups. Cell flo cytometry results identified CD-14 labeled cells as those with increased levels of UDS.

The mean repair measure (UDS), in counts per minute, (267.2 +/– 216.3) was significantly higher for the high-risk group (p < 0.01) than mean repair counts for the low-risk group (84.8 +/– 56.0).

This suggests breast cancer risk affects UDS in CD-14 cells.

IDENTIFYING CLASSES OF CAREGIVING ACTIVITIES: HELPING FAMILY CAREGIVERS DO IT ALL BETTER. Deborah Eldredge, PhD RN, Lillian Nail, PhD, RN, FAAN, Richard Maziarz, MD, Patricia Archbold, DNSc, RN, FAAN, Oregon Health & Science University, Portland, OR.

Responsibility for safely caring for high-risk medically-fragile patients following autologous blood and marrow transplant (ABMT) has been shifted to family caregivers (FCGs) who are expected to provide complex care at home. Caregiving is often embedded in omnibus measures or approached as a global construct. Identifying classes of caregiving activities is essential to understanding the complex relationships among caregiving and outcomes. To this end, three types of caregiving were inductively derived from 100 activities: performing usual care (supervising scheduled medications, keeping house clean, preparing nutritious foods), providing emotional support (talking with BMT recipients when sad, discussing how people respond to recipients' illness), and making care-based decisions (prn medications, noticing subtle changes, prioritizing care issues).

The purpose of this paper is to describe relationships among preparedness for caregiving, expected difficulty with caregiving, and caregiver role strain (CRS) for these three types of caregiving activities. In addition, we will examine the relative contribution of preparedness, expectations of caregiving, and ABMT recipient function on the three types of CRS.

Family caregiving was viewed from an interactionist perspective, suggesting that characteristics of and interactions among FCGs, recipients, and the health care system influence the nature of caregiving and subsequent responses to caregiving.

This is a descriptive longitudinal study. FCGs (n = 39) completed a self-report caregiving profile questionnaires at hospital discharge (T1) and again two weeks later (T2). FCGs were on average 50 years old, female (74%), Caucasian (84%), and well educated. Newly constructed caregiving subscales were reliable (alpha > .78).

Descriptive statistics, correlation, and simultaneous regression techniques.

At discharge, caregivers were least prepared to make care-based decisions, and expect decision making to be most difficult. However, at T2, FCGs report the highest strain in providing emotional support. Consistent with other studies, disruption in patient function is the strongest predictor of all types of CRS. The pattern for preparedness for caregiving, expected difficulty of caregiving, and CRS is not consistent across these types of caregiving. Discharge teaching may not adequately address FCGs' experiences in making care-based decisions or providing emotional support. We need innovative ways to increase FCGs'

skills in caring for ABMT recipients. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Genentech, Inc.

THE USE OF CLUSTER ANALYSIS TO STUDY CANCER GENETICS COMMUNICATION. Lee Ellington, Stefanie Bjerregaard-Petersen, William Dudley, PhD, Bonnie Baty, MS, Ken Smith, PhD, Jeffrey Botkin, MD, MPH, University of Utah, Salt Lake City, UT.

Genetic testing for cancer-susceptibility gene mutations helps at-risk individuals make informed decisions about their health and the health of their family.

As genetic technology rapidly evolves and as the public increasingly becomes its consumer, we know little about what takes place in genetic counseling sessions—it's a virtual "black box." The study purpose is to: 1) adapt a medical coding system to genetic communication; 2) identify patterns of communication, and 3) examine predictors of communication.

The model of "relationship-centered care" (Tresolini, 1994) provides the study framework. According to this model, the foundation of a therapeutic relationship is the integration and synthesis of both the patient and provider perspective and is reflected in their dialogue.

The 167 participants are members of the BRCA1 K2082. Three genetic counselors (GC) conducted sessions according to a research protocol. Roter's Interactional Analysis System (RIAS) was used to code every utterance of audiotaped pre-test sessions. RIAS categories were combined to create constructs which reflect session content and processes.

Four analytic methods were used: descriptive statistics, Pearson coefficients, hierarchical cluster analysis, and chi-square.

Most participants were married (83.8%), female (56.9%), and the mean age was 47.6 years. 26% were carriers, 59.9% were non-carriers, and 13.8% did not learn results. Coder reliability was calculated (r > .87). GCs were verbally dominant, making 70.3% of the statements, clients made 25.3%, and significant others accounted for 4.4%. Using combined RIAS categories as input variables, cluster analytic methods identified four patterns of communication: GC Driven/Educational (n = 45); Interactive with Medical Focus (n = 47); Moderately Interactive (n = 42); and Client-Centered (n = 33). Surprisingly, GC significantly predicted cluster differences (p < .0001); whereas, client characteristics did not (gender, marital status, and cancer history, p's > .20). Findings indicate that a widely used physician/patient coding system which has been predominantly used in primary care settings can be successfully adapted to cancer genetic counseling encounters. Despite use of research protocols to standardize sessions, communication patterns were driven by GC style and did not vary according to client characteristics. The cluster analytic method shows promise in identifying unique communication patterns and associations with client and provider variables. Funding sources: R03 HG02359.

A METHODS DISCUSSION OF AN INNOVATIVE WAY TO STUDY HEALTH RISK. Noreen Facione, RN, PhD, Peter Facione PhD, Loyola University Chicago, Chicago, IL.

Many of our cancer research studies seek to understand human judgments and health risk decisions as a way of decreasing cancer risk and optimizing cancer care and survival. This paper presents an innovative data analysis methodology to analyze subjects' accounts of their decision-making and judgment processes, whether the subjects are providers who administer cancer control interventions or people who make cancer prevention or treatment decisions.

This method is a blend of applied logic and cognitive research on human reasoning. The paper discussed the analysis of interview data capturing a cancer risk decision. The data is coded and diagramed in separate argument strands. Strands are evaluated and constructed into the complete argument map. The resulting analysis reports the content of key reasons for the decision being made, the quality of the reasoning process in terms of 'good thinking,' describes the subject's exploration of alternative cancer control options (conclusions about what to do), and describes where the argument engenders the subject's confidence in a judgment that entails the possible consequence of advanced cancer and death.

Although the method is robust, and could be used to analyze any high stakes decision, this paper demonstrates the method using a case study of a woman who confidently makes a judgment to delay seeking diagnosis of symptoms she describes as 'possibly breast cancer.' Diagrams of analyzed argument strands, the assessed logical strength of the thinking process, an account of the use of heuristic reasoning, and the complete argument map (results of the analysis) explain her confidence in a poorly reasoned argument to delay diagnosis of her symptoms. Watershed moments when the subject appears able to entertain seeking diagnosis are also identified.

This methodology fills a gap for behavioral researchers in cancer control, explaining judgments that motivate cancer related behavior we seek to modify. For the adept clinician, it offers ways to assess participation in management decisions.

Such mappings of high stakes cancer risk and cancer management decisions offer new insights to understand cancer risk behavior, new opportunities to intervene with targeted educational and decision-making interventions, and new hope for impacting stage at diagnosis and long term survival. Funding sources: California Breast Cancer Research Program was the funding agency for this case study data.

HEART SUCCESS PROGRAM: IMPROVING OUTCOMES AND QUALITY OF LIFE IN CANCER PATIENTS WITH HEART FAILURE. Anecita Fadol, RN, MSN, FNP, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The cardiotoxicity of anticancer agents can have potential adverse cardiac effects resulting in heart failure. Caring for patients with cancer and heart failure is challenging for nurses. To meet this challenge, a collaborative, interdisciplinary "Heart Success Program" was established.

This program was designed to provide comprehensive care focused on functional capacity and quality of life, without compromising cancer treatment. Other goals of the program included reducing hospital admissions related to heart failure, decreasing the overall cost of services, and importantly, developing a model of care to meet the needs of this unique patient population. The American Heart Association and the American College of Cardiology recommended guidelines for heart failure management were utilized in the program. Currently, there is no established guideline for management of cancer patients with heart failure.

Comprehensive patient education on heart failure management using the Theory of Planned Behavior is the theoretical basis of this project. Implementation of the program includes the use of a heart failure pathway, heart failure order set, Heart Success Booklet, and a patient diary. Additionally, videotapes for heart failure management, can be viewed on demand.

Outcome indicators, as part of quality improvement were identified prior to starting the project. Positive outcomes would show improved health-related quality of life (SF-12), decreased number of hospital readmissions for heart failure exacerbations, reduce hospital length of stay, optimum pharmacological therapy based on national guidelines, improved activity level at the time of discharge.

Disease management programs have been found to reduce hospitalization and is cost saving. However, the effectiveness of these programs has not been evaluated in cancer patients with heart failure. Baseline information from this project will have significant implications for oncology nursing, as there are no published data regarding the care of this unique patient population. In addition, further research topics related to symptom management of patients with cancer and heart failure will be identified.

THE MEANING OF HEALTH-RELATED QUALITY OF LIFE. Carol Ferrans, PhD, RN, FAAN, University of Illinois at Chicago, Chicago, IL.

Evaluation of outcomes in terms of health-related quality of life (QOL) has become increasingly important in health care. Nevertheless, because the term "quality of life" has been used to mean so many different things, it is difficult to compare findings, draw conclusions, and apply in clinical practice. For example, QOL can refer to health status, physical functioning, symptoms, psychosocial adjustment, well-being, life satisfaction, and happiness. The purpose of this presentation is to provide guidance for coherent use of the construct, based on examination of multidisciplinary literature over the past 30 years.

A number of well-established instruments are available for assessment of QOL in cancer care. The domains of various instruments have been well characterized in the literature, but less attention has been paid to the aspect of QOL they actually measure, such as health status or life satisfaction. This is important, because conclusions about the effectiveness of treatment may differ depending on which one is used to measure outcomes.

What is meant by QOL also differs in scope. The most narrow definitions focus only on the correction of health problems. The most broad encompass positive as well as negative aspects, such as finding meaning in life and peace of mind. The ultimate objective for assessment of QOL is enhanced well-being. To promote this positive objective, the focus of health care needs to move beyond health problems, loss of abilities, or functional deficits. This has been recognized particularly in end-of-life and palliative care, when interventions are aimed at providing comfort and emotional support, to maximize QOL at the end of life. QOL evaluations provide an important tool for understanding individual differences in response to illness. This includes individual changes that occur in the process of adapting to cancer and treatment, including the re-evaluation of one's life in the context of a life-threatening disease. They provide an understanding of the impact of illness from the viewpoint of the patient, which is more than health status and physical functioning. Funding sources: National Cancer Institute (NIH) Cancer Outcomes Measurement Working Group.

METHODOLOGIC ISSUES IN EVALUATION OF OUTCOMES IN EDUCATIONAL RESEARCH. Betty Ferrell, PhD, FAAN, Marcia Grant, DNSc, FAAN, Rose Virani, RN, MHA, OCN®, Jo Hanson, RN, MSN, OCN®, City of Hope National Medical Center, Duarte, CA.

The translation of educational research, similar to clinical research, to impact the daily practice of oncology care is contingent upon a strong method of evaluation in order to best capture the outcomes of the project. This symposium will summarize methlogic issues derived from successful conduct of four NCI funded National Cancer Education Programs.

These projects were funded by the R25 mechanism of the NCI and included a project focusing on integrating palliative care into routine home care (HOPE Project), a project to disseminate patient and public education in pain management (CPEPP), the End of Life Nursing Education Consortium (ELNEC) and Disseminating End of Life Care in Cancer Centers (DELEtCC). Each of these projects extended over four to five years and trained hundreds of nurses and other healthcare professionals to improve critical aspects of cancer care. Using a theoretical perspective derived from adult learning theory, institutional change, quality improvement and diffusion of innovation these projects include extensive evaluation.

The methods of evaluation to be discussed include those used pre course, conference evaluation, as well as follow-up longitudinal evaluation. Methods include chart audits, individual assessment of knowledge and beliefs, the effective use of goal based evaluation, interview, and extensive reinforcement strategies. Methods of tracking individual attendees as well as assessment of individual/team/institutional outcomes will be explored.

The critical need for follow-up and methods to enhance compliance with the evaluation plan will be presented with the strategies the investigators have used to achieve greater then 90% compliance at 1 year follow-up of these educational endeavors. Effective evaluation and an intensive plan of evaluation are essential for nurse researchers to conduct education research.

Having well defined, consistent measures and evaluation enhance the investigators ability to document the effectiveness of education, either professional or patient focused, and to insure dissemination of findings to impact clinical practice. Funding sources: National Cancer Institute

CHANGES IN THE SEVERITY OF FATIGUE AND THE USE OF SELF CARE BEHAVIORS (SCBS) IN MEN WITH PROSTATE CANCER UNDERGOING RADIATION THERAPY (RT). Barbara Fletcher, RN, BS, Michelle Gabriel, RN, Christine Miaskowski, RN, PhD, FAAN, Claudia West, RN, MS, Marylin Dodd, RN, PhD, FAAN, Kathryn Lee, RN, PhD, FAAN, Steven Paul, PhD, University of California San Francisco, San Francisco, CA.

While fatigue is known to occur during RT, studies with specific populations are extremely limited. In addition, no studies have evaluated the use of SCBs by patients during RT.

The purposes of this longitudinal study were to evaluate for changes in fatigue severity in men who did and did not report the use of SCBs and to evaluate for changes over time in the frequency and effectiveness of the SCBs used by these men.

The UCSF Symptom Management Model served as the theoretical framework for this study.

Men with prostate cancer were recruited from two RT departments and assessments were done prior to the initiation of RT, as well as at the middle and end of RT. At each assessment, patients completed the Lee Fatigue Scale (LFS) in the mornings and in the evening. Following completion of the LFS, the men were asked to indicate if they felt fatigued in the last week and if so to indicate which SCBs from a list of 27 they had used for fatigue and its effectiveness using a 0 to 10 scale.

Eighty-two men with a mean age of 67.1 years and a Stage T1 or T2 prostate cancer were recruited for this study. A repeated measures ANOVA determined that men who reported using SCBs had significantly higher levels of both morning and evening fatigue than men who did not report the use of SCBs. In fact, the men who reported the use of SCBs for fatigue had twice as much fatigue at all three time points. The majority of the patients used more then one SCB at any given time. The most commonly used SCBs were: read a book, drank caffeinated liquids, took a nap, and went for a walk.

Effectiveness ratings for the SCBs ranged from 3.8 to 6.2. This study is the first to document the use of SCBs for fatigue by men undergoing RT. The patients who initiated SCBs were a distinct group who reported significantly higher levels of fatigue throughout the course of RT and may represent a high risk group that warrants additional investigation. Funding sources: National Institute of Nursing Research and National Cancer Institute.

IMPROVING INTERCODER AGREEMENT IN QUALITATIVE ANALYSIS. Marsha Fonteyn, RN, PhD, Margaret Vettese, PhD, RN, Susan Bauer-Wu, DNSc, RN, Dana-Farber Cancer Institute, Boston, MA; Diane Lancaster, PhD, RN, Brigham and Women's Hospital, Boston, MA.

To address the methodological issues of intercoder agreement and the use of a qualitative software program (QSR NVIVO 2) with multiple researchers, a codebook was carefully developed and refined by four nurse scientists, to serve as a guide for analyzing expressive writing (EW) transcripts from women with metastatic breast cancer.

Use of a team-based approach and NVivo software can reduce the labor-intensive task of qualitative data analysis. Development of a codebook for team-based analysis can provide a reliable guide for on-line coding, improve intercoder agreement and reduce coding time.

This secondary data analysis project originated from a larger intervention study that produced 89 EW transcripts about women's experiences of living with their breast cancer. The codebook structure evolved over a six-month period to include numerous codes, their definitions, the guidelines for when to use or not use a specific code, and examples of illustrative passages from the transcripts. Initially, each team member independently analyzed three randomly chosen transcripts, coding the text by hand and creating tentative definitions for each code. The team then met to reach consensus on the codes and their definitions. Thus, an initial codebook was created to use as a guide for the analysis of additional sets of randomly chosen transcripts. This iterative method was followed until consensus was reached on all codes, their definitions and use. Throughout the coding process, the team met regularly to discuss coding decisions and resolve discrepancies. Memos were created to track this process and other insights that emerged while coding and reflecting on the data.

This methodological approach reduces the amount of coding time required for a large data set and improves intercoder agreement for the ongoing analysis. Once a codebook is developed, a coding process can be mastered and intercoder agreement established. The remaining transcripts can then be divided among team members for coding and entry into a software program, such as NVivo.

The use of a codebook and specialized software provides many advantages for enabling a research team to code a large amount of qualitative data while maintaining intercoder reliability.

THE EFFECT OF NEUTROPENIA ON A COGNITIVE BEHAVIORAL INTERVENTION FOR SYMPTOM MANAGEMENT. Barbara Given, PhD, RN, FAAN, Charles Given, PhD, Michigan State University, East Lansing, MI; Sharon Kozachik, Johns Hopkins University, Baltimore, MD; Sangchoon Jeon, Alla Sikorskii, Michigan State University, East Lansing, MI.

Trials of cognitive behavioral interventions designed to reduce symptom severity or improve dimensions of quality of life seldom consider the toxic effects of treatment moderate the impact of the trial on the designated outcome.

To address this issue, the moderating effect of neutropenia on the impact of a cognitive behavioral intervention for reducing symptom severity is evaluated among cancer patients undergoing a first course of chemotherapy.

The intervention was based on Cognitive Behavioral Theory and focused on problem solving and decision making intervention strategies, self care information, counseling and support, and communication with providers.

A randomized 10 contact, 20-week trial of a nurse delivered cognitive behavioral intervention on symptom severity is described, and the moderating effects of a neutropenia episode on symptom severity at 20 weeks are evaluated. There were 118 experimental patients and 119 controls who had a diagnosis of solid tumors. Symptom severity scores were based on sum scores (0–10) for 15 symptoms. Data collection interviews were carried out at baseline, 10, 20, and 32 weeks. Sites and stages of cancer and neutropenia episodes were obtained through an audit of patients medical records.

To determine the presence of neutropenia and how it moderates the impact of the intervention on symptom severity, we examined both the main effect for the intervention and neutropenia as well as the interaction between intervention group and neutropenic using a General Linear Model.

There was an effect for age (younger) and group on severity at 20 weeks and an interaction between neutropenia and group. Among patients with no evidence of neutropenia, those in the experimental group had a 9-point lower severity score. Among patients who experienced neutropenia, differences in symptom severity by intervention group were less than 3 points. Further, fatigue, fever, and pain were more prevalent among patients with neutropenia. Patients who experience neutropenia do not benefit from a cognitive behavioral intervention to lower symptoms. The overall effect of this intervention comes almost exclusively from patients without neutropenia. These data indicate the importance of incorporating clinical measures of toxicity when attempting to evaluate behavioral interventions. Funding sources: National Cancer Institute.

DIFFERENTIATING SYMPTOM DISTRESS FROM INTENSITY AND FREQUENCY. Teresa Goodell, RN, CNS, Oregon Health & Sciences University, Portland, OR.

The concept of symptom distress is inconsistently defined in the cancer literature. Identifying its meaning to people with cancer and understanding differences among symptom intensity, frequency and distress will clarify the concept and may enhance symptom management efforts.

This dual-methods pilot study aimed to: 1) quantitatively identify differences in symptom intensity, frequency and distress and 2) qualitatively describe the meaning of symptom distress to people with non-small cell lung cancer (NSCLC).

Self-regulation theory guided the conceptualization of symptoms as possessing intensity, frequency and distress dimensions.

Twenty outpatients with NSCLC completed the Memorial Symptom Assessment Scale. Numerical scales from 1–4 evaluate frequency and intensity. Distress is scaled 0–4, offering a zero distress response option on endorsed symptoms. Twelve participants have been interviewed about perceptions of symptom distress. Descriptive qualitative analysis with expert input was used to code interviews and collapse codes into categories.

Aim 1) Mean symptom frequency, intensity and distress scores were calculated and correlations among them computed. ANOVA was used to examine differences among means.

Aim 2) Descriptive qualitative analysis was used to code semi-structured interviews with twelve participants. Codes were collapsed into categories.

Aim 1) Correlations among symptom intensity, frequency and distress were high (all r > .87, p < .001), but repeated measures ANOVA with intensity, frequency and distress as the within-subjects factor showed highly significantly different means (F = 74.6, p < .001). With the distress dimension recoded to synchronize scaling of the three dimensions, paired t-tests revealed that frequency and distress were higher than intensity (p < .01 in both cases). Before recoding, all three symptom dimensions were significantly different. Aim 2) Preliminary analysis has revealed five categories: life disruption, uncertainty, the unexpected, going it alone, and emotional upset. Interviews will continue until saturation is reached; data will be reanalyzed in consultation with a senior qualitative researcher. This study found quantitative differences that distinguished symptom intensity from distress, but not from frequency. Qualitative analysis suggests that participants viewed symptom distress broadly in relation to difficult aspects of the cancer experience. Clinicians and researchers may use these findings to better understand symptom distress when interpreting subjective symptom reports.

PILOT STUDY OF A MEASURE OF FUNCTIONAL DEPENDENCE IN OLDER ADULTS RECEIVING CHEMOTHERAPY. Julia Goodwin, MNSc, Elizabeth Ann Coleman, University of Arkansas for Medical Sciences, Little Rock, AR; Marisue Cody, Central Arkansas Veterans Health Services, North Little Rock, AR; Jennifer Shaw, David Lipschitz, Little Rock, AR.

The proportion of older adults in the population and the incidence of cancer in older adults are increasing. Older adults with cancer frequently experience functional dependence (FD) resulting from the disease or treatment. Accurate assessment by oncology nurses or other clinicians would allow early intervention for FD.

The study purpose was to develop and evaluate a brief, patient-completed instrument measuring FD in older adults undergoing cancer treatment.

Orem's Self-Care Deficit Nursing Care Theory includes compensatory nursing systems and helping methods that address functional dependence in basic and instrumental activities of daily living.

A FD assessment tool was developed and evaluated in older adults with various cancers during outpatient chemotherapy visits at two oncology facilities. Older adults with cancer, social workers, and oncology nurses and physicians established content validity through focus groups and individual interviews. FD included performance measured on a 100mm visual analog scale for basic (BADL-eating, toileting, mobility, dressing, bathing) and instrumental (IADL-phone, shopping, meal preparation, chores, transportation, medications, finances) activities.

Reliability was evaluated for all chemotherapy visits, visits 2–5, and visits 2–9. Repeated measures analysis evaluated functional dependence over time and possible associations with age, use of radiation or surgery, hemoglobin, and cancer type.

Twenty-six participants (mean age 71 yrs, SD 5; 54% female; cancer type: breast 35%, lung 27%, gastrointestinal 23%, other 15%) completed the instrument at chemotherapy visits. The number of assessments completed by each participant (mean 5.6) varied with chemotherapy protocol and participant adherence to treatment. The study instrument demonstrated high internal consistency on SFDS scores: BADL (.7655–.9357), IADL (.8994–.9045), and summed total (.8588–.9139). Repeated measures analysis found statistically significant (p < .01) differences in cancer type and hemoglobin level across summed scores for BADL and for IADL. Increased age, breast or lung cancer, and lower hemoglobin were associated with increased FD. This instrument may assist oncology nurses and other clinicians with patient self-assessment of FD during cancer treatment. Correction or support of FD may increase compliance with chemotherapy treatment and improve quality of life. Further evaluation of the instrument is suggested. Funding sources: Ortho-Biotech, Inc.

SURVIVORSHIP RESEARCH: METHODOLOGICAL ISSUES AND STRATEGIES. Marcia Grant, RN, DNSc, FAAN, Betty Ferrell, PhD, FAAN, Elizabeth Cooke, RN, MN, AOCN®, ANP, Gloria Juarez, RN, PhD, City of Hope National Medical Center, Duarte, CA.

About 1,368,030 new cancer cases are expected in 2004, and of those 63% are expected to survive five years or more. The Office of Cancer Survivorship (OCS) at the National Cancer Institute reports that as of January 1997, an estimated 8.9 million cancer survivors were living in the U.S. The need for studies to improve quality of life (QOL) for survivors is increasing in priority as a larger proportion of the population fall into this group. The purpose of this paper is to provide examples of methods used to overcome challenges in studying QOL in different survivor groups.

Issues addressed will include design selection, subject recruitment and follow-up, instrument burden, dosing of intervention, and solving cultural challenges. Examples will include studies of QOL in ovarian cancer survivors using both a qualitative analysis of correspondence through an ovarian cancer newsletter, quantitative analysis of QOL and a nursing intervention trial; approaches to decreasing subject burden in an intervention study of vulnerable bone marrow transplant early survivors; finding sufficient numbers of cancer patients with ostomies to describe QOL over time; and meeting the issues of language, translation and trust when conducting cross cultural issues in breast cancer survivors.

Methods will focus on selecting the appropriate framework; internet support for finding, recruiting, and maintaining contact with widespread populations; selecting instruments to decrease subject burden; and applying translation principles to the development and implementation of instruments for cross cultural study.

Strategies demonstrated here can be applied to other studies of cancer survivors and provide evidence-based recommendations for follow up care for this large component of our population.

As survivors increase, the need for rigorous studies describing and improving quality of life for cancer survivors are essential. Funding sources: Funded by the NCI and by the ONS Foundation through an unrestricted grant from Genentech, Inc.

ATTITUDINAL BARRIERS TO CANCER PAIN MANAGEMENT IN THE ICELANDIC POPULATION. Sigridur Gunnarsdottir, RN, MS, University Hospital of Iceland, Reykjavik, Iceland.

Attitudes about pain among patients, their family members and the lay-public can be barriers to pain management.

The purpose of this study was to evaluate the prevalence of attitudinal barriers to cancer-pain management among the general population of Iceland and to evaluate relationships between barriers and background variables.

The study is based on Ward and colleagues framework where attitudinal barriers (e.g. fear of addiction) interfere with pain management (under-utilization of analgesics) and consequently quality of life. The present study—the first in a developing program of research—targets the antecedent variables (attitudes).

A random sample of 1286 Icelandic adults was drawn from a national registry holding information about all 278,000 citizens of Iceland. Data collection was conducted with a postal-survey based on The Total Design Method. Barriers were evaluated with the Icelandic Barriers Questionnaire-II (IBQ-II), a reliable and valid measure.

Descriptive statistics and ANCOVA were used for data analyses.

Of 1286 invited, 599 (46.6%) completed the survey. The mean (SD) age of respondents and non-respondents was 45.28 (17.14) and 44.25 (19.44) respectively. Majority of respondents were female (55.8%), while 47.6% of non-respondents were female. The mean (SD) length of education for respondents was 13.81 (4.27) years. Half (55.6%) had personal experience with cancer; of those 95.7% had a relative or a close friend so diagnosed and in addition 33 (10%) had been diagnosed with cancer themselves.

The mean (SD) IBQ-II score was 2.16 (0.77), on a scale of 0 to 5, with higher scores indicating stronger barriers. Men had higher barriers scores than women, and education was inversely related to barriers. Those who had personal experience with cancer had lower barriers than those who did not, and those identifying themselves as health care professionals had lower IBQ-II scores than those who did not.

Barriers to cancer pain management are prevalent in Iceland. They are also stronger than what has been seen in previous research conducted in other countries. These findings support the need for interventions aimed at such barriers. This data will aid in the design, implementation, and evaluation of educational interventions and quality-improvement-projects, aimed at overcoming barriers to management of cancer-pain. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Janssen Pharmaceutica Products LP. Research grant from Sigma Theta Tau International. Research grant from the Icelandic Cancer Society.

THEORETICAL ISSUES IN THE MEASUREMENT OF COPING IN CHILDREN AND ADOLESCENTS DEALING WITH CANCER. Joan Haase, RN, PhD, Indiana University School of Nursing, Indianapolis, IN; Frances Lewis, PhD, RN, FAAN, University of Washington, Seattle, WA; Eileen Kintner, PhD, RN, University of Michigan, Ann Arbor, MI; Carol Decker, MSW, PhD(c), Indiana University, Indianapolis, IN; Kristin Fletcher, MS, University of Washington, Seattle, WA.

The purpose of this paper is to report on a triangulation analysis of two scales used with children and adolescents with dealing cancer: KIDCOPE and the Jaloweic Coping Scales.

Psychosocial adjustment of children and adolescents requires the development of a repertoire of coping strategies. Coping is frequently evaluated using scales and subscales that classify coping according to the types of strategies used and their perceived effectiveness. While there is some agreement about which broad classes of coping lead to adjustment, little work has been done to examine the items, scales, and subscales to identify those that are most likely to lead to positive outcomes. Frequently, items that are ambiguously adaptive/positive or maladaptive/avoidant are included in the same subscale, making it difficult to predict how classes of coping strategies influence outcomes.

Samples used to examine the Jaloweic Coping Scale were newly diagnosed adolescents with cancer (n = 74) and 70 adolescent survivors (n = 70). The sample used to evaluate KIDCOPE was 126 children (8 to 12 years of age) who had mothers with breast cancer. In addition to usual ways of evaluating psychometric properties, such as item-to-total correlations, Cronbach alpha reliabilities and alpha if item deleted, and factor analysis, we report on a qualitative analysis of each item in light of the quantitative findings and we report on examination of factor structures using alternative theoretical perspectives of coping. Alternative factor structures ranging from 2 to 8 conceptual groupings were evaluated for theoretical meaning at the sub-scale and item level. In addition, issues of measurement, including use of an identified stressful situation about which responses are requested, use of two-part use and effectiveness scaling, and issues of analysis when some coping items are not used by any participants are discussed.

The limitations to measuring and classifying coping strategies of children and adolescents need to be addressed to understand the influence of coping on psychosocial outcomes.

A triangulation approach has rarely been used to evaluate the theoretical underpinnings of measures. Theoretical and conceptual clarity may be enhanced and validity of measures when a triangulated approach is used. Funding sources: Enhancing Connections: Helping the mother with breast cancer parent her child. (Lewis, PI) NIH, NCI, 1 RO1 CA7824-01A10. Resilience and Quality of Life in Adolescents with Cancer (Haase, PI) NIH, NINR1R29 NR03882-01A1.

THE TIME IS NOW: ECOLOGICAL MOMENTARY ASSESSMENT OF FATIGUE. Eileen Hacker, PhD, RN, AOCN®, University of Illinois at Chicago, Chicago, IL.

The purpose of this methodological issues abstract is to discuss the applicability of ecological momentary assessment (EMA) for capturing real-time, real-world assessments of fatigue in cancer patients receiving intensive therapy.

Ecological momentary assessment refers to a number of methodological data collection techniques that incorporate repeated real-time measurements of phenomena, such as symptoms, behaviors, or physiological processes, as they occur in naturalistic settings. Ecological momentary assessment, derived from the behavioral sciences, is characterized by (1) studying people in their natural environment to enhance ecological validity, (2) conducting assessments of the individual's immediate or near-immediate state to minimize recall biases, and (3) sampling the phenomena under study throughout the course of the day to ensure an adequate representation of the individual's experience. Patients may provide this data through computerized processes or through a pen and paper

approach. Computerized EMA offers the added advantage of time stamping data entries permitting examination of patient compliance.

Computerized EMA holds substantial promise for assessing fatigue in cancer patients receiving intensive therapy. These patients frequently experience severe and debilitating fatigue and they may not be able to complete lengthy questionnaires or participate in long interviews. In our recent study, we used computerized EMA to study the experience of fatigue as it occurs over a 3 day period prior to and following intensive cancer treatment. The data collection processes were designed to maximize patient compliance and minimize subject burden. In this study, the majority of patients were able to provide real-time fatigue data, even when experiencing multiple side effects of chemotherapy.

Our study findings demonstrate that it is feasible to use computerized ecological momentary assessment to collect self-report fatigue data in acutely ill oncology patients if the subject burden is reasonable.

Ecological momentary assessment of fatigue also provides the researchers and patients with the flexibility of completing fatigue assessments when the fatigue actually occurs, eliminating the problem of recall biases and minimizing response shift issues. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.; American Cancer Society; and University of Illinois College of Nursing Center for Research on Cardiovascular and Respiratory Health.

CONCERNS OF YOUNG WOMEN WHO ARE POSITIVE FOR BRCA1 AND/OR BRCA2. Rebekah Hamilton, PhD, RN, University of Iowa, Iowa City, IA.

Young women are offered BRCA1 and BRCA2 testing in both primary care and specialty care settings. Few studies have specifically focused on the experience of predictive genetic testing with this age group. Developmental theories lend credence to the suggestion that concerns will be different for this population than for older women in a similar situation.

The purpose of the study was to examine the experience of predictive genetic testing for hereditary breast and ovarian cancer (HBOC) and to compare experiences of younger women (< 35 years old) to the older study cohort (36–60 years old).

Grounded theory is an exploratory, theory generating method, used in areas in which little is known. Grounded theory is rooted in the philosophy of symbolic interactionism. The qualitative method of grounded theory was used to examine the phenomenon of adults choosing to have predictive genetic testing for HBOC. A sample of 17 women, seven < 35 years old was recruited through community and internet support group announcements. Semistructured interviews were conducted in-person, by telephone or email according to participant preference. Analysis consisted of line-by-line coding resulting in the development of concepts, categories and relationships which accounted for a pattern of behavior relevant to the experience of predictive genetic testing. Validation was achieved by member checks (3 participants) and feedback from a research group composed of experienced grounded theorists.

Please see above, the theoretical framework and methods are combined in a grounded theory study.

The core category developed was "Being changed by predictive genetic testing." Young women's experiences were different particularly around concerns about: 1) career plans, 2) reproduction, and 3) intimate relationships. Other concerns not specific to young women but also described included: 1) family relationships, 2) fears of personal mortality, 3) life and health insurance and 4) health information needs. A commonly voiced experience specific to the young adult age group was feeling "out-of-place" in the oncology clinics and support groups which participants perceived as being focused on concerns of older women.

Further study may clarify the extent and nature of informational, emotional, social and decision support needs that are unique to this young adult population. Funding sources: Pre-doctoral T32 fellowship (5T32 NR07102-04).

AGE DIFFERENCES IN QUALITY OF LIFE, SELF-EFFICACY, CURRENT CONCERNS, SYMPTOM DISTRESS, AND APPRAISAL OF ILLNESS/CAREGIVING IN COUPLES FACING PROSTATE CANCER. Janet Harden, PhD, RN, Wayne State University, Detroit, MI; Laurel Northouse, PhD, RN, FAAN, Bernadine Cimprich, PhD, RN, FAAN, Joanne Pohl, PhD, RN, FAAN, Jersey Liang, PhD, University of Michigan, Ann Arbor, MI; Trace Kershaw, PhD, Yale University, New Haven, CT.

Prostate cancer affects men in all adult life stages, yet a life stage perspective has seldom been used to understand the impact of diagnosis and treatment on patients and partners quality of life outcomes.

A diagnosis of prostate cancer requires that couples simultaneously adjust to the changes brought about by cancer as well as other normative changes specific to their age. The purpose of this study was twofold 1) to determine if the quality of life (QOL) of men with prostate cancer and their partners differs according to developmental stage 50–64 (late middle age); 65–74 (young old); and 75 and above (old-old), and 2) to determine if patients and partners self-efficacy, current stressors, symptom distress and appraisal of illness differs according to developmental stage.

McCubbin and McCubbins Family Stress, Adjustment, and Adaptation Framework (1993) guided this study; it focuses on the effect of normative (developmental stage) and non-normative stressors (illness) on the couples ability to adapt. Variables included influencing factors (age, concurrent stressors and self-efficacy) and illness factors, appraisal and quality of life for both the patient and his partner.

A descriptive design was used to compare data obtained from 69 patients and their partners using secondary analysis. Dyads who completed baseline assessments from a large intervention study were stratified by age cohort and randomly selected for the study (n23 dyads per age cohort).

Data were obtained using multiple standardized instruments with adequate reliability and validity. ANOVA and MANOVA were used to determine differences among age groups.

Findings indicated that patients in the middle group (65–74) had a better physical and mental QOL and higher self-efficacy than the younger group; they also had less negative appraisal of illness than the other age groups. Partners in the middle group perceived less bother with hormonal symptoms than the other groups. Partners in the youngest age group reported the most disturbances with sexual changes in their husbands. Findings suggest that age does affect a couples response to a prostate cancer illness. Implications suggest that interventions need to be tailored to couples developmental stage. Funding sources: Intervention study funded by grant from NCI (R01 CA090739) to L. Northouse PI.

OLDER BREAST CANCER SURVIVORS: AN INDIVIDUALIZED INTERVENTION. Susan Heidrich, PhD, RN, Judith Egan, RN, MS, Pornpat Hengudomsub, RN, MS, Roger Brown, PhD, Sandra Ward, Phd, RN, FAAN, University of Wisconsin-Madison, Madison, WI.

Breast cancer is an age-related illness. Multiple symptoms—whether due to cancer, its treatment, other chronic conditions, and age-related changes in physical functioning—are the norm in older women with breast cancer. Yet, symptom intervention research has focused on single symptoms and has neglected age-related symptoms and comorbidities common in older breast cancer survivors. We are testing a theory-based intervention that directly addresses the multiple symptom experience of older breast cancer survivors.

The primary aim of this research was to test the feasibility and short-term effects on symptom distress and quality of life of an individualized representational intervention for symptom management (IRIS) in older (> 64 years) breast cancer survivors.

The intervention is theoretically based in Donovan & Ward's representational approach to patient education. IRIS is a counseling interview in which symptom representations are assessed, barriers based on misconceptions addressed, and symptom management strategies developed.

Women (N = 41, mean age = 72, age range = 65–86), at least one year post diagnosis of breast cancer, were recruited from an oncology clinic and the community. Women reported an average of 3.5 comorbid conditions and 17 symptoms. Women were randomized to the intervention (IRIS, n = 21) or usual care (control, n = 20) groups and measured at baseline, post-test and six and ten weeks post intervention. Outcome variables were symptom distress (num-

ber, severity), quality of life (SF-36, depression, anxiety, purpose in life), and symptom management beliefs. All measures demonstrated adequate internal consistency and construct validity in this and previous studies.

Compared to controls, women in the intervention group had significantly more decrease in symptom distress at eight and ten weeks post-intervention, initiated more symptom management strategies, and perceived these strategies as effective. There were no quality of life differences.

Individualized representational interventions show promise in improving self care of symptoms in older breast cancer survivors. A larger, randomized controlled trial is needed to test efficacy and durability of the intervention. If efficacious, a representational approach to patient education could be adapted for use in practice. Funding sources: NIH/NINR R55 NR07741.

SUBJECT RECRUITMENT FOR CANCER CONTROL STUDIES IN AN UNFAVORABLE ENVIRONMENT. Sue Heiney, PhD, RN, CS, FAAN, South Carolina Cancer Center, Columbia, SC; Swann Adams, PhD, James Hebert, Dr.Sc, Joan Cunningham, PhD, Arnold School of Public Health, University of South Carolina, Columbia, SC.

Using Lewin's model of change, this paper summarizes recruitment lessons learned from 4 studies: a quasi-experimental comparison of breast cancer patients and controls; an exploratory study of breast cancer patient's knowledge and experience with lymphedema, an experimental study of an intervention to improve QOL and an experimental study of an intervention for men with prostate cancer. The recruitment of subjects was an enormous challenge due to unfavorable community and professional environments.

A post hoc examination of recruitment strategies using Lewin's force field analysis was conducted. Driving and restraining forces for recruitment were explicated and evaluated to successful and unworkable strategies. Also, forces that we should have worked to change the direction of were distinguished. Also, each stage of change was evaluated to identify major components of unfreezing, moving and refreezing. Since some of the projects are ongoing, these efforts were directed toward increasing recruitment and planning for future studies.

Drivers included medical oncologists, mammographers and patients from previous studies. Resisters included staff in the mammography clinic, IRB members and urologists. The strength of this approach is that it points to where energy should be directed. Also, it prevents over focusing on either resistors or drivers which tended to recruitment efforts. Resistance often increased, especially in the hospital departments when administrative drivers increased. This approach also identified that more time should have been spent in unfreezing since this environment was unfamiliar with cancer control studies and viewed them from the perspective of drug trials.

Lewin's model was especially useful in that it increased researcher objectivity as to the source of recruitment obstacles. This perspective prevented the problem from being personalized and becoming a hostile situation. If this approach had been used in the first study, subjects would have been accrued much faster. Planning for recruitment using this model would have saved time even though the upfront time seemed wasteful, especially with limited funding periods.

Nurse researchers entering a new environment for recruitment and/or working with a multi-disciplinary team would benefit from using Lewin's force field analysis prior to writing a proposal or implementing a project. While Lewin's model is not new; it's use in recruitment has not been well documented.

PUNJABI IMMIGRANT WOMENS' EXPERIENCES OF BREAST CANCER. A. Fuchsia Howard, RN, MSN(c), Nursing and Health Behaviour Research Unit, Vancouver, British Columbia, Canada; Joan L. Bottorff, PhD, RN, Lynda G. Balneaves, PhD, RN, University of British Columbia, School of Nursing, Vancouver, British Columbia, Canada.

There is a notable absence of women from specific ethnocultural groups in the published breast cancer research, including South Asians living in Canada. Punjabi immigrants represent the most populace group of South Asians in British Columbia. The breast cancer experiences of Punjabi women need to be understood in order to provide a framework for culturally appropriate cancer care.

The purpose of this investigation was to explore the ways Punjabi immigrant women story their breast cancer experiences to uncover how women make sense of their experiences and how the women's cultural and social world is reflected in their stories.

Culture was conceptualized as dynamic, socially constructed, and produced within historical, gendered, 'raced' and political context, rather than neutral scripts tied to ethnic roots.

A narrative ethnographic approach was used to guide this qualitative study. In-depth, open-ended interviews were conducted in Punjabi and translated into English with twelve Punjabi immigrant women, who had breast cancer within the last eight years and resided in British Columbia.

Interviews were analyzed using a combination of narrative analysis strategies (Mishler, 1986; Riessman, 1993; Frank, 1995; Cortazzi, 2001). Following close reading of the interviews, summaries were prepared to highlight impressions of each woman's story. Women's stories were then compared to identify storylines and subjected to analysis focussing on the structure and function of the narrative. Finally, consideration was given to the larger social context in which the stories were told.

Based on this analysis five storylines emerged: (1) recovering from breast cancer and moving on; (2) surviving the ordeal of breast cancer; (3) suffering through breast cancer and struggling to move on; (4) being consumed by the never ending worry of breast cancer; and (5) accepting breast cancer as kismet and learning to be more devout. In these narratives the stigma of cancer limited women's disclosure of breast cancer to their closely knit families, resulting in women feeling unable to receive additional support. Findings of this study suggest that existing research literature fails to account for all women's experiences of breast cancer and culturally appropriate cancer care is needed to work effectively with Punjabi immigrant women. Funding sources: Canadian Breast Cancer Research Alliance; Nursing and Health Behaviour Research Unit, UBC; NEXUS, UBC.

HEALTH CARE DEMANDS OF TAIWANESE CANCER PATIENTS. Chao-Pin Hsiao RN, MS, PhD student, College of Nursing, University of Arizona, Tucson, AZ; Yu-Tzu Dai, RN, PhD, Professor, College of Nursing, National Taiwan University, Taipei, Taiwan; Ida. M. (Ki) Moore, RN, DNS, Professor, College of Nursing, University of Arizona, Tucson, AZ.

To enhance quality of life, health care providers need to understand the health care demands experienced by cancer patients receiving chemotherapy.

The purpose of the study was to investigate health care demands, symptom distress and physical function in cancer patients receiving chemotherapy at the time of discharge and 7 to 10 days after discharge.

Cancer chemotherapy patients not only experience different symptom distress associated with their disease, but they also suffer multidimensional side effects from a variety of chemotherapy treatments. The conceptual framework was presented based on empirical findings associating demographics, symptom distress, physical function, stage of cancer and treatment to health care demands.

It was a longitudinal, descriptive, and correlational study. 123 cancer patients participated in study. The inclusion criteria of this study were: 1). Cancer diagnosis, 2). At least 18 years of age, 3). No evidence of brain damage, fully conscious and able to answer question, 4). Communicate in Mandarin or Taiwanese. Structured questionnaires were given twice in face-to-face interviews at discharge and 7 to 10 days after discharge. The questionnaires included the Karnofsky Performance Status scale (KPS), Symptom Distress Scale (SDS), and Supportive Care Needs Survey (SCNS). They were highly acceptable instructments of the validity and reliability. The Cronbach's alpha co-efficient of SCNS was 0.95. and 0.97 in KPS, as well as 0.91 in SDS.

Descriptive statistics, t-test, one way ANOVA, pearson correlation and regression were used to evaluate the relationship among demographics, symptom distress, physical function, and health care demands.

78.5% of health care demands were found to be unmet in the overall health care of cancer patients receiving chemotherapy. The most frequently unmet health care demands were: information on health care, daily living care, services, psychological support, medical care, and sexuality. They displayed a low level of symptom distress and three most often reported symptoms of distress were fatigue, change in appetite and insomnia.

The findings can serve as a reference for future research, and to provide a comprehensive discharge assessment and individual education plan for cancer patients at the time of discharge. In addition, a follow up evaluation of individual health care demands at 7 to 10 days after discharge can enhance the satisfaction of health care.

RELATIONSHIP OF PAIN SEVERITY, DEPRESSION AND OPIOID-RELATED SIDE EFFECTS TO FATIGUE IN CANCER PAIN POPULATION. Shirley Hwang, RN, MS, Qi Xia MS, Victor Chang, MD, Donald Hoover, PhD, Shanti Srinivas, MD, Basil Kasimis, MD, VA New Jersey Health Care System, East Orange, NJ.

We identified a potential causal relationship among pain, opioid side effects (SEs) and depression in relation to fatigue.

We previously reported that pain, depression and other symptoms independently predicted fatigue (Hwang, JPSM; 2003: 604–614). To conceptualize symptom oriented management of fatigue, we investigated causal relationships of pain, depression, SEs and KPS to fatigue in cancer pain patients before and after pain management.

We used path analysis to evaluate a model in which pain, SEs and KPS were hypothesized to predict fatigue directly, and indirectly through depression at different time points.

The longitudinal survey studied 195 cancer pain patients with baseline worst pain > 4/10 (median age 68 yrs, range 44–87) who were managed according to AHCPR guidelines. All patients completed the Brief Pain Inventory, Brief Fatigue Inventory, Geriatric Depression Scale and an 18-item SE check list at 4 time points, one week apart. The KPS was assessed weekly.

Changes in pain, fatigue, KPS, depression and SEs over time were estimated by mixed effect models. At each time point, we also performed a path analysis to test our hypothesized causal relationship model. Model adequacy was assessed by goodness-of-fit index (GFI).

There were significant improvements over the three weeks in mean worst pain (8.4 to 5.1, $p < 0.0001$), usual fatigue(5.4 to 4.2, $p = 0.001$), depression (5.5 to 4.1, $p < 0.03$), and KPS(64.8 to 69, $p = 0.0005$), but mean SEs increased from 2.2 to 2.8 ($p < 0.0001$). Usual fatigue, worst pain, depression and number of SEs correlated significantly with each other at each time point. At day 1, the path analysis found that number of SEs predicted fatigue both directly (b = 0.14) and indirectly, mediated by depression, with total causal effect of 0.21, and that worst pain severity(b = 0.19) and depression(b = 0.28) predicted fatigue directly(GFI = 0.99). At each follow-up time point, GFI for this model ranged from 0.93 to 0.98. These results elucidate persistent relationships between pain, depression, SEs and fatigue before and after pain management. In the absence of any effective pharmacological intervention, this provides a conceptual framework for fatigue management in cancer pain patients. Funding sources: VA HSR&D-PCC 98068.

EXERCISE FOR BREAST CANCER SURVIVORS: ITS EFFECT ON WEIGHT AND BODY COMPOSITION. Carolyn Ingram, RN, DNS, McMaster University, School of Nursing, Hamilton, Ontario, Canada.

Exercise is a promising intervention for cancer-related symptom management. Knowledge of the effect of exercise on weight and body composition in women receiving adjuvant breast cancer treatment is required so that nurses can tailor appropriate exercise recommendations to the specific needs of these women.

Evidence regarding the effects of exercise on weight and body composition during early breast cancer was evaluated and synthesized in order to make recommendations for future research and practice. Studies of breast cancer and exercise have focused on ameliorating symptoms such as fatigue, negative mood and reduced function. Weight and body composition have seldom been addressed. With newer therapies, the problem of weight gain during adjuvant breast cancer treatment has diminished. However, negative body composition changes, particularly increases in percentage of body fat, are a problem. The effect of exercise on these outcomes requires further examination.

A systematic review of the literature was conducted. Medline/Premedline, CancerLIT, Cochrane Central Register, CINAHL, Embase, PEDRO, and Sport Discus were searched. Electronic searches were augmented by hand and ancestry searches and key researchers were contacted. Strict criteria were established for retrieval and evaluation of studies. All research designs except case studies were included.

Titles and abstracts of 1315 references were screened, 82 were reviewed, and 13 primary studies met the inclusion criteria. The majority of studies examined aerobic activity. Changes in weight and body composition were rarely considered or were of secondary interest. Where these outcomes were studied, beneficial effects were consistently seen. Body fat percentage was often maintained or reduced, although weight change was rarely seen. Because weight and body composition were of secondary interest, there were problems with measurement rigor. Studies were not long enough to produce durable changes in weight or body composition. Furthermore lymphedema, which can profoundly affect weight and body composition estimates, was studied as a separate entity.

Current evidence does not support knowledgeable and safe recommendations related to exercise for weight and body composition management in women with early breast cancer. Research is needed in which these outcomes are of primary importance. There are also several measurement issues to address in planning future studies. Funding sources: Department of Defense Breast Cancer Research Program, U.S. Army Medical Research and Materiel Command, Office of the Congressionally Directed Medical Research Programs (CDMRP).

DIFFERENCES IN ATTENTIONAL FUNCTION AMONG ADULT CANCER PATIENTS WHO ARE UNDERGOING CANCER TREATMENT. Catherine Jansen, RN, MS, OCN®, Kaiser Permanente Medical Center, San Francisco, CA; Christine Miaskowski, RN, PhD, Claudia West, RN, MS, Marylin Dodd, RN, PhD, Kathryn Lee, RN, PhD, University of California San Francisco, San Francisco, CA.

Impairment in cognitive function is a newly-recognized side effect of cancer treatment. Attention, an important component of cognition, is essential for informed consent, recognition of side effects, and the ability to learn self-care.

Although anxiety, depression, and fatigue are common during cancer treatment, and can negatively impact an individual's ability to pay attention and concentrate, relatively little is known about attention and its relationship to anxiety, depression, and fatigue during cancer treatment. The purpose of this study was to examine attentional function, anxiety, depression, and fatigue in patients undergoing cancer treatment.

The U.C.S.F.'s "Symptom Management Model" provided the framework for this study.

This study descriptive, correlational study enrolled a convenience sample (n = 194) was drawn from six outpatient oncology clinics. Instruments included the Attentional Function Index (AFI), the Speilberger State and Trait Anxiety Questionnaire (STAI), the Center for Epidemiological Studies Depression Scale (CES-D), and the Lee Fatigue Scale (LFS). The AFI is a 16-item numeric rating scale (ranging from 0–10, with descriptive anchors) which measures directed attention. The STAI is a 20-item, 4-point Likert scale (ranging from 0–4) which measures anxiety. The CESD is a 20-item, 4-point Likert scale (ranging from 0–4) which measures depression. The LFS is an 18-item numeric rating scale (ranging from 0–10, with descriptive anchors) which measures fatigue and energy. Each instrument has established reliability and validity.

Descriptive statistics, t-tests, and Pearson Product Moment Correlations were used to analyze the data.

The results of this study revealed significantly poorer attentional function in patients who were receiving chemotherapy compared to other cancer treatments ($p = 0.011$). Regardless of the type of cancer treatment employed, patients with poorer levels of attentional function reported significantly higher anxiety (r = −0.50, $p < 0.01$), depression (r = −0.56 $p < 0.01$), and fatigue (r = −0.53, $p < 0.01$) scores. Conclusion: Although anxiety, depression, and fatigue negatively impact attention, chemotherapy has a greater negative impact on attention compared to other types of cancer treatment. These results suggest the need for further research on chemotherapy-induced impairments in attention, as well as other components of cognitive function. Funding sources: National Cancer Institute; American Cancer Society Doctoral Scholarship DSCN 02-209-01.

DO HEALTHY WOMEN IN THE COMMUNITY RECOGNIZE HEREDITARY AND SPORADIC BREAST CANCER RISK FACTORS? Maria Katapodi, RN, MSN, PhD, University of California San Francisco, San Francisco, CA; Bradley Aouizerat, PhD, Quantitative Geneticist, University of California San Francisco, Departmet of Physiological Nursing, San Francisco, CA.

It is not clear whether women can distinguish between familial and sporadic forms of breast cancer, and whether they recognize the different role of aging, paternal family history, and ovarian cancer in predicting each form of the disease.

The study aimed to 1) describe knowledge of hereditary and sporadic breast cancer risk factors among healthy women in the community, and 2) identify predictors of knowledge of breast cancer risk factors.

The Adoption Precaution Process (Weinstein, 1988) suggests that individualized information about one's personal risk factors facilitates an accurate perception of susceptibility to disease.

This cross-sectional, community-based survey recruited 184 women from diverse racial/cultural backgrounds (43% Caucasian, 26% African American, 17% Asian, 14% Hispanic) to complete a questionnaire in English. Participants have never been diagnosed with cancer and were between 30 and 85 years old (X = 46+−12). Most (49%) were college graduates and had a median annual income $30,000 to $40,000. We assessed knowledge of hereditary and sporadic breast cancer risk factors with the Breast Cancer Risk Factors Knowledge Index (Cronbach alpha = .80).

Descriptive statistics and hierarchical regression (Alpha set 0.05).

Most women recognized the role of heredity as a risk factor , but some did not recognize the impact of paternal family history. Some did not recognize the link between breast and ovarian cancer, risk factors associated with the Gail model, and that getting older increases one's risk. Education was an important predictor of knowledge of risk factors. Communication regarding risk factors needs to be optimized. Nursing can provide individualized risk assessment and education regarding breast cancer risk factors to women in the community. Funding sources: Department of Defense, Medical Research, Clinical Nurse Researcher Award No DAMD17-03-1-0356.

DIFFERENCES IN THE PREVALENCE AND SEVERITY OF SIDE EFFECTS BASED ON TYPE OF ANALGESIC PRESCRIPTION. Esther Kim, RN, MS, Patrice Villars, RN, BS, Christine Miaskowski, RN, PhD, FAAN, Claudia West, RN, MS, Marylin Dodd, RN, PhD, FAAN, Steven Paul, PhD, University of California San Francisco, San Francisco, CA.

Side effects of analgesics are a well-documented barrier to effective pain management. However, very little data are available on the prevalence and severity of side effects associated with different types of analgesic prescriptions.

As part of a larger study that evaluated the effectiveness the PRO-SELF© Pain Control Program, the purposes of this study in a sample of oncology outpatients with pain from bone metastasis (n = 174) were to determine if there were differences in the prevalence and severity of side effects associated with four different types of analgesic prescriptions (i.e., no opioid, only as needed (PRN) opioid, only an around-the-clock (ATC) opioid, or a PRN+ATC opioid).

Orem's theory of self-care, as well as the concepts of academic detail and nurse coaching were the theoretical foundations for the study.

Patients completed a demographic questionnaire and a pain diary with a side effect checklist on which they indicated if they experienced the side effect and rated its severity using a Likert scale (1 = slight to 4 = very severe).

Patients in the no opioid group were the youngest and had the best Karnofsky Performance Status score. Differences in prevalence of all of the side effects (i.e., lack of energy, nightmares, nausea, vomiting, constipation, feeling drowsy, lightheadedness, and poor coordination) except difficulty sleeping and indigestion were found among the four groups. The most prevalent side effect in the ATC+PRN group was feeling drowsy (83.3%). The most prevalent side effect in the no opioid group was difficulty sleeping (56.2%). Across the three groups of patients who took an opioid analgesic, the prevalence of constipation ranged from 44% to 63.3%. Significant differences in the severity of side effects were found among the four groups. In addition, significant positive correlations were found between the severity of all of the side effects and the dose of opioid analgesic taken. This study is the first to document the prevalence and severity of analgesic side effects in a large sample of oncology outpatients. Patients who were receiving ATC or ATC+PRN opioid analgesics were at greatest risk for side effects and when they occurred these side effects were more severe. Funding sources: National Cancer Institute.

A CONCEPTUAL FRAMEWORK FOR TARGETING RESEARCH DISSEMINATION INTERVENTIONS TO MEET THE NEEDS OF BREAST CANCER NURSES IN THE UNITED KINGDOM. Marilyn Kirshbaum, RN, SRN, BSc, MSc, DipAdultOnc, University of Sheffield, Sheffield, Great Britain.

Nursing care based on research evidence is a clinical and professional imperative that has specific implications for oncology nurses all over the world. In the United Kingdom, it was documented that a problem of dissemination and utilization of research-based knowledge existed within the specialty of breast cancer, thus depriving individuals of receiving optimum care.

Despite increasingly robust research evidence that has demonstrated the numerous benefits of aerobic exercise for individuals affected by breast cancer, commensurate changes to practice were not noted amongst breast care nurses (BCNs). To assist in addressing this deficiency, a 3-stage study was designed to:
- Identify the barriers to research utilization and preferred methods of research dissemination of BCNs
- Develop and evaluate a dissemination intervention for BCNs

Stage 1 consisted of a national survey of 263 BCNs on research utilization and dissemination issues. In Stage 2, The Conceptual Framework for Selecting a Targeted Dissemination Intervention was created to guide the selection and development of an experimental research dissemination intervention. Stage 3 took the form of a randomized control trial, which evaluated the intervention in terms of changing knowledge, reported practice and attitudes.

This presentation will describe the Conceptual Framework and discuss its implications for oncology nursing and research.

The framework represents a step-wise process designed to: describe a target group (e.g. BCNs), integrate theoretically derived characteristics of effective dissemination and behavior change with the needs of a target group and provide a structure to compare different dissemination options. Practical considerations, such as time and resource limitations of nurses and the researcher/manager were included in the decision making process.

An information booklet that synthesized relevant research evidence emerged as the intervention most suited for development and evaluation to meet the identified requirements of this sample of BCNs.

Dissemination of research evidence is a complex, multi-faceted and persistent concern in oncology nursing, and requires a multi-level solution. The Conceptual Framework provided a functional structure for gathering and integrating diverse theoretical, empirical and pragmatic components integral to devising and empirically testing innovative strategies of the future. Application of the framework to other groups of nurses is proposed.

DEVELOPMENT AND PSYCHOMETRIC TESTING OF THE COPING WITH BREAST CANCER RISK INSTRUMENT. Diane Lancaster, RN, PhD, Brigham and Women's Hospital/Center for Excellence in Nursing Practice, Boston, MA.

This study was designed to develop and evaluate the psychometric properties of the Coping with Breast Cancer Risk (CBCR) instrument. The CBCR measures primary prevention and early detection coping strategies used by women with family histories of breast cancer.

Women with a positive family history of breast cancer have a higher relative breast cancer risk than those without. Research pertinent to the coping behaviors of this "at risk" population has focused primarily on the early detection measures of breast self-exam, clinical breast exam, and mammography. Other problem or emotion focused coping behaviors related to breast cancer risk have received little attention. While there are instruments that measure general coping behaviors in response to illness threat, there are no known instruments that measure coping behaviors specific to dealing with perceived breast cancer risk.

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The CBCR is an 11 item self-report measure whose format was modeled after the Jalowiec Coping Scale. The CBCR is designed to assess the frequency of use and degree of perceived effectiveness of coping behaviors specific to breast cancer risk. Internal consistency reliabilities and content and construct validity of the CBCR were assessed using a sample of 209 women with family histories of breast cancer.

Alpha coefficients for the CBCR's total use and effectiveness scales were .70 and .76 respectively. Principal components exploratory factor analysis with varimax rotation revealed three conceptually relevant subscales: Dietary factors; Chemical agents; and Early detection measures. Overall, the 11 instrument items accounted for 52% of the variance in breast cancer threat coping behaviors.

The CBCR is a succinct measure whose preliminary psychometrics have demonstrated the instrument's potential for use by researchers and clinicians working with women at increased risk for breast cancer. However, the current study's sample demographics limit the generalizability of these findings. Additional work with more diverse samples is needed to facilitate further psychometric analysis and refinement of this promising instrument. Funding sources: Michigan Chapter of the American Cancer Society and the Ross Nursing Resource Committee at Boston Medical Center.

FAMILY INVOLVEMENT IN DECISION-MAKING FOR PRIMARY TREATMENT IN CHINESE AMERICAN WOMEN WITH EARLY-STAGE BREAST CANCER. Shiu-yu Katie Lee, RN, MSN, DNSc, National Taipei College of Nursing, Taipei, Taiwan; M. Tish Knobf, PHD, FAAN, Yale University School of Nursing, New Haven, CT.

Significance: Breast cancer is the most common cancer among the growing population of Chinese American (ChA) women in the United States. Traditionally, the role of the Chinese family when a member is ill is not limited to physical care, but has significant involvement in healthcare decision-making. Yet, there is a lack of knowledge about how family involve in decision-making for primary treatment in ChA women with breast cancer.

Purpose: To describe family involvement in decision-making for primary treatment in ChA women with early-stage breast cancer.

Theoretical Framework: Ottawa Decisional Support Framework and Kleinman's family-patient transaction in Chinese culture were used to identify family involvement in treatment decision-making.

Methods: This was part of a larger quantitative descriptive study. Three open-ended questions in Chinese were used to elicit ChA women's experience of family involvement in treatment decision-making. A convenience sample of 123 ChA women with early-stage breast cancer were recruited in the larger New York area. The subject's responses were written in Chinese immediately during the interview, and validated by the subject for accuracy.

Content analysis was used to code and categorize the data. The coding and analysis were reviewed by another researcher based on English-translated responses from 20 purposively selected subjects with equivalence from the Chinese responses.

Findings and Implications: ChA women described involvement of their family in treatment decision-making as supportive and caring. Immediate and/or extended family members were involved by learning breast cancer together, managing healthcare issues, managing family life, and by providing companionship and support. Family-involvement was characterized as a strong voice in treatment decision-making, a collaborator, a sounding board, or a facilitator. Barriers to family members being involved were lack of knowledge, English fluency, timing, distance and conflict. Resentment and conflict occurred when a family member's involvement differed from the woman¡¦s preference for the family member to be involved. Family involvement is integral to ChA women's decision-making but the women's preference for family involvement should be respected. Culturally sensitive patient and family consultation strategies are needed to assist an informed treatment decision-making in ChA women with breast cancer. Funding sources: Funded by the ONS Foundation.

PREDICTORS OF SPOUSAL DEPRESSED MOOD IN WOMEN WITH BREAST CANCER. Frances Lewis, RN, MN, PhD, Kristin Fletcher, MS, University of Washington, Seattle, WA; Barbara Cochrane, RN, PhD, Fred Hutchinson Cancer Research Center, Seattle, WA.

Spouses of women with breast cancer have comparable or greater psychosocial morbidity as the patient. Depressed mood, in particular, is known to negatively impact the spouse's ability to support his wife but no one knows what predicts his depressed mood.

The purpose of this study was to develop and test a multivariate predictive model of spousal depressed mood during the treatment phase of a wife with early stage breast cancer.

Eight factors associated with spousal depressed mood were identified from published literature; most related to a stress framework or a relational model of illness adjustment. Factors were marital adjustment; wife's depressed mood; concerns for wife's well being; diminished access to activities of choice; altered sexual activity; job-related tension; alienation from medical team; low confidence to manage or protect the wife from the cancer; interpersonal disconnection from wife; and illness-related uncertainty.

Spouses of women newly diagnosed with early stage breast cancer (n = 206) completed valid and reliable questionnaires that measured the eight factors. Depressed mood was measured by the Center for Epidemiological Studies-Depression (CES-D) Scale. Specially trained nurses administered the questionnaires in the spouses' homes.

Analyses proceeded in 3 phases: preparatory, model development, and model testing. In the preparatory phase, the sample was randomly divided into two statistically comparable samples and data inspected for sampling distributions, outliers, collinearity, and covariates. In both the model development and model testing phases, the hypothesized predictors of spousal mood were regressed onto CES-D, after controlling for covariates. Analyses involved two independent samples, 103 spouses each.

Three factors predicted spousal depressed mood in both the model testing and development analyses: marital adjustment; concerns over the wife's well being; and job-related tension. In addition, altered sexual activity and illness-related uncertainty predicted spousal depressed mood in the model development and testing phases, respectively. Results reveal that spouses suffered from depression related to every component of their interpersonal lives: their marriage and sexual connection to their wife, their job, their future, and their fear of losing their wife to the cancer. Future intervention research is needed to minimize these sources of spousal distress. Funding sources: National Cancer Institute, NIH.

REVIEW OF INSTRUMENTS TO MEASURE PHYSICAL SYMPTOMS IN CHILDREN AND ADOLESCENTS WITH CANCER. Lauri Linder, MS, APRN, CPON®, University of Utah College of Nursing, Salt Lake City, UT.

Approximately 9,000 children in the United States are diagnosed with cancer annually. As survival rates have improved, increased attention has been given to physical symptoms associated with the disease and its treatment. Identification and management of physical symptoms is consistent with the American Cancer Society's National Action Plan for Childhood Cancer.

Measuring symptoms in children poses challenges because of variation in cognitive abilities within and across developmental stages. In contrast to adults, few studies have addressed physical symptoms in children with cancer. This review of the literature was conducted to evaluate existing measures of physical symptoms in children and adolescents with cancer. Objectives were: 1) identify instruments developed for measuring physical symptoms in children with cancer, 2) describe the reliability and validity of these tools, and 3) assess developmental appropriateness of the tools.

The review was based on a search of the electronic databases Medline, Cumulative Index of Nursing and Allied Health Literature (CINAHL), and PsychLit from January 1988 through October 2003. Inclusion criteria were: articles published in peer-reviewed journals in English, those including a tool developed for use in children and adolescents with cancer, and tools in which physical symptoms comprised a portion of the total measure. Dissertations, unpublished papers, abstracts and qualitative studies were excluded.

A coding sheet was developed to assess study purpose, sample size and characteristics, conceptualization and measurement of the symptom, respon-

dent, and respondent burden. Reported measures of reliability and validity also were identified.

Nineteen studies met criteria for review and 17 instruments were identified. Five studies reported measures of single symptoms, and 9 studies reported measures of multiple symptoms. Five studies reported symptoms as a component of quality-of-life measures. Symptom measures included child self-report, parent proxy-report, staff-report, and direct observation of symptoms. Most instruments reported acceptable internal consistency reliability. Validity most often was evaluated through correlation of findings with tools measuring similar constructs; most instruments demonstrated acceptable validity. Study limitations included small sample sizes and cross-sectional samples. Application of tools most often was limited to one study. Areas for future research include application of these measures in specific populations, intervention-based studies, and outcome-focused studies.

PRETREATMENT PREDICTORS OF POST-PROSTATE CANCER TREATMENT FATIGUE. Sally Maliski, PhD, RN, Department of Urology, Lorna Kwan, MPH, Christopher Saigal, MD, MPH, Department of Urology, James Orecklin, MD, Mark S. Litwin, MD, MPH, Department of Urology, University of California Los Angeles, Los Angeles, CA.

Oncology nurses must assess and manage cancer-related fatigue. Our results suggest that nurses can identify and intervene with men at risk for fatigue prior to cancer treatment.

We proposed to investigate fatigue among men with prostate cancer by treatment, demographics, and pretreatment general and disease-specific health-related quality of life (HRQOL), and to describe baseline characteristics of men fatigued after treatment.

Cancer-related fatigue, a debilitating tiredness or loss of energy, is subjective and multifactorial. With prostate cancer, fatigue is negatively associated with HRQOL. While HRQOL related to prostate cancer is extensively studied, little exists on pretreatment HRQOL and post-treatment fatigue, even though baseline factors are acknowledged as important to outcomes.

Secondary analysis used data collected from 1 private and 2 public facilities. HRQOL questionnaires were completed at biopsy, and 6–12 months post-biopsy. Sociodemographics, comorbidities, PSA, biopsy results, Gleason sum, and treatment were obtained. UCLA Prostate Cancer Index (PCI), a validated instrument, measured prostate-specific HRQOL. The validated RAND 36-Item Health Survey (SF-36) measured HRQOL. The SF-36 energy subscale measured fatigue.

From 999 records, 149 with a positive biopsy and HRQOL scores at both time points were analyzed. Follow-up fatigue scores 10 points (1/2 SD) below baseline were categorized "declined" and fatigue scores of 50 or below as "fatigued". Demographic, treatment, SF-36 and PCI differences between "not declined" and "declined" were analyzed univariately. Variables significant at p = 0.2 entered into logistic regression. This was repeated for the second outcome, "fatigued".

Those "fatigued" entered treatment significantly lower in all HRQOL and PCI domains and were more likely to be treated at a public facility, African American, Latino or Asian, unmarried, not employed, and have comorbidities. Those "declined" were more likely to be treated at a public facility, have lower baseline fatigue scores, and PSA over 10. Controlling for treatment, lower baseline role-emotional scores predicted both being "fatigued" and "declined". Other baseline predictors of being "fatigued" were radiation, treatment in a public facility, abnormal DRE, and PSA above 10. This highlights the importance of pretreatment factors in identifying men at risk for fatigue suggesting that interventions can be initiated before treatment.

COMPARING INFORMATION NEEDS OF WIVES OF MEN WITH PROSTATE CANCER: RADICAL PROSTATECTOMY AND BRACHYTHERAPY. Tina Mason, ARNP, MSN, AOCN®, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

Cancer patient's families consistently report difficulty obtaining information, a need frequently overlooked by healthcare providers. Hospital stays and clinic appointments have been shortened with the evolution of managed care. Thus, time and opportunities to evaluate and address learning needs are diminished.

Nurses play a key role in patient/family education. Accurately addressing information needs is essential to providing excellent care. The purpose of this abstract is summarize a study aimed to identify and measure perceived information needs of wives of men diagnosed with prostate cancer treated with radical prostatectomy or brachytherapy.

Family Systems Theory espouses that dynamics of family development impacts clinical decision-making and illness adjustment. Each individual's response can affect other members. Understanding information needs can assist nurses in diagnosing and teaching.

A convenient sample of sixty-five wives was obtained for radical prostatectomy group and sixty-six wives for brachytherapy group. Consent and demographic data were collected. The 30-item Family Inventory of Needs-Wives instrument was utilized. Subjects ranked needs on Likert-type scale (1 = not important to 5 = extremely important) and noted degree of each need being met.

Radical prostatectomy: Mean age of wives = 55.6 years. All needs were rated as important (range 3.26 to 4.97). "Being assured of best possible care given," "Know what treatment is received," "Feel health professionals care," "Explanations in understandable terms," and "Know what exactly is being done" were never rated as unmet. Age influenced unmet needs (p = 0.0019).

Brachytherapy: Mean age of wives = 60.8 years. All needs were rated important (range 2.85 to 4.95). Only "Be assured that best possible care is being given" was never ranked as unmet. Education and age did not influence unmet needs (p = 0.18 and 0.47 respectively).

Of top 4 unmet needs, similar rankings found in both groups, respectively: "Be told about people who could help with problems" (40.8%; 35.7%), 'Know what to expect of husband's energies" (34.9%; 33.9%), and "Know how to touch husband" (30.0%; 32.3%).

With less opportunity to educate, nurses are challenged to appropriately tailor family education. Therefore, an adequate description of information needs is required. Data will be used to prioritize care and develop/revise educational materials.

RELATIONSHIP OF DEPRESSIVE SYMPTOMS TO PHYSICAL FUNCTION IN SURVIVORS OF CERVICAL CANCER. Ruth McCorkle, PhD, RN, FAAN, Yale University School of Nursing, New Haven, CT; Howard Greenwald, PhD, University of Southern California, Los Angeles, CA; Mary Lavery, MSN, RN, Yale University School of Nursing, New Haven, CT; Elise Lev, PhD, RN, Rutgers University, Newark, NJ; Donna Clemmens, PhD, RN, New York University, New York, NY.

Cervical cancer is highly curable, yet it is still quite prevalent. It is the fourth most common cancer in women worldwide, with some 10,520 new cases diagnosed in the United States each year. When diagnosed and treated early, cervical cancer is associated with minimal disruption to womens' lives and with excellent chances of long-term survival. Past research has focused on short-term survival, but little is known about the effects of living with the long-term consequences of cervical cancer and its treatment.

The purpose of the study was to describe the persistence of disease and treatment sequelae related to quality of life outcomes, including physical, psychological, social, and spiritual dimensions.

This study was designed as a population-based survey of women diagnosed with cervical cancer in the State of Connecticut using Padilla and Grant's Quality of Life framework.

The study required that the Connecticut Tumor Registry (CTR) identify women who were diagnosed with cervical cancer as their primary disease between 1975 and 1995, had survived up to the present time, could be contacted via letter or telephone, and were able and willing to complete a telephone interview. The physician of record was contacted to provide clearance to contact their patient(s). The primary data collection instrument was a survey questionnaire and included the Medical Outcomes Study (MOS-36) and the Center for Epidemiologic Studies Depressive Scale (CES-D).

Descriptive and correlational analyses were conducted.

The CTR contained 793 women diagnosed with cervical cancer and 208 women consented and completed the telephone survey. The sample ranged in ages from

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29 to 90 years, 90% had completed high school, 65% were married, and 65% perceived their health status as excellent or very good. Depressive symptom scores were dichotomized as low or high based on the clinical cutpoint of 16. Overall, 97 women (47%) reported higher depressive symptoms, and younger women were more likely to be depressed (p = .01). Depressive symptoms were highly correlated with declines in physical function (p = .34). Results indicate that more attention to the psychological needs of long-term survivors of cervical cancer may be indicated. Funding sources: National Cancer Institute, SEER Special Studies.

QUALITY OF LIFE IN ADULTS WITH HODGKINS DISEASE: STATE OF THE SCIENCE. Kathleen McDermott, BSN, RN, OCN®, Kristin Roper, MS, RN, Mary E. Cooley, PhD, RN, CS, Kecia Boyd, RN, BSN, OCN®, Christine Coakley, RN, MPH, OCN®, Dana-Farber Cancer Institute, Boston, MA; Jacqueline Fawcett, PhD, RN, FAAN, University of Massachusetts-Boston, Boston, MA.

Hodgkin's Disease (HD) affects both younger and older adults and has the potential to disrupt developmental tasks. Because long-term survival is excellent, an understanding of issues related to quality of life (QOL) is a critical first step in designing intervention studies.

The purpose of this abstract is to present a review of studies examining QOL in adults with HD.

Ganong's guidelines for conducting integrative reviews were used to guide this review.

Computer searches were performed from January 1984 through April 2004. Key words used to access the articles were "HD and Survivor", "HD and Survivorship", "HD and QOL" and "HD and Health Related Quality of Life". The published reports of empirical studies that explicitly included HD, survivor, and QOL were included in the review. Studies examining symptoms and psychosocial adaptation were also included. The final review encompassed 30 studies.

Content analysis was performed to identify common themes among the studies.

Studies were conducted in the United States and Europe. The mean age of subjects in these studies was 40 years (range: 17–85) with a gender split of 50–60% males and 40–50% females. Eighty-three percent of patients in this review were evaluated from 1 year to 35 years post-treatment. Remaining patients were studied during the first year after diagnosis. One article identified a theoretical framework to guide the study. A variety of instruments were used to measure varying aspects of QOL without consistency and standardization.

Fourteen descriptive studies were identified. Most descriptive studies focused on the negative impact of physical symptoms on psychosocial and functional ability. Fifteen comparative studies examined differences between adults with HD and other samples. Many comparative studies identified the negative impact fatigue had on QOL. Functional and psychological factors that were commonly affected included increased depression and diminished work and leisure activities. One study involved the test of an intervention; results indicated that aerobic activity has a positive impact on chronic fatigue.

Oncology nurses play a key role in promoting QOL among adults with cancer. This integrative literature review can be used to inform and help guide future studies of the QOL of HD survivors. Funding sources: Funded by the ONS Foundation through an unrestricted grant from the Oncology Nursing Certification Corporation.

PHYSICAL AND PSYCHOSOCIAL ISSUES IN ELDERLY CAREGIVERS DURING THE FIRST MONTH AFTER THEIR DYING RELATIVES ARE ADMITTED TO A HOME HOSPICE PROGRAM. Deborah McGuire, PhD, RN, University of Maryland Baltimore, Baltimore, MD; Joseph B. Straton, MD, MSCE, University of Pennsylvania School of Medicine, Philadelphia, PA; Frances K. Barg, PhD, University of Pennsylvania School of Medicine, Philadelphia, PA.

Caring for a dying relative in home hospice poses multiple challenges for caregivers, particularly if they are elderly and frail.

Extant research addresses caregiver burden, but more knowledge is needed about specific physical and psychosocial issues to initiate targeted interventions. The purpose of this study was to describe the physician and psychosocial issues reported by elderly caregivers in the first month after their dying relatives are admitted to home hospice.

A quality of life conceptual framework guided this study.

The study was a secondary analysis of data collected within an intervention study to improve caregivers' general physical and emotional status. The sample was 48 elderly (> 65) caregivers whose dying relatives were admitted to the setting of a university-affiliated hospice's home care program in the northeastern US. Instruments included the reliable and valid Center for Epidemiologic Studies-Depression scale (CES-D), Caregiver Quality of Life Index (CQLI), and Medical Outcomes Study Short Form-12 (SF12); and a Participant Profile Form (PPF) for demographic and health related data. Measurement points were at admission (all instruments), and 2 and 4 weeks later (CQLI, SF12, & PPF).

Preliminary analyses are presented below, and ongoing analyses are examining correlates of physical and psychosocial issues.

Just over half (51%) of the caregivers were > 75 years old, 70% were female, 35% were African American, 78% were spouses of patients, and 51% were caregivers for > 6 months. At admission, 54% exhibited clinical depression (> 16 on CES-D); reported low quality of life on CQLI emotional, social, financial, and physical domains; and had impaired physical and mental health, and social functioning (SF12). At all points, a majority reported numerous conditions that interfered with caregiving, including impaired sleep and appetite, fatigue, musculoskeletal problems, cardiovascular problems, and medication side effects. These findings reveal that elderly caregivers have multiple physical and psychosocial issues during the first month after admission and would likely benefit from targeted interventions. Funding sources: The Pew Charitable Trusts.

USING THE COPE INTERVENTION TO IMPROVE PATIENT SYMPTOM DISTRESS AND QUALITY OF LIFE: A CLINICAL TRIAL. Susan McMillan, PhD, ARNP, FAAN, University of South Florida College of Nursing, Tampa, FL; Brent Small, PhD, University of South Florida College of Arts and Sciences, Tampa, FL; Michael Weitzner, MD, University of South Florida College of Medicine, Tampa, FL; William Haley, PhD, University of South Florida School of Aging Studies, Tampa, FL; Ronald Schonwetter, MD, University of South Florida College of Medicine, Tampa, FL.

Hospice family caregivers must be prepared to accurately report the patient's condition and to provide the needed care. Without this preparation, the patient may have uncontrolled symptoms and patient quality of life may suffer.

To test an intervention for hospice family caregivers that was designed to help them master the skills needed to better assess and manage symptoms experienced by cancer patients, thus decreasing symptom distress and enhancing patient quality of life.

The stress-process model was used for the larger clinical trial with patient symptoms as the caregiver stressors. This paper presents only patient data.

A three group comparative design with repeated measures was used. The study was conducted in large hospice that provides primarily homecare. 328 patients with advanced cancer were randomly divided into three groups, a control group receiving standard care (Group I), a group receiving standard care plus support visits (Group II), and a group receiving standard care plus the experimental intervention (Group III). Group III received training in COPE (Creativity, Optimism, Planning, Expert Information) to assist with symptom management. Group II received Supportive Visits on the same schedule as Group III to control for the effects of researcher time and attention. The interventions were offered in three visits. Instruments included the Pain Numeric Rating Scale (NRS), Dyspnea NRS, Constipation Assessment Scale (assessing the three most common symptoms experienced by this group), Memorial Symptom Assessment Scale (symptom distress), and the Hospice Quality of Life Index. All measures had been validated with hospice patients with cancer and had shown strong evidence of reliability. Data were collected on admission to hospice, at day 16, and at day 30.

Data were analyzed using repeated measures ANOVA.

Results: Although the three target symptoms showed no significant improvement, the experimental group experienced significantly less symptom distress (p < .001). Quality of life remained stable. Conclusions/Implications: The COPE intervention is easily taught and is effective in improving the distress

from multiple symptoms experienced by patients with cancer. This intervention is immediately translatable to the bedside with some minimal training for hospice nurses. However, further research is warranted to identify other possible outcomes. Funding sources: National Cancer Institute.

FACTORS ASSOCIATED WITH FEAR OF RECURRENCE IN CANCER SURVIVORS AND THEIR FAMILY CAREGIVERS. Suzanne Mellon, PhD, RN, University of Detroit Mercy, Detroit, MI; Laurel Northouse, PhD, RN, FAAN, University of Michigan, Ann Arbor, MI; Trace Kershaw, PhD, Yale University, New Haven, CT; Laurie Freeman-Gibb, RN, MSN, Karmanos Cancer Institute, Detroit, MI.

Although fear of cancer recurrence is one of the greatest concerns among survivors and their families, few studies have examined fear of recurrence or factors associated with it. This information is essential in order to help survivors and caregivers find ways to manage this pervasive fear and maintain their quality of life.

The purpose of this study was to determine the relationship between personal, social, and illness-related factors, appraisal, and fear of recurrence in survivors and their family caregivers. Personal factors included demographics such as age, gender, education, income, and other concurrent family stressors. Social factors included family hardiness and social support. Illness-related factors included time since diagnosis, type of cancer, and other health problems. Appraisal addressed the family's meaning of the illness.

A stress-coping framework, adapted from McCubbin and McCubbin's model, guided the study.

Secondary analysis of data obtained in a large population-based exploratory study of survivors and their family caregivers was used to meet study aims. Cancer survivors, stratified by race (Caucasian and African American) and cancer site (breast, colon, uterine, and prostate) were randomly selected from the NCI SEER Cancer Registry in southeastern Michigan. The resulting sample consisted of 123 survivor and family caregiver dyads; 62 dyads were Caucasian and 61 dyads were African American. Standardized instruments with adequate reliability and validity were used to measure study variables: Family Pressures Index, Family Hardiness Index, Social Support Index, Constructed Meaning Scale, and Fear of Recurrence Questionnaire.

ANOVA and multiple regression were used to analyze the data.

Study variables accounted for 41.8% of the variance in survivors' and 26.6% of the variance in caregivers' fear of recurrence. Survivors who were younger, had more family stress, less meaning associated with the illness, and fewer other health problems reported more fear. Caregivers who were Caucasian, had more family stress, less meaning, and fewer other health problems also had more fear. Implications suggest a profile of factors that puts participants at risk of having more fear of recurrence during survivorship. These factors need to be addressed in programs of care.

SYMPTOM CLUSTERS IN ONCOLOGY OUTPATIENTS AFFECT PATIENT OUTCOMES. Christine Miaskowski, RN, PhD, FAAN, Marylin Dodd, RN, PhD, FAAN, University of California San Francisco, San Francisco, CA.

Kathryn Lee RN, PhD, FAAN, University of California, San Francisco CA US; Claudia West RN, MS, University of California, San Francisco CA US; Bruce Cooper PhD, University of California, San Francisco CA US; Steven Paul PhD, University of California, San Francisco CA US; Brad Aouizerat PhD, University of California, San Francisco CA US

Recent evidence suggests that multiple symptoms can have a negative effect on patient outcomes. However, no studies of oncology outpatients have attempted to cluster patients based on reports of symptom intensity and to evaluate for differences in patient outcomes based on cluster group membership.

The purposes of this study, with a sample of oncology outpatients who were receiving active treatment for their cancer (n = 191) were to determine cluster membership based on self-reports of pain, fatigue, sleep disturbance, and depression and to evaluate for differences in functional status and quality of life among the different cluster groups.

The UCSF Symptom Management Model served as the theoretical framework for this study as well as the conceptualization of symptom clusters reported by Dodd, Miaskowski, and Paul, 2001.

A cross-sectional sample of oncology patients was recruited from four outpatient settings. Patients completed the Lee Fatigue Scale, General Sleep Disturbance Scale, Center for Epidemiological Studies Depression Scale, Karnofsky Performance Status Score (KPS) and Multidimensional Quality of Life Scale-Cancer. If patients were experiencing pain, they rated their worst pain using a 0 to 10 numeric rating scale for pain intensity.

Standardized scores for each of the symptoms were derived and were used as the dependent variables in the weighted average linkage hierarchical cluster analysis.

The analysis revealed a four cluster solution (i.e., LOW on all symptoms (n = 46), no pain and moderate levels of fatigue, sleep disturbance, and depression (n = 68), high pain and moderate levels of fatigue, sleep disturbance, and depression (n = 54), and HIGH on all symptoms (n = 23). Patients who were clustered in the LOW on all symptoms group had the best outcomes (i.e., highest KPS score and highest quality of life score). Patients who were clustered in the HIGH on all symptoms group had the worst outcomes. This study is the first to use cluster analysis to determine groupings of oncology outpatients based on self-reports of symptom intensity and to evaluate for differences in patient outcomes based on these cluster groupings. These data suggest that patients with high levels of symptoms experience poorer outcomes and may warrant different types of nursing interventions. Funding sources: National Institute of Nursing Research and National Cancer Institute.

MATH INTERVENTION FOR CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA. Ida Moore, RN, DNS, FAAN, College of Nursing, University of Arizona, Tucson, AZ; Marilyn Hockenberry, RN, PhD, FAAN, Baylor College of Medicine, Houston, TX; Kris Kaemingk, PhD, Petra Miketova, PhD, University of Arizona, Tucson, AZ.

The study documents a mechanisms of chemotherapy-induced central nervous system (CNS) injury, and provide evidence for efficacy of a Math Intervention.

The purpose was to test a math intervention for children diagnosed with acute lymphoblastic leukemia (ALL) who receive intrathecal chemotherapy and systemic intermediate dose methotrexate. The specific aims were to:

1. Determine if a Math Intervention prevents declines in math achievment scores in children with ALL; 2. Determine if a Math Intervention improves math abilities in children with documented declines in math abilities following CNS treatment, and 3. Investigate oxidative injury during CNS treatment.

The conceptual model examined CNS treatment on CNS treatment effects on cell injury, effects of cell injury on cognitive and academic outcomes, and effect of a Math Intervention on academic math abilities.

A prospective repeated measures design was used. Subjects were randomized to standard care or Math Intervention. 65 children with ALL and 15 healthy siblings were studied. Standardized measures of cognitive and academic abilities were administered at baseline (after completion of induction therapy; and 1, 2, and 3 year after ALL diagnosis. Cerebral spinal fluid (CSF) was collected at diagnosis and subsequently in conjunction with therapeutic lumbar punctures. Phospholipids were extracted from CSF (Floch et al), separated by normal phase HPLC with diode array detection. Oxidation was measured in the major membrane phospholipid, phosphatidycholine (PC). Unoxidized PC was detected at 206 nm, and oxidized PC was detected at 234 nm. The ratio of oxidized PC to un-oxidized PC was calculated.

Data were evaluated using descriptive statistics, t-tests, and repeated measures analysis of variance.

Math Intervention had a significant effect on math achievement scores of children who completed ALL treatment (F = 14.3; p < 0.01). Math intervention had a significant increase in math achievement scores in children receiving CNS treatment (p < 0.05). There were no significant differences in the oxidized PC ratio in diagnostic CSF samples among ALL risk groups. The oxidized PC index was significantly increased in CSF obtained during ALL treatment. Significant effects for risk group, treatment phase, and risk group by treatment phase interaction were found (p < 0.01). Funding sources: NR04905, HD37816; P20 NR007794; ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.

CURRICULUM SURVEY OF CANCER-RELATED CONTENT IN SIX SCHOOLS OF NURSING. Mary Mundt, PhD, RN, April Conner, MSSW, Carla Hermann, PhD, RN, University of Louisville, School of Nursing, Louisville, KY.

The incidence and prevalence of cancer and the increase in cancer survivors means that nurses will encounter persons with cancer-related health concerns in all areas of practice. Nursing curricula should include cancer-related content to assure broad based knowledge in cancer nursing. The Center for Cancer Nursing Education and Research (CCNER) at the University of Louisville is implementing a community-wide intervention to improve cancer nursing education in six schools of nursing.

The purpose of the study was to document all cancer-related content in nursing curricula in the participating schools of nursing. The aim was to develop a baseline for future curriculum enhancements.

The framework of the study was educational communication as a statement of value and emphasis as represented in written curriculum materials. Course syllabi constitute a fundamental form of academic communication. The unit of analysis was each nursing course as documented in the course syllabi.

Each school identified a primary faculty member as liaison to the study. The group defined cancer-related content and developed a data collection instrument. Data collection occurred in two phases. In Phase I course syllabi were reviewed by the faculty contact. Cancer-related content was documented along with descriptive variables about time allocated and learning variables. In Phase II the course coordinator validated Phase I data and added content that was not observable in the syllabus. This method assured accuracy and full documentation of cancer content.

Each school submitted Phase I and Phase II data to the CCNER where it was coded according to the ONS Standards of Care and Professional Performance, adding additional codes as they emerged.

A total of 138 courses were analyzed and 49% were found to have cancer-related content. The findings indicate the most frequent cancer-related topics were in the category of "Background Knowledge" (69%), with 31% of the content topics related to the ONS standards. Coverage of cancer-related content in nursing curricula was sporadic and there was no identifiable organizing framework. Recommendations are made for including cancer-related content in the nursing curriculum as a means of communicating the importance and significance of this common health problem. Funding sources: Department of Health and Human Services, Health Resources and Services Administration.

CHALLENGES OF RECRUITMENT TO A RANDOMIZED CLINICAL TRIAL FOR OSTEOPOROSIS PREVENTION. Carol D. Ott, RN, OCN®, PhD, University of Nebraska Medical Center College of Nursing, Kearney, NE; Janice J. Twiss, APRN, PhD, University of Nebraska Medical Center College of Nursing, Omaha, NE; Nancy L. Waltman, APRN, PhD, University of Nebraska Medical Center College of Nursing, Lincoln, NE; Gloria J. Gross, RN, PhD, University of Nebraska Medical Center College of Nursing, Scottsbluff, NE; Ada M. Lindsey, RN, PhD, FAAN, Professor Emeritus, Retired.

The purpose of this presentation is to describe recruitment planning and monitoring for a federally funded home-based clinical trial with a longitudinal design with four recruitment catchment areas that include 100 mile radius around each site across a 500 mile wide state.

Recruitment is a challenging issue for a statewide randomized intervention trial for osteoporosis prevention with an accrual goal of 240 healthy postmenopausal women with a history of breast cancer. This recruitment goal was distributed to target 60% from two metropolitan sites and 40% from two rural sites with monthly monitoring of contacts and enrollment from each site for each recruitment method. At the 66% time point into the 18 month recruitment phase, only 39% of the overall accrual goal had been attained. Re-evaluation of effective strategies and exploration of new ones were necessary.

Recruitment strategies were intensified using the more successful methods and abandoning those less successful based on the following distribution: newspaper ads 43%, word of mouth 17%, TV interviews 10%, presentations to support and women's groups 8%, fliers 7%, radio PSA's and ads 4%, physician clinics 2%. Additional strategies were developed to address motivators for

participation in clinical trials (e.g. staying healthy and trying a novel experience) and deterrents (e.g. fear of the unknown and unclear expectations). Because 86% of women were demonstrating bone loss via free DEXA screening, recruitment information also began emphasizing the prevalence of the problem in this population.

As a result of these modifications and with 3 months remaining in the modified recruitment time line, 90% of the recruitment goal of 240 women are enrolled. Of 669 women screened to date via telephone and lab/DEXA testing, 215 (32%) have met eligibility criteria—66% metropolitan and 34% rural. Recruitment costs per enrolled participant is $30. Tracking of recruitment efforts in large clinical trials should be ongoing, site specific, and cost effective.

Monthly monitoring of accrual as a result of each recruitment strategy allowed for early identification of areas for change. Changes incorporated early in the recruitment phase addressed unique aspects of rural vs metropolitan areas and is resulting in achievement of accrual goals.

SHIFTING PARADIGM: A MODEL FOR COOPERATIVE RESEARCH TRIALS. Judith K. Payne, PhD, RN, AOCN®, Duke University School of Nursing, Durham, NC.

There is increased interest and critical need for the development and implementation of large multi-site clinical trials to reconcile differences in symptom management, selection and testing of interventions, nurse-sensitive outcomes, and related nursing care issues. Cooperative controlled clinical studies need to be undertaken at multiple universities and medical centers on both national and, occasionally, international levels. Increasingly nurse researchers are employing multi-site research initiatives; however, the lack of an infrastructure designed to facilitate large collaborative and cooperative clinical trials has made this difficult and progress slow. The purpose of this paper is to propose a research consortium outlining an infrastructure for nurse researchers to conduct large cooperative clinical trials at multiple universities and medical centers. Through this consortium, select studies would be open for enrollment to participating, vested organizations and researchers in an effort to increase the number of trials open and thereby increasing subject accrual.

The hope for rapidly achieving good data rests in cooperative national studies at multiple universities and medical centers by sharing routine tasks, expertise, and resources. Researchers at different institutions would be able to enroll eligible patients to open studies on a national level. Albeit possible scrutiny, this may be the most viable solution to the current problem presented by small studies using different outcome measures and evaluation, and lack of long-term follow-up for survival data.

Provide timely findings and answers to research questions; generate data to determine evidenced-based practice or best practice guidelines. It is critical that we identify outcome indicators for quality oncology care, and incorporate multiple aspects of patient responses to nursing care interventions. Researchers would benefit from shared resources and a vested commitment to high quality, large clinical trials using consistent measures, designs, and outcomes from which evidenced-based practice can be based. Findings generated from large clinical trials will influence health care policy to a greater extent than small individual studies.

While there has been a paucity of research which addresses the critical need for a multi-site nursing research consortium, this paper will explore research infrastructures and strategies from other disciplines. Literature from medicine, federal regulatory agencies, and other disciplines will be used to construct a similar yet futuristic paradigm of a research consortium useful to nurse researchers.

MEASUREMENT OF HOPE IN ADOLESCENTS AND YOUNG ADULTS WITH CANCER (AYA). Celeste Phillips, MSN, RN, Joan Haase PhD, RN, Indiana University School of Nursing, Indianapolis, IN; Patrick Monahan, PhD, Indiana University School of Medicine, Indianapolis, IN.

Hope is an important influencing factor for successful psychosocial adjustment and hope can potentially enhance resilience and quality of life outcomes in adolescents and young adults with cancer (AYA).

There are few psychometrically sound instruments designed to measure hope in AYA. Because outcomes for AYA are poorer than for older adults, it is important to have a measure of hope that can be used for across-group comparisons. The purpose of this paper is to report the psychometric properties of the Herth Hope Index (HHI) in AYA. The HHI is widely used with adults; we will report on the psychometric properties based on two studies with AYA.

The Adolescent Resilience Model (ARM) guided each of the studies.

The HHI was completed by 127 AYA at various stages of treatment and 74 newly diagnosed AYA.

ANOVA comparing three age groups (18) on mean HHI scores was not significant at the .05 level for either study. The t test comparing two time-since-diagnosis groups on mean hope score was also not significant for the two studies. Estimates of internal consistency using the Cronbach coefficient were acceptable in both studies based on the suggested criterion level for coefficient alpha of .70 or above. Construct validity was supported with significant correlations (r = .78, –.93) of the HHI with measures of resilience (self-esteem, self-confidence, and self-transcendence) and quality of life (index of well-being). The hypothesized three factor analysis solution of the HHI using varimax rotation was supported with criterion of Eigenvalues > 1; however a two-factor solution had the clearest loadings set at >.30 and explained a greater amount of variance (40%).

The results of this study indicate that the HHI is a valid and reliable measure of hope in AYA. In order to make the necessary group comparisons to evaluate outcomes, the HHI may be more appropriate than the one measure often used to evaluate hope in adolescents, the Hinds Adolescent Hope Scale. Advantages of each will be discussed. Funding sources: NIH/NINR R29 NR03882-01A1.

NUTRITION AND FATIGUE IN MELANOMA PATIENTS DURING AND AFTER BIOCHEMOTHERAPY. Davina Porock, PhD, RN, School of Nursing, Nottingham, England; Brenda Beshears, RN, MSN, Blessing School of Nursing, Hannibal, MO; Jackie Juenger, RN, MSN, Boone Hospital, Columbia, MO; Pamela Hinton, PhD, University of Missouri, Columbia, MO.

Fatigue is a prevalent symptom of cancer and cancer treatment. For patients undergoing biochemotherapy, fatigue can be so severe as to be dose-limiting. Little is known about fatigue related to biochemotherapy compared to other anti-cancer therapies, even less is known about nutrition in this population and how it relates to the perception of fatigue.

The purpose of this study is to describe fatigue and nutritional status and their relationship in patients during and after biochemotherapy treatment for melanoma.

Winningham's psychobiologic entropy theory guided the larger study on the physiological and psychological characteristics of fatigue in biotherapy from which this presentation is taken.

A mixed method approach was taken for this study combining a descriptive correlational method for the quantitative part and a simple thematic analysis for the qualitative part. All 25 participants completed the quantitative measurements and 10 were interviewed. The participants were patients at a Midwest cancer center for advanced melanoma with biochemotherapy. Fatigue was measured using the 6-item Schwarz Cancer Fatigue Scale. Nutritional intake was recorded by 24-hour diet recall.

Nutritional status was described in terms of participant BMI and nutrient intake: total caloric intake, and carbohydrate, protein, fat and vitamin intake. Fatigue responses were analyzed using descriptive statistics. Fatigue and nutritional status were correlated using non-parametric analysis. A thematic analysis was performed on the taped interviews. Comparison between the qualitative and quantitative analyses was done qualitatively.

The sample was overweight and most had a more than adequate intake of nutrients based on the recommended daily-required intake. There was no significant relationship between nutrient intake and perception of fatigue. Despite the intuitiveness in the current theoretical understanding of nutritional status being related to or even causative for fatigue, when the patient is well nourished and not underweight the impact of nutrition is difficult to establish. The results of the qualitative analysis in terms of the perception of fatigue did not entirely correspond with participants' responses to the quantitative measures. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Schering Oncology Biotech.

BREAST BIOPSY AND DISTRESS: TESTING A REIKI INTERVENTION. Pamela Potter, APRN, BC, DNSc, Yale University School of Nursing, New Haven, CT.

Over one million women annually in the United States undergo breast biopsy.

Women, prior to and after breast biopsy, report distressing psychological symptoms of anxiety and depression. The study's purpose was to test the distress-reducing effect of a standardized Reiki treatment for women undergoing breast biopsy compared with those who receive conventional care. Specific aims were to: (1) describe the distress associated with breast biopsy; and (2) test the effectiveness of Reiki treatments for alleviating the distress. Women who received Reiki were hypothesized to report a significantly greater decrease in post-biopsy distress than those who received conventional care only.

Crisis Theory accounts for the crisis experience of breast biopsy that may evolve from the potential diagnosis of cancer, which represents a severe, acute existential threat to the person.

Thirty-two women scheduled for breast biopsy were enrolled and randomized to intervention (n = 17) or conventional care control (n = 15). In addition to receiving the conventional care, the intervention group received one Reiki treatment within the week prior to and one within the week after biopsy. Effects were evaluated using self-report questionnaires.

Data were double entered and compared for accuracy. Preliminary data analysis computed summary statistics, box plots, and frequency distributions for all variables. The groups were compared for equivalence on all baseline variables—two groups one-way Analysis of Variance (ANOVA) for continuous or Fisher's Exact Test for categorical measurement. Residual analyses were performed; data that were not normally distributed were transformed in order to obtain a more robust analysis. Repeated measures ANOVA tested for a significant group-by-time effect.

No difference in distress variables was found between groups at baseline or at study completion. Study participants did not demonstrate a crisis response to breast biopsy. Due to sample selection bias, the study was insufficiently powered to reach informed conclusions about the efficacy of the Reiki intervention. Institutional barriers, internal barriers and barriers to recruiting for a complementary therapy trial impeded recruitment. The results serve as preliminary data for conducting future intervention studies with complementary therapies and this population. Funding sources: Department of Defense Breast Cancer Research Program institutional grant; American Cancer Society Scholarship; funded by the ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.

TESTING USABILITY OF A TAILORED INTERACTIVE HEALTH COMMUNICATION INTERVENTION TO INCREASE COLON CANCER SCREENING AMONG AFRICAN AMERICANS. Susan Rawl, PhD, RN, Victoria Champion, RN, DNS, FAAN, Linda Scott, MS, Tschannette Cotton, MSW, Leslie Weaver, MSW, Indiana University School of Nursing, Indianapolis, IN; Amanda Overgaard, MPH, Regenstrief Institute, Indiana University School of Medicine, Indianapolis, IN; Adam Buchanan, MPH, Duke University Medical Center, Durham, NC; Patrick-Monahan, PhD, Indiana University School of Medicine, Indianapolis, IN; Celette Sugg Skinner, PhD, Duke University Medical Center, Durham, NC.

Colorectal cancer (CRC), when discovered early, is highly treatable. CRC screening has been shown to decrease incidence of CRC by 75% to 90% through identification and removal of precancerous polyps. Early diagnosis and treatment of CRC results in a survival rate greater than 90%.

Promotion of screening among African Americans is needed. Both incidence and mortality rates are higher in African Americans than any other racial/ethnic group due, in part, to lower screening rates resulting in advanced stage disease at presentation. Prevention and earlier detection of CRC are needed to further reduce cancer deaths and disparities. The purpose of this study was to develop and test the usability of a tailored interactive health communication program designed to encourage CRC screening among African Americans.

This theory-based interactive health communication intervention delivers messages that are individually tailored to each user's perceived and objective risk for CRC, benefits and barriers to colorectal screening, self-efficacy, and stage of

adoption for specific screening tests. Culturally-relevant constructs that were incorporated into the program include fatalism, religiosity, and time orientation.

Usability testing was conducted with a convenience sample of 14 African Americans. Participants viewed the 25-minute program then immediately completed a self-administered survey to assess usability of the program software and hardware, appropriateness and comprehension of messages, visual appeal and clarity of graphics. User feedback also was collected through debriefing interviews conducted after completion of the survey.

Data were analyzed using descriptive statistics and content analyses of qualitative data.

All participants agreed or strongly agreed they learned a lot about: 1) how colorectal cancer develops, 2) colorectal cancer screening tests they should consider, and 3) their personal risk for developing the disease. All but one participant (93%) reported that the program: 1) made them think about getting a colon screening test; 2) would be useful to family and friends; 3) would be useful to people who do not know a lot about colon cancer; 4) was easy to use; and 5) was interesting. Valuable suggestions for improving the program were provided and will be used to guide revisions for future studies. Implications for researchers who are developing and testing health behavior interventions will be presented. Funding sources: Conducted in affiliation with the Walther Cancer Institute, Indianapolis, IN.

THE IMPACT OF BREAST CANCER ON THE FAMILY: A PHENOMENOLOGICAL STUDY OF FAMILIES WITH ADOLESCENTS. Gail Rea, RN, PhD, University of Missouri St. Louis, St. Louis, MO.

The impact of breast cancer is a major turning point in the woman's life and her family's. Despite the recognition that cancer is a family affair, most studies have focused either on the patient or on family members, and have overlooked the family as a whole.

The purpose of this phenomenological study was to investigate the impact of breast cancer on the lived experience of families with adolescents, as perceived by the patient, spouse, and adolescent, and the family unit.

Family systems, family development, Rolland's illness-model, and Combrinck-Graham's family spiral model were the guiding theories for this study.

Five families were interviewed. The women had been diagnosed with nonmetastatic breast cancer and had completed their adjunctive therapy.

Interviews with the patients, spouses, and adolescents and the family unit explored the research questions: What is the impact of breast cancer on the individaul lived experience of the patient, spouse, and adolescent? What is the impact of breast cancer on the lived experience of families with adolescents?

Data was analyzed using the phenomenological analysis methods of Giorgi, Schutz, and Patton. Trustworthiness was established by family members and two nurse researchers validating the descriptions of the themes. The data was also compared and triangulated with the literature.

The themes identified from the patient interviews included gathering support, becoming self-focused, decision making, and expanding focus to family. The spouses themes included becoming focused, taking action, being protective, and sharing with others. Themes identified from the adolescent interviews: not knowing, changes of family roles, awareness of behavior, and altering plans. Themes unique to the family interviews included: anxious beginnings, spiritual experience, role of humor, and honor and celebration.

Implications for further study during different phases of the illness and recovery. In addition, studied conducted during other phases of family development and those including in-laws and/or grandparents would be valuable.

Nurses need to be aware of family life cycles and individual development processess are dynamic and occurring simultaneously when an illness such as breast cancer is introduced into the family. In order to assist families, nurses need to think in a systemic manner about these developmental processes.

A QUALITATIVE SYSTEMATIC REVIEW OF DECISIONS ABOUT CANCER GENETIC TESTING (CGT) FOR HEREDITARY BREAST CANCER (HBC): WILL THE REAL UPTAKE RATE PLEASE STAND UP? Mary Ropka, PhD, RN, FAAN, University of Virginia School of Medicine and School of Nursing, Charlottesville, VA; Elayne Phillips, PhD, RN, University of Virginia School of Medicine, Charlottesville, VA; Jennifer Wenzel, MS, University of Virginia School of Nursing, Charlottesville, VA; John Philbrick, MD, University of Virginia School of Medicine, Charlottesville VA.

Building on recent progress of the Human Genome Project, risk assessment and counseling is increasingly incorporated into cancer nursing practice. Individuals and families dealing with hereditary cancer risk face complex decisions, including whether to obtain CGT.

Synthesis of research regarding CGT decisions is important to guide development, testing, and dissemination of evidence-based decision support interventions. Our review of 40 papers addressing HBC CGT revealed large variability in CGT uptake (20% to 96%). The purpose of this analysis was to explain that variability. Aims included examining role of: methods of measuring uptake; HBC personal history (PH) and family history (FH); and research methodology.

Ottawa Decision Support Framework (knowledge, expectations, values, support, skills) guides assessment of decision making needs and subsequent tailoring of CGT decision support interventions.

Design: Qualitative Systematic Review.

Sample: Using MEDLINE, CINAHL, and PSYCHINFO, we identified 40 primary research reports in English, 1990–2002, meeting these criteria: cancer-related; adults; breast CGT decisions; and peer-reviewed.

Procedure: Data Abstracted: Breast cancer PH and FH; CGT uptake percent, "real" (blood draw, R), or "hypothetical" (intent or interest, H) and how measured; study design; sampling strategy; recruitment, setting. Quality Review: Two independent reviewers systematically applied 14 criteria adapted from established quality review guidelines to accommodate diverse designs.

Descriptive statistics. Study heterogeneity precluded statistical meta-analysis.

In 40 studies, 58 rates (40 H-CGT, 18 R-CGT) were reported in 56 patient cohorts.

Mean H-CGT and R-CGT rates were similar (70% vs 73%). FH patients had higher H-CGT rates (74% FH vs. 53% other), while PH patients had higher R-CGT rates (82% PH vs. 50% other).

Other factors contributing to uptake variability were: study design differences (26 correlational, 5 randomized controlled trials, 9 other); patient assembly (30 convenience, 4 consecutive series, 6 other); sampling frame (hospital/clinic/registry 27, community 7, both 5); and methods measuring H-CGT rates (40 different questions).

Our review shows that study methodology, in addition to patient and cancer characteristics, must be evaluated as part of interpreting CGT research. Only then can results be used to guide clinical care and future research. Funding sources: National Cancer Institute K07 Award.

TOBACCO REDUCTION WITHIN THE CONTEXT OF ACUTE CARE HOSPITALS. Annette Schultz, MN, PhD(c), RN, University of British Columbia School of Nursing, Vancouver, British Coumbia, Canada.

Hospitalization is reported to be a window of opportunity to address tobacco reduction (TR), which would influences rates of cancer morbidity and mortality. Studies reporting on TR during hospitalization have tended to explore patient cessation efforts and/or health professional activities. However, organizational activities could also influence the actualization of this opportunity.

To describe the social context related to TR embedded in the practice world of the nurses working in acute care hospitals.

The larger mixed-methods study investigated the practice, perspectives and work context of nurses working on adult in-patient hospital wards in Western Canada. An ecological framing advocated behavior is a product of individual and contextual factors. The qualitative part of the study was guided by symbolic interactionism, which theorizes people's understanding of the world is partially constructed through social interaction. Thus, exploring structural features like use of space and documents reveals contextual cues that could influence the construction and integration of TR in practice.

Data was collected on 16 wards located in two hospitals. Ethnographic data collection occurred during 2 four hour visits per ward and included: ward and hospital observations, document review of available materials, and over 100 conversations with nurses.

Field notes and photographs were analyzed for evidence relevant to the provision of public space for tobacco use. Collected documents were reviewed for presence of tobacco use assessment and reduction.

Document review findings were varied. Admission sheets and patient education material related to cardiovascular, respiratory, and cerebra-vascular diseases demonstrated both a request for tobacco use assessment and varying amounts of information about TR. Otherwise tobacco use status and TR was mostly absent from referral forms, and patient education material. There was an absence of written material to inform nurses or patients about tobacco use and reduction. Finally, while hospital buildings are smoke free in Canada, the provision of smoking spaces in these hospitals has been fraught with difficulties that has created tensions between nurses and patient who use tobacco, and between smokers and non-smokers. These two examples of structural features demonstrate ways organizations might inhibit nurses' integration of TR into practice. Funding sources: University of British Columbia School of Nursing, Katherine McMillan Directors Discretionary Fund.

A QUALITATIVE COMPONENT OF A RANDOMIZED CLINICAL TRIAL. Karen Schumacher, RN, PhD, University of Nebraska Medical Center College of Nursing, Omaha, NE; Setsuko Koresawa, RN, MS, Doctoral Student, Claudia West, RN, MS, Marylin Dodd, RN, PhD, Steven Paul, PhD, Christine Miaskowski, RN, PhD, University of California San Francisco, San Francisco, CA.

To describe a method of nesting qualitative research within a randomized clinical trial (RCT) using audiotaped intervention sessions as a source of data.

Qualitative research may fruitfully be combined with intervention studies but few examples exist detailing methodological strategies for doing so. Audiotaped intervention sessions in a RCT provide extensive qualitative data on the implementation of the intervention that can be used for knowledge development about the intervention itself. As audiotaping increasingly is used as a strategy for monitoring treatment integrity for psychoeducational interventions, large qualitative databases will become available for substantive data analysis, as well as for quality assurance purposes. This presentation will provide an example of how one research team used those data.

In a recently completed RCT of a nursing intervention called the PRO-SELF© Pain Control Program the teaching/coaching sessions with oncology outpatients experiencing pain from bone metastases and their family caregivers were audiotaped originally for quality assurance purposes. However, early reviews of the audiotapes revealed that they were a rich source of data about patients and family caregivers experiences with pain management. To mine this data source, we applied for and received an administrative supplement to the NCI funded study in order to transcribe the audiotapes and conduct a qualitative study. Our objectives were 1) to better understand the pain management difficulties patients and family caregivers brought to the interventionist's attention, 2) to better understand patients for whom the intervention did not work, and 3) to describe how patients and family caregivers used specific pain management tools. We will describe the sampling strategies and analytic procedures for each objective and the way in which the qualitative results will be used in future RCTs.

In large programs of research, interventions are developed and refined across multiple studies. Conducting a qualitative analysis of audiotaped intervention sessions in one study provides valuable insights for subsequent research.

The information gained can increase the consistency of intervention implementation in future RCTs, facilitate the translation of research into practice, and contribute to the knowledge base around nursing interventions. Funding sources: National Cancer Institute, (Administrative Supplement to R01 CA64734).

CHALLENGES IN DELIVERING A MANUALIZED INTERVENTION IN THE HOME ENVIRONMENT. Mary Ellen Shands, RN, MN, University of Washington School of Nursing, Seattle, WA; Anne Hannahan, RN, MA, LP, North Memorial Medical Center, Robbinsdale, MN; Kim Wagler Ziner, RN, MSN, Indiana University School of Nursing, Indianapolis, IN; Terri Farmer, PhD(c), RN, University of Arizona College of Nursing, Tucson, AZ.

The purpose of the presentation is to describe the areas in which interventionists experienced challenges delivering the manualized intervention in the home environment to help mother's with breast cancer support their children.

Psychosocial intervention research with families must address the dynamic processes that arise during interactions between the interventionists and the participants. Manualized interventions using fully scripted text can ensure that intervention content is delivered consistently and appropriately to research participants no matter what the setting or who is delivering the intervention. However, such interventions can be a challenge for professional nurses, because they have only a small amount of discretion in the delivery of the intervention.

Interventionists in six U.S. states have been trained to deliver a five session manualized intervention targeted at assisting mothers with early stage breast cancer to support their school age children. Sessions focused on helping mothers to sharpen their skills in communicating with their children about the breast cancer; draw out the child's feelings and concerns; and decrease the child's stress related to the breast cancer. All sessions were delivered in the mother's home at a time convenient for her. To date, 162 families have been accrued, 82 have been randomized to the intervention arm, and 62 have completed all 5 intervention sessions. Interventionists engaged in this project have discussed the challenges of intervention delivery during trainings and conference calls and have identified specific strategies for addressing these challenges.

Challenges were categorized as: logistical coordination of delivering the intervention in the families' homes; external influences in the home setting; delivering personalized intervention within the boundaries of protocol. Examplars of particular challenges within each area will be presented along with the actions taken to manage the challenges.

Elucidation of the challenges encountered by the interventionists can facilitate the planning of future research and intervention delivery for families living with breast cancer as well as inform oncology nurses who seek to provide evidence based care**.** Funding sources: National Cancer Institute, NIH.

BONE MARROW DONATION: FACTORS INFLUENCING INTENTION IN AFRICAN AMERICANS. Mary Ellen Smith, PhD, RN, CS, Drexel University, Philadelphia, PA.

A major obstacle to bone marrow transplantation is donor availability particularly among African Americans.

The purpose of this descriptive study was to identify factors influencing African Americans' intentions regarding bone marrow donation.

The Theory of Planned Behavior proposes that an individual's intention to perform a behavior is the central determinant of the behavior. Thus, intention is determined by attitudes, subjective norms, and perceived behavioral control.

An exploratory, non-experimental descriptive design was used to explore African Americans' responses concerning their intentions to donate bone marrow, and the factors influencing such intentions.

The 65-item Bone Marrow Donation Intention Tool was designed to identify factors influencing African Americans' intentions regarding bone marrow donation. The items from the Bone Marrow Donation Intention Tool were entered into an exploratory factor analysis using principal components extraction.

Seven factors influencing bone marrow donation were identified: Fear or Not Trusting, Helping Others, External Influences, Approval of People, Care that Individual is a Human Being, Value of Knowledge, and Concerned about Resources. Findings revealed that Fear or Not Trusting, External Influences, and Concern about Resources were associated with subject's intention not to donate bone marrow. Helping Others, Approval of People, and Value of Knowledge were associated with their intention to donate bone marrow.

Demographic variables that significantly correlated with intention to donate were possession of an organ donor card and affiliation with the Methodist Church (0.0010 and 0.0022 respectively).

The factor value of knowledge significantly correlated with the intention to donate bone marrow. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Genentech, Inc.

Abstracts Accepted for the Eighth National Conference on Cancer Nursing Research

THE UNCERTAINTY SCALE FOR KIDS: INSTRUMENT DEVELOPMENT AND PILOT TESTING. Janet Stewart, PhD, RN, University of Pittsburgh School of Nursing, Pittsburgh, PA.

Uncertainty is one of the primary challenges children with cancer face, but has not been systematically studied to date. Development of a psychometrically sound instrument to measure children's uncertainty represents the first step in a planned program of research into uncertainty in children with cancer and its consequences for their psychological adjustment.

The purpose of the study was to evaluate the psychometric properties of a child-centered instrument to measure uncertainty in the context of cancer treatment.

The improvement in outcome for most children with cancer, resulting in large part from increasingly intensive treatments, has resulted in unpredictable illness trajectories with an unknown outcome for any individual child, creating a powerful paradox of increased optimism accompanied by enduring uncertainty. Children undergoing cancer treatment describe high levels of uncertainty, particularly during the early phases of diagnosis and treatment, characterized as not understanding, not knowing what will happen when, and not being sure what things mean (Stewart, 2003). Mishel's (1988) Uncertainty in Illness theory provided the foundation for the conceptualization of uncertainty in children.

The Uncertainty Scale for Kids (USK), consisting of 22 items utilizing a 4-point interval scale, was derived from qualitative interviews with children with cancer, evaluated for content validity by both clinical experts and child informants, and tested in an initial sample of 72 children aged 8 to 17 years (mean 13.0, sd 2.9) undergoing treatment for cancer.

Reliability was evaluated with Cronbach's alpha, inter-item correlations, and one-week test-retest. Validity was evaluated by correlating uncertainty with anxiety and with depressive symptoms and by comparing uncertainty scores by intensity of treatment.

The USK demonstrated adequate internal consistency (alpha = .94, inter-item r's .30–.70) and stability (test-retest r = .64, $p < .01$). Scores on the USK were significantly correlated with children's anxiety ($r = .52$, $p < .001$). Children undergoing more intensive treatment demonstrated significantly higher uncertainty scores ($t69 = 3.08$, $p < .01$). Therefore the USK appears psychometrically sound and offers promise for moving forward the study of children's uncertainty and their adjustment to cancer treatment. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Amgen, Inc.

IMPLEMENTATION OF AN EVIDENCE BASED ORAL CARE GUIDELINE CHANGES PRACTICE AT A NCI-DESIGNATED CANCER CENTER. Carrie Stricker, University of Pennsylvania Medical Center, Philadelphia, PA; Jacqueline Sullivan, PhD, RN, Thomas Jefferson University, Philadelphia, PA.

Mucositis is one of the most common and significant side effects of cancer therapy, occuring in 80% of high-risk populations such as head/neck radiotherapy and stem-cell transplant (SCT).

The purpose of this project was to synthesize into a clinical practice guideline (CPG) the contemporary evidence on prevention and management of oral mucositis in cancer patients undergoing chemotherapy, head and neck radiotherapy, and hematopoetic stem cell transplant, and evaluate the impact of this CPG on both nursing and physician practices and patient care outcomes in radiation oncology and inpatient oncology/SCT at a northeastern US NCI-designated comprehensive cancer center.

A multidisciplinary workgroup composed of staff nurses, nurse practitioners, medical oncologists, oral medicine, and an academic nurse researcher was convened to synthesize the contemporary evidence into a CPG and direct the implementation and evaluation of the evidence based CPG.

A quasi-experimental pre-test/post-test design was undertaken to measure significant changes in provider and patient-specific outcomes. Provider outcomes included 1) inpatient and radiation oncology staff nurse knowledge of evidence-based oral care practices (n = 35 pretest, n = 29 posttest), measured by an investigator developed, expert content-validated questionnaire, and 2) physician house staff/inpatient nurse practitioner (NP) oral care ordering practices (33 patients pretest, 34 posttest) evaluated by retrospective chart review. Patient outcomes included 1) oral mucositis measured by the Oral Assessment Guide

(Eilers, 1988) and 2) oral pain measured by the Brief Pain Inventory (Cleeland et al., 1982). The multidisciplinary implementation of the CPG had a significant effect on staff nurse knowledge and physician/NP oral care orders. While pre-implementation testing described the incidence and timing of oral complications, the effect of the CPG on patient care outcomes was unable to be determined due to the introduction of a clinical trial with potential to increase oral mucositis between pre-test and post-test timepoints.

The multidisciplinary development and implementation of an evidence-based oncology oral care clinical practice guideline significantly changed the mucositis prevention and management practices at a NCI-designated comprehensive cancer center. Not only can these oral care guidelines be applied to other practices to improve oncology care, but this model of evidence-based practice can guide the development, implementation, and evaluation of other guidelines for evidence-based oncology practice.

OVARIAN CANCER QUALITY OF LIFE INTERVENTION: A PILOT STUDY. Virginia Sun, RN, MSN, Betty Ferrell, PhD, FAAN, Marcia Grant, RN, DNSc, FAAN, Gloria Juarez, PhD, RN, Deborah MacDonald, RN, MS, APNG, Robert Morgan, MD, City of Hope National Medical Center, Duarte, CA.

Over 200,000 women are currently living with ovarian cancer and a nursing education intervention on survivorship concerns may be beneficial for this population.

The purpose of this pilot study was to test the feasibility of the implementation of the Ovarian Cancer Quality of Life Intervention (OCEI) and gain feedback from pilot subjects regarding intervention design.

The OCEI is based on the COPE model, which teaches a problem-solving process to develop an individualized plan of action to cope with patient-identified concerns. These concerns were focused around quality of life issues, specifically those in the physical, psychological, social, and spiritual domains.

The pilot intervention incorporated the use of three scheduled 60-minute education sessions with a research nurse, use of written materials on ovarian cancer, and two data collection time points. Outcome measures were obtained using the Ovarian Cancer QOL Tool and a Patient Follow-Up Inventory to evaluate the intervention.

The impact of the intervention was followed through comparisons of descriptive QOL data at baseline and evaluation.

Mean age of subjects (n = 14) was 60, and ethnicity included 60% Caucasian, 20% Hispanic, and 20% Asian. Subjects included 80% Stage III and 20% Stage IV disease of which 40% were undergoing treatment for initial diagnosis and 60% were undergoing treatment for recurrent disease. Subjects identified their major concerns as maintaining positive outlook/psychological coping (40%), concern for female relatives (30%), fear of recurrence (10%), anxiety (10%) and side effects (10%). Results indicate that immediate effects in several priority concerns were identified in the physical, psychological, and social QOL domains. Based on this preliminary data analysis, a follow-up procedure by phone and clinic visit was conducted with the first ten study subjects to determine the long-term application and efficacy of the OCEI. The follow-up data suggests that the OCEI may have a long lasting positive effect on the QOL of ovarian cancer patients. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Genentech, Inc.

PROSPECTIVE STUDY COMPARING SIDE EFFECTS AND SATISFACTION WITH TREATMENTS FOR PROSTATE CANCER. Karen Swenson, RN, MS, AOCN®, Carol McPherson, MSW, MPH, Janice Kjellberg, RN, Park Nicollet Institute, Minneapolis, MN.

Prostate cancer is the most common cancer in men, with approximately 230,110 new cases and 29,900 deaths annually in the US. Treatments for prostate cancer can cause side effects including impotence and urinary incontinence that can profoundly affect patients' quality of life. Oncology nurses can improve patient's satisfaction with treatment by assisting patients with treatment decision-making and helping them manage treatment-related side effects.

The objective of this study is to compare patient-reported side effects and satisfaction with treatments for early stage prostate cancer at baseline (before definitive treatment), and at 6, 12, and 24 months after treatment.

The study is based on a multidimensional QOL framework.

225 men with early stage prostate cancer were enrolled prospectively after diagnosis and before treatment, and followed for 24 months post-treatment. Patients completed the Prostate Cancer Treatment Outcome Questionnaire (PCTO-Q) at baseline, and at 6, 12, and 24 months post-treatment. The PCTO-Q has established reliability (Chronbach's alpha > .73) and validity.

Descriptive statistics were used to evaluate demographic information and satisfaction. Analysis of Covariance (ANCOVA), using baseline scores as covariates, was used to compare differences in PCTO-Q scores between the three main treatment groups (surgery, brachytherapy, and RT) over the three time periods. Age, baseline scores, and comorbidity were controlled for in the multivariate model.

At 24 months, surgery patients experienced more urinary incontinence (63%) and sexual dysfunction (87%): radiation patients experienced more bowel difficulties (16%). Brachytherapy patients experienced significantly less bowel (11%) and sexual dysfunction (58%) at 24 months than either surgery or radiation therapy patients (p <.05). In the whole cohort at 24 months, 89% of men were partially/totally impotent, 22% experienced urinary incontinence, and 13% experienced bowel dysfunction. Men who had sexual dysfunction at 24 months expressed greater dissatisfaction with their treatment choice (P < .02). This study shows that although side effects diminish, many significant symptoms persist at 24 months after treatments. Treatment satisfaction was significantly reduced among men who experienced long-term side effects. Persistent symptoms, reduced treatment satisfaction and patient anticipation of realistic side effects have importance for nursing practice. Alteration in the content and focus of patient education should be considered. Funding sources: Nycomed Amersham and Novartis Oncology.

DETERMINANTS OF DEATH IN AN INPATIENT HOSPICE FOR TERMINALLY ILL CANCER PATIENTS. Siew Tzuh, Stephanie Tang, RN, DNSc, National Yang-Ming University, Taipei City United Hospital, Taipei, Taiwan; Ruth McCorkle, PhD, FAAN, Yale University School of Nursing, New Haven, CT.

Despite the strong emphasis on home-based end-of-life care in the United States and the recognition of dying at home as a gold standard of quality of care, hospice home care is not a panacea and death at home may not be feasible for every terminally ill cancer patient. However, factors predisposing death in an inpatient hospice were under-explored from the existing studies.

To investigate the determinants of death in an inpatient hospice for terminally ill cancer patients.

Mor and Hiris's (1983) framework of determinants of place of death: (a) sociodemographics, (b) support network, (c) clinical condition/care needs, and (d) health-system factors.

Research Design: Prospective cohort study.

Measurements: Preferred/actual place of death, functional dependency, symptom distress, availability/utilization of health care resources.

Data Analysis: Determinants of death in an inpatient hospice were identified by survival analysis with Cox proportional hazards model.

Results: A total of 180 terminal cancer patients were enrolled (87% response rate). Approximately two-fifths (40.8%) of terminally ill cancer patients in this study died in an inpatient hospice over the two-year study period. Results from Cox proportional hazards model with adjustment for covariates indicated that cancer patients who received hospice care before death (hazard ratio (HR) = 7.32, 95% confidence interval (CI): 3.21–16.67), with a preference to die in an inpatient hospice (HR = 4.86, 95% CI: 2.24–10.51), resided in New Haven County (HR = 1.70, 95% CI: 1.00–2.93), or who experienced higher levels of functional dependency (HR = 1.05, 95% CI: 1.02–1.08) were at significantly higher likelihood to die in an inpatient hospice.

Implications: The high prevalence of inpatient hospice death for terminally ill cancer patients in this study was related to the local health care system characteristics, health care needs at the end of life, and personal preference of place of death. Findings from this study make a valuable contribution to our currently limited understanding of how inpatient hospice care influences place of death. Available and ease access to inpatient hospice services facilitate a death in a place that is in accord with some terminally ill cancer patients' wished an important

component of "good death" as defined by Institute of Medicine. Funding sources: ONS Foundation through an unrestricted grant from the Roxanne Laboratories, Inc., and Mary Lewis, Manager Palliative Care Education.

IMPROVING CANCER PAIN MANAGEMENT USING AHCPR CANCER PAIN GUIDELINES. Mary Thomas, RN, MS, AOCN®, Marilyn Douglas, RN, DNSc, FAAN, Veterans Affairs Palo Alto Health Care System, Palo Alto, CA; Stephen Rao, PhD, University of California San Francisco, San Francisco, CA; Jan Elliott, RN, MS, AOCN®, Kathleen Fahey, RN, MS, AOCN®, Veterans Affairs Palo Alto Health Care System, Palo Alto, CA; Christine Miaskowski, RN, PhD, FAAN, University of California San Francisco, San Francisco, CA.

Ineffective cancer pain management (PM) remains a significant problem. Patient's attitudinal barriers (ABs) can be a significant obstacle to effective PM.

The purpose of this study was to test the effectiveness of two interventions (standardized versus individualized education) to ameliorate ABs toward PM on improving pain, functional status and quality of life (QOL).

Cancer pain was conceptualized as multidimensional in nature (Ahles); to be effective, PM should also be multidimensional.

A convenience sample of 288 adults with pain related to cancer/treatment participated. After completing baseline questionnaires, subjects were stratified by pain severity and concurrent chemo/radiation therapy, and then randomized into three groups: Control (usual care), Education (AHCPR booklet and PM video), or Coaching (same as education group, plus four structured telephone calls by a PM clinical nurse specialist addressing ABs and PM strategies). The coaching intervention was based on self-regulation theory (Miller & Brown) using motivational interviewing techniques; calls occurred over a six-week time period. Questionnaires were re-administered 12 weeks after randomization. Instruments with established reliability and validity were used to measure the study's dependent variables: Brief Pain Inventory (pain severity, pain relief, pain-related interference with function); Barriers Questionnaire (ABs); Functional Assessment of Cancer Therapy-General (QOL); and SF-36 (functional status).

Results were analyzed by addressing the effects of time and group on the dependent variables using repeated measures ANOVA.

The sample was predominantly male (88%), veteran (85%), middle aged, and had a variety of cancer types; over 30% were receiving concurrent cancer therapy. Patients in the coaching group demonstrated less pain, improved pain relief and emotional well-being, and less interference with function from pain; however, these results were not statistically significant. Lack of achieving statistical significance may be due to any of the following: a small effect size, loss of many subjects to death or progressive illness while on study, time between assessments, and diminished ability to strictly adhere to the attention control call format when subjects voiced significant problems warranting intervention. Attitudinal barriers are prevalent in cancer patients and this coaching intervention may be an effective strategy in improving PM. However, other methods are needed to test its effectiveness. Funding sources: Veterans Affairs, Health Services Research and Development Service, NRI 97-026-1.

REVIEW AND CRITIQUE OF THE STATE OF THE SCIENCE: ADDRESSING CANCER AMONG AND BETWEEN U.S. ETHNIC/RACIAL MINORITY POPULATIONS. Sandra Underwood, RN, PhD, FAAN, University of Wisconsin Milwaukee, Milwaukee, WI; Barbara Powe, PhD, RN, American Cancer Society, Atlanta, GA; Mary Canales, PhD, RN, University of Vermont, Burlington, VT.

Advances made in the area of cancer prevention and cancer control over the last two decades have led to declines in cancer incidence and mortality and increases in survival for many cancer patients. However, while the trends relative to cancer incidence, mortality and five-year survival for the Nation as a whole have significantly improved, data reveal that there are significant disparities in the degree to which the burden of cancer that remains is borne by racial/ethnic minority populations.

As a practice-oriented discipline grounded in research, nursing could have a dominant role in efforts aimed toward eliminating the cancer disparities experienced by racial/ethnic minority population groups. Several reports of

nursing studies have been published in the peer-reviewed literature that address factors associated with the cancer disparities experienced between and among U.S. racial/ethnic minority groups. However, given that few efforts have been undertaken to comprehensively review and critique this body of research, little is known about the scope, quality and potential impact of this body of nursing science.

This presentation will present the results of the first comprehensive critiques of nursing research undertaken to address cancer related health disparities in ethnic/racial minority populations within the United States.

The dimensions of the cancer care continuum, the dimensions of the continuum of research and the principles of evidence based practice were used as frameworks to guide this review and critique. The review and critique of 56 published nursing research reports addressing cancer in minority populations was conducted in four phases (selection of databases, selection of articles focused on cancer in minority populations, thematic sorting, review and critique) using the methods proposed by Cooper (1982).

The findings revealed that this body of nursing research has contributed much to the identification and understanding of factors associated with the excess cancer morbidity and mortality of minority populations.

However, in order for the profession to more fully contribute to the elimination of cancer related health disparities, data suggest the need to expand and strengthen this base of knowledge through the development of research methods and the conduct of intervention trials, population-based studies, and demonstration projects.

STRESS, TYPE AND SOURCE OF AND SATISFACTION WITH SOCIAL SUPPORT IN WOMEN WITH BREAST CANCER: EFFECTS ON FATIGUE, DEPRESSION, AND IMMUNE RESPONSE AND CHANGES OVER TIME. Diane Von Ah, PhD, RN, University of Louisville, Louisville, KY.

The diagnosis and treatment for breast cancer causes intense psychological stress. Perceived stress, in turn, may have a deleterious effect on fatigue, depression, and natural killer cell activity (NKCA). Social support, on the other hand, has been shown to have a direct and positive effect on health. However, little is known regarding the impact of stress, type and source of and satisfaction with social support on fatigue, depression, and immune response during the diagnosis and treatment of women with breast cancer.

The purposes of this study were to examine: (1) the level of perceived stress, and type and source of and satisfaction with social support and their impact on fatigue, depression, and NKCA and (2) changes over time in all variables.

The study was derived from Lazarus and Folkman's cognitive appraisal theory.

A convenience sample of 57 women with newly diagnosed breast cancer completed five questionnaires including: Impact of Event Scale, Norbeck Social Support Scale, Social Support Questionnaire-6, Piper Fatigue Scale-Revised, and the Depression subscale of the Profile of Mood States and provided a blood sample to determine NKCA. Questionnaires were collected: prior to adjuvant therapy (T1); 3 months later during adjuvant therapy (T2); and 6 months after baseline at the completion of adjuvant therapy (T3) and participants gave a blood sample at T1.

Data were analyzed using hierarchical multiple regression controlling for age, stage of disease, and type of treatment, and repeated measures ANOVA.

Stress had a deleterious effect on NKCA and resulted in higher levels of depression at T1, T2 and T3 and higher levels of fatigue at T2 and T3. On the other hand, high aid (tangible) support resulted in decreased fatigue at T1 and high satisfaction with social support led to decreased depression at T3. However, increases in total network support actually resulted in higher levels of fatigue at T1; indicating that not all support is beneficial. For changes over time, perceived stress, emotional, aid, and total network social support, fatigue, and depression decreased significantly over time, while satisfaction with social support remained stable. Findings from this study suggest that stress has a significant impact on health and that nurses must incorporate measures to assess and alleviate stress in their practice to improve outcomes for women with breast cancer. Funding sources: Support for this study was from the Susan G. Komen Breast Cancer Foundation, Birmingham Affiliate, Birmingham, AL.

THE USE OF MUSIC THERAPY IN REDUCING SYMPTOMS OF RADIATION THERAPY. Nancy Wells, RN, DNSc, Vanderbilt University Medical Center, Nashville, TN; Michael Clark, MME, MT-BC, Tennessee Technical University, Cookeville, TN; Gloria Isaacs-Downton, BM, MTBC, Sheryl Redlin-Frasier, RN, ONC, Carole Eck, MBA, RN, Vanderbilt University Medical Center, Nashville, TN.

Radiation therapy (RT) is a common treatment for many cancers. For curative RT, patients receive daily treatments for 3 to 7 weeks. These treatments are anxiety-provoking, and typically produce fatigue and pain. Developing effective interventions to relieve these responses may provide better treatment experiences and improve quality of life in patients receiving RT.

The purpose of this study was to examine the effect of music therapy, provided by a board-certified music therapist, on the emotional responses (anxiety, depression, treatment-related distress) and symptom activity (fatigue and pain) of patients undergoing curative RT.

Music therapy may produce beneficial effects on emotions and symptoms through a number of mechanisms. Promotion of relaxation, entrainment, and distraction have been proposed as mechanisms. The literature suggests that music therapy is most effective when it incorporates the patient's musical preferences and is delivered by a trained music therapist.

A total of 63 patients were included in this randomized clinical trial; 35 received music therapy and 28 received usual care. The intervention consisted of a single 45 minute session with a music therapist to select preferred music, which was then developed into a patient-specific audiotape to be used throughout RT. Outcomes, measured with validated instruments, included anxiety and depression (HAD), treatment-related distress (NRS), fatigue (POMS), and pain (NRS). Measures were obtained at baseline, mid-treatment, and end of treatment for all variables except distress, which was collected weekly.

Data were analyzed using a 2 (group) by 3(time) mixed model repeated measures ANOVA.

The groups were equivalent on demographic and clinical variables. Anxiety and distress were significantly lower for the experimental participants when compared to the controls and declined over time for both groups. No significant differences between groups or over time were found for depression, fatigue, or pain. While these data suggest music therapy may be beneficial in relieving anxiety and distress during RT, a more intensive intervention is recommended to produce effects on symptom activity. Funding sources: American Music Therapy Association; Sigma Theta Tau Iota Chapter.

PATTERNS OF CHANGE IN FATIGUE, ENERGY LEVELS, AND SLEEP PARAMETERS IN MEN UNDERGOING RADIATION THERAPY (RT) FOR PROSTATE CANCER. Claudia West, RN, MS, Christine Miaskowski, RN, PhD, FAAN, Kathryn Lee, RN, PhD, FAAN, Marylin Dodd, RN, PhD, FAAN, Steven Paul, PhD, William Wara, MD, Patrick Swift, MD, University of California San Francisco, San Francisco, CA.

Fatigue is a common symptom reported by patients undergoing RT. Less is known about the pattern of sleep disturbance during RT.

The purpose of this descriptive, longitudinal study was to evaluate for changes in fatigue, energy levels, and sleep parameters in men who underwent RT for prostate cancer.

The UCSF Symptom Management Model served as the theoretical framework for this study.

Patients were recruited from two RT departments prior to the initiation of therapy and assessments were done at baseline, as well as at the middle and the end of RT. At each assessment point, patients completed the Lee Fatigue Scale (LFS) in the mornings and in the evening, as well as the General Sleep Disturbance Scale (GSDS).

A total of 82 men with a mean age of 67.1 years, an average Karnofsky Performance Status Score of 95.6, and a Stage T1 or T2 prostate cancer were recruited for this study. A repeated measures ANOVA was done and determined that both morning and evening fatigue increased over time and were highest at the end of RT.

At all assessments, evening fatigue was significantly higher than morning fatigue. Higher energy levels were reported in the morning compared to the

evening. However, energy levels did not change over the three assessments. In contrast, significant differences were found in total GSDS scores from baseline to the middle of and at the end of RT. Men reported significant decrements in the quality of their sleep, significant increases in the quantity of their sleep, a longer sleep onset latency, as well as significant increases in the number of mid-sleep awakenings, the number of early morning awakenings, and an increase in excessive daytime sleepiness. All of these changes in sleep parameters reached a peak at the middle of RT and remained elevated at the end of RT. These findings suggest that the experience of RT for men with prostate cancer produces significant disruptions in sleep that are followed by increases in fatigue. The disruptions in sleep may be attributed to the increased frequency of urination during the course of RT. Funding sources: National Institute of Nursing Research and National Cancer Institute.

GENETICS KNOWLEDGE AMONG ONCOLOGY NURSES. M. Linda Workman, PhD, RN, FAAN, Case Western Reserve University, Cleveland, OH.

Advances in genetics confirm genetic predisposition for diverse health problems. Nurses at every level will be involved with the study or care of individuals/families with genetic disorders, genetic predispositions, or who are undergoing genetic testing. Unfortunately, nursing literature exposes the absence of genetics content in BSN and MSN curricula nation-wide. Nursing programs lack faculty with sufficient expertise to incorporate substantial genetics content into basic and graduate nursing education or to use genetics information in nursing research.

The purpose of this project was to determine level of genetics knowledge among oncology nurses.

This project used an educational framework to assess the extent/depth of genetics knowledge within a nursing specialty.

Subjects: Subjects were 812 members of the Oncology Nursing Society who attended a national conference. Most subjects had 10 years or more experience in oncology nursing. All levels of nursing education were represented.

Method: A 20 item genetics knowledge survey was developed by genetic and oncology experts. Ten items represented general genetics content and ten items were specific for cancer genetics content. Content validity for the survey items was established during the development process. Items varied in degree of difficulty from 0.87 to 0.09. Guessing was discouraged by the use of "don't know/not sure" as a response choice for all items.

No single item was answered correctly by all participants. Correct responses for the 20 items ranged from 5.3% (42/812) to 87.6% (689/812). The survey's overall degree of difficulty was 45% and the discrimination index was 0.65. Only three items had the correct answer selected by at least 70% of the participants. MSN prepared nurses had slightly higher scores for cancer genetics knowledge. General genetic knowledge scores did not correlate with advanced degrees or years of nursing experience.

Oncology nurses at all levels of education and practice have deficits in basic and cancer genetic knowledge. Such deficits should be corrected to improve practice and use genetic testing or genetic counseling in nursing research.

NEW CANCER-RELATED FATIGUE INSTRUMENT: PSYCHOMETRIC TESTING. Horng-Shiuann Wu, PhD, RN, Maryellen McSweeney, PhD, Kathleen Wyrwich, PhD, St. Louis University, St. Louis, MO.

Cancer-related fatigue (CRF) is a highly prevalent, subjective experience of cancer patients and survivors. Effective assessment of CRF attributes from the patients perspective is essential. Researchers have tackled some of the persistent problems in the measurement of CRF such as including the patients perspective in the development and/or validation of CRF instruments and separating the effects of fatigue from its manifestations.

This study determined the psychometric properties of a new CRF instrument, a specific measure of CRF symptoms developed from the patients perspective, for a breast cancer population.

The premise of Pipers Integrated Fatigue Model, that subjective indicators are essential to assessing the fatigue experience, guided the study. Classical Test Theory, including error of measurement and the domain-sampling model, guided the psychometric analyses.

254 breast cancer chemotherapy outpatients, at various stages and on various chemotherapy regimens, of three cancer clinics in a metropolitan area participated in this study. Four instruments were completed in order: the newly developed CRF instrument, Schwartz Cancer Fatigue Scale (SCFS), Geriatric Depression Scale (GDS), and Cancer Related Fatigue Distress Scale (CRFDS). The psychometric properties, including construct and criterion-related validities and internal consistency reliability, were tested (n = 82) then the measurement model was cross-validated (n = 172) using structural equation modeling.

Principal axis factoring gave a one-factor solution accounting for 59% variance. Alpha = 0.95 for the 15-item scale. Convergent validity with the SCFS was 0.84; concurrent validity with the GDS was 0.61; and predictive validity with the CRFDS was 0.83. Confirmatory factor analysis (LISREL 8.54) confirmed the one-factor measurement model with nine items remaining. Nonsignificant Satorra-Bentler Scaled chi-square (27) = 32.52, p = 0.21, standardized RMR = 0.032, NNFI = 0.97, CFI = 0.98, and IFI = 0.98 indicated a good model fit with alpha = 0.91 for the final 9-item scale.

This newly developed CRF instrument provides quantitative information on fatigue symptom status to monitor the patients condition or treatment progress. The information can improve the communication between clinicians and patients, be incorporated into treatment decisions, and help better manage CRF. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.

CONSIDERATIONS IN SCORING ACTIGRAPH RECORDINGS OF SLEEP AND WAKE ACTIVITIES. Stacey Young-McCaughan, RN, PhD, AOCN®, Colonel, U.S. Army Nurse Corps, U.S. Army Medical Command, Fort Sam Houston, TX; Mary Z. Mays, PhD, University of Arizonia, Tuscon, AZ; Sonya M. Arzola, BS, Brooke Army Medical Center/Geneva Foundation, Fort Sam Houston, TX; Marilyn U. Nowlin, RN, BS, BSN, Brooke Army Medical Center/Geneva Foundation, San Antonio, TX.

To discuss considerations scoring actigraph recordings of sleep and wake activities.

One instrument used to objectively assess sleep is the actigraph, a wrist-worn microcomputer that measures movement in three dimensions. Computerized actigraph algorithms for characterizing sleep periods and sleep stages correlate highly with electroencephalograph recordings. However, dramatic differences in measures can result depending upon how the actigrams are trimmed and scored.

In a prospective, repeated measures study of 62 patients diagnosed with cancer within the previous two years, activity and rest patterns were assessed using a wrist actigraph. Ages of subjects ranged from 24 to 83 (mean = 59). Half of the participants were male and half were female. Participants had a wide range of cancer diagnoses and all stages of cancer. At the start of the study, the study team agreed upon scoring protocols to capture characteristics of both awake and sleep periods which were strictly adhered to during data analysis. Actigraphs were initiated to collect data in one-minute epochs for 72 hours. Actigrams were trimmed to a single 48-hour record beginning at 9:01 am on Wednesday and ending at 9:00 am on Friday. Each 48-hour record included two "up" (active) periods and two "down" (rest) periods. The actigrams were scored using the Cole-Kripke algorithm. Subjects slept an average of only 6.5 hours per night. However, their sleep was quite fragmented; average sleep episodes lasted less than 50 minutes, and they awakened 14 times per night on average. Thus, subjects spent an average of only 78% of the night asleep.

Actigraph assessed measures of sleep and activity can vary depending upon the scoring protocols that are followed. If there were generally agreed upon scoring protocols, the results of studies and comparisons between studies could more easily be communicated.

Nurse researchers are using wrist-worn actigraphs to assess sleep and wake activities of patients with cancer. Different researchers employ different methods to analyze the actigraph data. Open discussions of the strengths and weaknesses of the different approaches to analysis would advance this field of research. Funding sources: The Department of Defense Uniformed Services University of the Health Sciences TriService Nursing Research Program, N98-051.

Abstracts Accepted for the Eighth National Conference on Cancer Nursing Research

Abstracts to Be Presented at Poster Sessions

DEPRESSION AND QUALITY OF LIFE IN GLIOMA PATIENTS. Deborah Allen, MSN, RN, APRN, BC, Duke Brain Tumor Center, Durham, NC; Susan Schneider, PhD, RN, AOCN®, Duke University School of Nursing, Durham, NC.

The health state of patients with gliomas often deteriorates through the illness course, frequently overshadowing the identification of depression and quality of life (QOL) symptoms. Since gliomas are relatively rare, few studies have evaluated the incidence and treatment of depression and QOL symptoms.

The objective of this study was to determine what demographic, diagnostic, or treatment variables were associated with the presence of depression or QOL symptoms (fatigue, appetite changes, sleep disturbances, and sexual dysfunction) in patients with gliomas.

Based on the Chronic Illness Trajectory, the individual's perceived QOL should be considered in discussions regarding therapy and treatment outcome. The use of a screening tool to predict depression and QOL symptoms in the clinical evaluation may improve outcomes.

This study uses a retrospective exploratory design to evaluate the dependent variables of depression and QOL symptoms in adult patients. The Beck Depression Inventory-II, a commonly used instrument with established reliability and validity, was used to screen for moderate to severe depression and QOL symptoms. Fisher's Exact Chi-Square tests were performed to assess the relationship between a dichotomized indicator of depression and demographic, tumor, and treatment variables. Logistic regression was used to explain the joint effect of these factors.

There were 969 encounters between 09/2001 to 03/2002. A total of 502 BDI-II forms were completed with all items clearly marked for analyses. Most patients had high grade gliomas (n = 379), mean age of 44.3 years, and were male (n = 284). Only 66 patients indicated a score of 20 or greater for moderate to severe depression. There were 358 reports of sleep disturbances, 273 changes in appetite, 385 indicating fatigue, and 260 cases of sexual dysfunction. Patients taking decadron were more likely to have higher BDI-II scores for depression (p < 0.05) and all four QOL symptoms (p < 0.05). Patients on chemotherapy (p < 0.001) or with high grade tumors (p < 0.05) were more likely to experience sleep disturbances, fatigue, or appetite changes but not sexual dsyfunction. Funding sources: Funded by the ONS Foundation through an unrestricted grant from the American Brain Tumor Association.

WATCHFUL WAITING IN PROSTATE CANCER: WHERE CAN OLDER MEN FIND SUPPORT? Donald Bailey, Jr., PhD, RN, Duke University School of Nursing, Durham, NC; Janet Stewart, PhD, RN, University of Pittsburgh School of Nursing, Pittsburgh, PA; Merle Mishel, PhD, RN, University of North Carolina at Chapel Hill School of Nursing, Chapel Hill, NC.

Watchful waiting has been proposed as a reasonable alternative for older men with localized prostate cancer. However, because this option is controversial men electing watchful waiting may encounter barriers to traditional sources of support. Family and support group members can pressure men to seek treatment based on the belief that cancer should be treated aggressively.

The purpose of this study was to identify the sources and types of support used by men electing watchful waiting.

Mishel's Reconceptualized Uncertainty in Illness Theory (1990) guided the larger intervention trial of which this study was a part.

Thirty-five men enrolled in a trial of the Watchful Waiting Intervention agreed to participate in a telephone interview at the completion of the larger study's data collection. A semi-structured interview guide was used to elicit men's reports of where they found support and how they used this support to live with the continual uncertainty of their disease. Interviews were tape recorded and transcribed verbatim.

Content analysis techniques were used to isolate data units that represented sources of support and the type of support exchange that took place. These were then organized into a categorical structure and frequencies were calculated for each category.

Participants were 86% Caucasian and 14% African American, with an average age of 75.4 years. Ninety percent were married. Nearly every man reported that his wife and/or adult child was a source of support. For 51% of the men, this was the only individual identified. Men had not confided in anyone else because of reluctance to share their feelings about their disease. The remaining 49% sought support from other family members in addition to their wives. Although 86% identified a connection with a church, only 20% had shared the news with their preacher, a religious leader, or members of their congregation and found support in prayer. No man identified membership in a cancer support group. These findings are similar to other investigators who found that men seek support from only one source. Nurses should assess sources of support in men electing watchful waiting and offer supportive intervention when indicated. Funding sources: Post Doctoral Fellowship, the John A. Hartford Foundation Building Academic Geriatric Nursing Capacity, 2003–2005.

MEASURING CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY. Marie Bakitas, MS, ARNP, AOCN®, Jeffery Cohen, MD, Camilo Fadul, MD, Ellen Lavoie Smith, MS, APRN-BC, AOCN®, Dartmouth-Hitchcock Medical Center, Lebanon, NH.

Chemotherapy-induced peripheral neuropathy (CIPN) is the result of damage to the structure and function of peripheral motor, sensory, and autonomic nerves, causing peripheral neuropathic symptoms and signs. The purpose of this presentation is to describe subjective and objective measures of CIPN currently used in clinical trials, comparing characteristics and available reliability and validity data. These comparisons will increase investigators knowledge to allow the selection of measures that will match the study purpose and the researchers' expertise and resources.

In the development of studies to understand CIPN researchers must have a clear understanding of the measures reliability, validity, purpose and data generated in order to select appropriate measures to meet study goals.

Studies that evaluate CIPN have traditionally used clinician grading systems (e.g. NCI-CTC, ECOG), which lack inter-rater reliability and internal consistency. Other methods include objective neurological exam, quantitative neurological tests (e.g. vibration and nerve conduction studies), summary measures combining subjective symptoms, objective signs, and quantitative tests (e.g. Total Neuropathy Scale [TNS]), and self-reported symptom and quality of life scales. Many of these measurement techniques were originally developed to understand and measure diabetic neuropathy and have only recently been adapted for use in CIPN. Each measure has advantages and disadvantages related to cost (financial and researcher time), accuracy, comparability, and ability to describe the patient's subjective experience.

Given the variety of measures used in clinical research it is difficult to describe and ascertain conclusions about the impact of CIPN on function and QOL. Conducting qualitative studies of the patient's experience in conjunction with additional studies comparing objective measures may enhance the validity of CIPN measures.

CIPN is an understudied common side-effect that presents research measurement challenges due to its variable character, course, and unresolved issues of measurement methods. Lack of measurement precision has led to under-recognition and under-treatment of this potentially dose-limiting toxicity. Standardizing measurement approaches of CIPN in descriptive studies and clinical trials will provide a greater understanding of the patient experience, will improve accuracy of incidence and prevalence estimates, and will increase ability to validly compare study results. Funding sources: Department of Defense–Breast Cancer Research Program–DAMD17-03-1-0298.

PREDICTORS OF HOSPICE LENGTH OF SERVICE: AN ANALYSIS OF THE 2000 NATIONAL HOME AND HOSPICE CARE SURVEY HOSPICE DISCHARGES. Marie Bakitas, MS, ARNP, AOCN®, Dartmouth Hitchcock Medical Center, Lebanon, NH; Mayur Desai, PhD, MPH, Yale University School of Medicine, New Haven, CT.

Determining factors associated with hospice length of service (LOS) can assist clinicians, administrators, and policy makers to identify changes in practice and policy that could improve hospice utilization.

The National Home and Hospice Care Survey (NHHCS) is nationally representative, underutilized data source for identifying national trends in hospice care.

The Anderson Model of Health Services Use and previous studies of factors influencing hospice LOS guided variable selection for the study.

The discharge data file of the NHHCS for 2000 was used as it represents a complete episode of hospice care. Of the 6273 total patients in the database, analyses were conducted on the 2016 who were receiving hospice care, were discharged due to death and were over 30 years of age. Independent variables included: age, gender, marital status, race/ethnicity, primary source of payment, agency proprietary status, and two measures of dependency: ADL and IADL status. The outcome variable was length of service (LOS), measured in days for a complete episode of hospice care.

Bivariate analyses to determine mean LOS for all independent predictors were performed using ANOVA. Associations between length of stay and age, gender, marital status, race, dependency, primary payer, and agency proprietary status were determined. Linear regression modeling using a stepwise backward elimination strategy was used to determine the most parsimonious model. All analyses were performed using SAS software version 8.

The mean age of the sample was 74 years (SD 12.8; range 32–107) and the median LOS was 19 days (mean 56; range 1–3297 days). The unadjusted shortest mean LOS occurred in adults who were least dependent, married, non-Hispanic Black in a not-for profit Medicare Certified Hospice agency, with private insurance. In exploratory multivariate analyses, after log transformation of LOS substantial dependency in activities of daily living (ADLs) was the most significant predictor of longer LOS. In the adjusted model Black race became a significant predictor of shorter LOS. LOS continues to be much shorter than the assumptions on which the Medicare Hospice Benefit was developed. Dying persons and their families are unlikely to achieve the full benefit of care when referrals occur late in the dying process.

A CLINICAL TRIAL OF GINKGO BILOBA FOR THE PREVENTION OF CHEMOTHERAPY-RELATED COGNITIVE DYSFUNCTION. Debra Barton, RN, PhD, AOCN®, Charles Loprinzi, MD, Mayo Clinic College of Medicine, Rochester, MN; Tom Fitch, MD, Mayo Clinic Scottsdale, Scottsdale, AZ; Kay Hoff, RN, BSN, Missouri Valley CCOP, Lincoln, NE; Cathy Basham, RN, BSN, OCN®, Missouri Valley CCOP, Omaha, NE; Paul Novotny, MS, Jeff Sloan, PhD, Lisa Carpenter, RN, BSN, Mayo Clinic Rochester, Rochester, MN.

Descriptive studies identify neurocognitive dysfunction ("chemo-brain"), consisting of short term memory loss, slowed reaction time and thought processing, as a symptom experienced by up to 40% of patients receiving chemotherapy and/or radiation for cancer. Little is known about the actual prevalence or trajectory of this symptom, or what can be done to prevent it.

One of the main limitations in the current research on cognitive dysfunction is that descriptive studies are cross sectional, usually after treatment is completed, thus, there are no baseline assessments. The purpose of this study is to test an herbal agent for efficacy in preventing cognitive changes during chemotherapy, and also to describe the trajectory of cognitive changes in women receiving breast cancer treatment.

The theoretical framework for this study comes from Dodd and colleagues at the University of California, San Francisco. The risk factor, that being chemotherapy, is evaluated with respect to subjective cognitive changes and objective measures of cognitive morbidity.

This study utilizes a two-arm, randomized, placebo-controlled, double-blind, phase III design to evaluate ginkgo biloba, 60 mg twice a day, versus placebo to prevent cognitive dysfunction in 220 women who are beginning adjuvant breast chemotherapy. The primary endpoint is the level of cognitive dysfunction as measured by the High Sensitivity Cognitive Screen. Secondary endpoints include mood and quality of life issues. Data are collected at baseline, at every chemotherapy cycle, after chemotherapy is completed, and at six month intervals out to two years post-treatment.

Baseline data will be presented for the first 76 patients enrolled on the trial. Descriptive, correlational analyses and t-tests were done to look at differences in demographic characteristics and baseline cognitive scores.

There is wide variability on baseline cognitive scores with 50% of the participants scoring outside of the normal range. Postmenopausal, compared to premenopausal, women had statistically significantly lower cognitive scores in some areas. The vigor/activity subscale of the Profile Of Mood States revealed low scores and patients perceived some loss of cognitive function at baseline. The variability of baseline scores raises questions about the available cross sectional cognitive dysfunction data. Funding sources: CA37404-19 CCOP.

ASSESSING FAMILIES NEEDS FOR INTERVENTION. Joan Bickes, MSN, APRN, BC, Margaret Falahee, MSN, APRN, BC, Wayne State University, Detroit, MI; Julie Walker, MSN, APRN, BC, Laurel Northouse, PhD, RN, FAAN, Ann Schafenacker, MSN, RN, University of Michigan, Ann Arbor, MI; Janet Harden, PhD, RN, Esther Bennett, MSN, RN, Darlene Mood, PhD, Wayne State University, Detroit, MI; Elizabeth Galvin, MSN, RN, Karmanos Cancer Institute, Detroit, MI; Susan Holmes, MSN, RN, University of Michigan, Ann Arbor, MI.

Families facing cancer often differ in their need for interventions that are offered within randomized clinical trials. Most studies, however, use "one-size-fits-all" interventions that are not targeted to the varying needs of families. In a time of cost constraint, more studies need to examine families' needs for intervention so that programs of care are delivered to those in need of services.

The purpose of this study was to: 1) describe assessments of family dyads' needs for intervention at the beginning of a randomized clinical trial, 2) determine if their initial needs changed over time, and 3) identify factors associated with varying levels of need.

A stress-coping framework, adapted from Lazarus et al., guided this study.

A secondary analysis of data obtained during a family-based randomized clinical trial was used to address study aims. The sample consisted of patients with advanced breast cancer and their family caregivers who participated in a family intervention (N = 72 dyads) and whose need for intervention was assessed by Advanced Practice Nurses. Dyads were rated on a five-point Need for Intervention Scale during the initial intervention session and at four follow-up sessions. Participants completed standardized instruments: Current Concerns Scale, Symptom Scale, Personal Resource Questionnaire, Mishel Uncertainty in Illness Scale, Beck Hopelessness Scale, Appraisal of Illness and Caregiving Scales, and two quality of life measures (FACT G, MOS-SF 36), all with adequate psychometric properties.

Descriptive statistics and Pearson r correlation coefficients were used for analyses. At initial assessment, 31% of the dyads had low, 27% moderate, and 42% high need for intervention. Over time 41% had a decrease, 20% an increase, 28% no change, and 11% fluctuated in need for intervention. Patients with higher need for intervention scores had more hopelessness, uncertainty, symptoms, negative appraisal of illness, and lower education, support, and overall quality of life. Caregivers with higher need for intervention had more negative appraisal of caregiving and lower mental quality of life.

Implications suggest that families' needs differ and that more effort needs to be directed toward targeting interventions according to dyads' needs. Funding sources: American Cancer Society.

A PILOT TRIAL OF INNOHEP (TINZAPARIN) LOW MOLECULAR WEIGHT HEPARIN FOR PRIMARY PROPHYLAXIS OF VENOUS THROMBOEMBOLISM IN BRAIN TUMOR PATIENTS. Cindy Bohlin, RN, MSN, Kara Penne, RN, BSN, OCN®, Peggy Lyons, RN, BSN, James Vredenburgh, MD, Duke University Health System, Durham, NC.

The incidence of venous thromboembolic complications in patients with malignant gliomas is significantly increased over the general population. Oncology nurses must be aware of this increased risk, not only in patients with malignant glioma, but any malignancy. In many cases it is the nurse who detects the initial symptoms of thromboembolic disease and brings the patient in for diagnosis and treatment.

This study will determine the safety of prophylaxis with Tinzaparin in primary malignant glioma patients. We will determine the incidence of deep vein thrombosis or pulmonary embolism in brain tumor patients who receive Tinzaparin as primary prophylaxis. Overall survival of patients with malignant glioma who recieve Tinzaparin will be analyzed.

Patients with malignant gliomas have a 5–25% risk of developing venous thromboembolic disease. The treatment of venous thromboembolic disease requires systemic anticoagulation and/or mechanical barriers such as the inferior vena caval filter. Systemic anticoagulation carries the risk of CNS hemorrhage, particularly in patients with malignant glioma. Effective prophylaxis should decrease the complications associated with therapeutic systemic anticoagulation in the malignant glioma patient.

A single arm pilot trial will enroll forty patients with newly diagnosed pathologically confirmed WHO Grade III or Grade IV glioma. Patients will receive a single daily subcutaneous injection of Tinzaparin at 4500 IU beginning at least 48 hours after but no later than four weeks from craniotomy or stereotactic biopsy. A primary anaylsis will be conducted at six months and the safety will be determined by the incidence of clinically significant bleeding or CNS hemorrhage. If the patient does not have any hemorrhage, the Tinzaparin will be continued for an additional six months.

A 3-stage design will be used to evaluate the safety of Tinzaparin. A Kaplan and Meier analysis will be used to describe patient survival. The proportion of patients who experience thromboembolic disease will be tabulated.

The study is actively enrolling patients. At the time of this abstract, preliminary findings are not available. If fewer than 4 out of 40 patients experience unacceptable toxicity, Tinzaparin treatment will be considered for incorporation into a phase III trial.

FATHERHOOD AND SMOKING: HOW MEN JUSTIFY THEIR TOBACCO USE.

Joan Bottorff, RN, PhD, John Oliffe, RN, PhD, Joanne Carey, BA, Master's Candidate, Larry Mroz, MSC, PhD student, Cecilia Kalaw, MA, Joy Johnson, RN, PhD, University of British Columbia, Vancouver, British Columbia, Canada; Lorraine Greaves, PhD, British Columbia Centre of Excellence for Women's Health, Vancouver, British Columbia, Canada; Miriam Stewart, RN, PhD, University of Alberta, Edmonton, Alberta, Canada.

Tobacco use is associated with lung cancer and more than a dozen other types of cancer. Better interventions are needed to create the conditions for long-term smoking cessation and limit children's exposure to ETS.

Although many women stop smoking during pregnancy, partner smoking status is one of the strongest predictors for smoking relapse. The purpose of this study was to examine men's justifications of their smoking during their partners' pregnancy and the postpartum period. The study was part of a larger project exploring the influence of couple interactions on women's tobacco reduction.

Theoretical Framework: Symbolic interactionism

In this grounded theory study, interviews with men who smoked were conducted following delivery and at 3–6 months postpartum. Although the interviews focused on the challenges the woman's tobacco reduction posed for couples, the men also shared information about their own smoking.

Data were analyzed using constant comparative methods. Theories related to fatherhood and related concepts were reviewed to enhance theoretical sensitivity.

The men constructed smoking as part of their identity by drawing on rights-based arguments and the pleasures of smoking as necessary for a good life. Although they drew attention to their active lifestyles to negate any ill effects from smoking, others acknowledged their addiction to reduce expectations for cessation. Smoking was presented positively in relation to fatherhood by providing a needed source of emotional stability and a stress reliever. They described smoking strategically to reduce the amount their pregnant partners smoked and as a way to support the child's adjustment to the "toxins of the world."

Men's resolve to continue to smoke, however, was challenged directly or indirectly by their pregnant partners' cessation, by idealized notions of fathering, and by practicing fatherhood. Men reported their non-smoking partners were often jealous and angry about their continued smoking and resented the financial burden of their tobacco use. Men responded to these pressures with vague promises to quit, by minimizing the impact of their smoking and, in some instances, by supporting women's return to smoking. The study findings indicate that nurses should take advantage of opportunities to address men's smoking in the context of pregnancy and postpartum. Funding sources: Canadian Institutes for Health Research.

BREAST BIOPSY EDUCATION: PREPARING AFRICAN AMERICAN WOMEN FOR BREAST BIOPSY.

Patricia Bradley, PhD, RN, CS, Villanova University, Villanova, PA; Catherine Piccoli, MD, Thomas Jefferson University, Philadelphia, PA; Ronald E. Myers, PhD, Thomas Jefferson University, Philadelphia, PA.

Breast cancer, the second leading cause of cancer death among African American women (AAW), is often diagnosed as a result of a biopsy procedure performed following an abnormal mammography result. Patient lack of knowledge, anxiety about undergoing a breast biopsy, and perception of inadequate social support has been associated with delay in help-seeking among women experiencing breast cancer symptoms.

Primary aims of the study were to: 1). develop an educational counseling intervention that involved a nurse educator and AAW who were recommended to have a breast biopsy. 2). pilot test the intervention and 3). assess the extent to which the intervention affected biopsy-related knowledge, stress, and perceived social support among participating women.

This study was conducted in two phases using self-regulation theory as a guide.

In phase one, an educational booklet and a counseling session protocol were developed and pre-tested using a focus group format with AAW (n = 20) with a history of breast cancer. Phase two of the study used a one-group, pre/post-test design to pilot-test the efficacy of the educational intervention with 23 AAW who were recommended to have a breast biopsy. Eligible women provided consent, completed a baseline and endpoint survey, and participated in an educational counseling session and a post-biopsy follow-up telephone interview.

Frequencies were tabulated for the sociodemographic, baseline and endpoint variables. The non-parametric Wilcoxon test for paired data was used to assess pre/post differences of participants' scores on knowledge, biopsy-related stress, and perceived level of social support measured on baseline and endpoint surveys.

Prior to biopsy, women expressed concern regarding the biopsy procedure and possible diagnostic outcome. After exposure to the intervention, biopsy-related knowledge, response efficacy and perceived support tended to increase. Participants rated the intervention as highly informative, useful and relevant. This study addressed the need to develop and test a theory-based intervention that can be used to prepare women for the breast biopsy experience. Findings from this study can be used to design a controlled trial to assess the efficacy of the intervention relative to knowledge, anxiety, social support and time to biopsy. Funding sources: NCI Special Populations Network.

ITEM ANALYSIS OF THE BLESCH MENS HEALTH BELIEF SURVEY.

Carlton Brown, RN, MSN, AOCN®, Walter Reed Army Medical Center, Washington, DC.

The purpose is to 1) present findings related to the item analysis of the Blesch Men's Health Belief Survey (MHBS) 2) to present the Cronbach alpha coefficients from other studies using the MHBS, 3) to discuss particular issues related to the psychometric evaluation of item analysis. The MHBS is a tool which investigates knowledge of testicular cancer and the practice of testicular self-examination.

All measurement tools are subject to some form of measurement error, especially those that examine behavior. Random error results from chance variations in the measurement tool and from the occurrence of some chance extraneous factor that affects all measurements made with the same instrument. One cause of random error can be attributed to poor internal consistency which deals specifically with the homogeneity of a scale. Internal consistency can be equated using Cronbach's coefficient alpha through item analysis.

Steps of item analysis will be presented. Item analyses were conducted on the four subscales (perceived susceptibility, perceived benefits, perceived susceptibility, and perceived seriousness) making up the MHBS. On the barriers subscale the Cronbach alpha coefficient was 0.7984, the benefits subscale .8424, the seriousness subscale .345, and susceptibility subscale 0.6361. Comparisons were also made to Cronbach alphas from other studies using MHBS in research.

There is concern in the low alpha in the seriousness scale. A literature review was done of other item analysis from other studies using the Blesch

tool. Interestingly, the review revealed possible problems with the seriousness subscale consistently across studies. These low alphas suggest that the questions in this subscale may need revision. Caution should be taken when presenting significant findings using this current seriousness subscale because it doesn't appear to be particularly reliable.

There is a significant requisite for a measurement tool that measures changes in practice. In order to use the MHBS in future studies, the seriousness subscale must be revised. Since the other three subscales (barriers, benefits, and susceptibility) have evidence of strong internal consistency and therefore, reliability, with revision to the seriousness subscale, MHBS may prove adequate in measuring changes in knowledge and practice in men at risk for testicular cancer. Funding sources: Triservice Nursing Research Grant.

BENCHMARKING AFRICAN AMERICAN RECRUITMENT TO CANCER CONTROL TRIALS WITH SOCIAL MARKETING AND DIRECT RESPONSE RADIO. Deborah Watkins Bruner, RN, PhD, Andre Konski, MD, Steven Feigenberg, MD, Natalie Dewberry-Moore, MS, Julia Goplerud, BS, Fox Chase Cancer Center, Philadelphia, PA.

Ethnic diversity in recruitment is a vital prerequisite to eliminating health disparities through cancer control trials.

The Prostate Cancer Risk Assessment Program (PRAP) is a research/screening program for those at high-risk for the disease. Eligibility is based on age (35–69 yrs), family history, and ethnicity (African American (AA), regardless of family history). AAs, having among the highest prostate cancer (PC) incidence and mortality in the world, are a focus of PRAP recruitment and account for 59% (296/498) of participants. Study aims were to develop and assess response to a theory-driven, ethnically appropriate direct response radio (DRR) message to promote information seeking and recruitment of AA males into PRAP.

A DRR advertisement for risk assessment and screening was designed guided by a conceptual framework that included Social and Relationship Marketing.

Focus groups were used to help develop messages. A 60-second ad aired for a total of 154-spots over 10 wks between 1/5/04–3/14/04. Assuming an average daily audience of 78,314 listeners on two primarily AA stations such that (as per the radio stations) 25% are males between 35 and 64 yrs and 86% are AA, estimated daily sample size of eligible AA men reached by the ads was 17,033.

103 telephone responses, most of whom were AA, were elicited from 1/5/04 through 5/31/04: 73 men requested information only, 5 who desired screening were ineligible, 25 were recruited (12 of these men did not keep their appointment [11 black, 1 white], and 13 were accrued [10 black, 3 white]). Assuming stable listenership over the airing period the results indicate a 0.5% response rate to the DRR ads.

An extensive search of the literature was unable to find comparable reporting. One marketing analysis showed that the best response to DRR related to retail sales was 9.4% of total audience. Due to obvious differences between retail sales and recruitment for PC control trials, one would expect a much lower return for the latter. Results of this study can serve as a benchmark for future comparisons of the success of DRR to improve information seeking and recruitment of AA men into cancer control trials.

SLEEP AS DESCRIBED BY BEREAVED CAREGIVERS. Patricia Carter, PhD, RN, CNS, University of Texas at Austin, Austin, TX.

Sleep is a natural, yet poorly understood process. Nurses can help bereaved caregivers understand the importance of sleep in bereavement.

Bereaved caregivers are often lost to services. Sleep quality may have a significant impact on caregivers' abilities to move through their bereavement. The purpose of this project was to elicit descriptions of sleep quality in bereaved caregivers and to understand how sleep quality related to movement through bereavement.

A phenomonological frame of reference was used to guide this study to seek the lived experience of bereaved caregivers as it related to sleep quality.

Bereaved caregivers were recruited from a local Hospice. All participants cared for their patient at home, were be able to speak, read and write English,

and were at least 21 years old. Participants were interviewed at a location of their convinence by a PhD prepared nurse. Demographics, self-report sleep (PSQI) and depressive symptom (CESD) measurments were taken before the interview. Participants were asked to provide descriptions of their sleep during care and after the loss of the patient. Participants were also asked to describe their impressions of how their sleep impacted their physical and social health, qualtiy of life, and bereavement. Interviews were transcribed verbatum and coded line by line to identify categories and themes by two PhD prepared nurses familiar with qualitative methods. Findings were brought back to participants for validation.

Descriptive analysis were performed on demographics, PSQI, and CESD data. Narratives were analyzed using open coding and line by line anlaysis to arrive at categories and themes to represent the data.

Findings suggest that sleep is severely impared in bereaved caregivers within 6 months of the loss of the patient. Further research is indicated to explore the patterns of sleep change over time in this population and to design behavioral sleep interventions to improve sleep quality in this vulnerable population. Educational and practice implications include the need to educate nurses to understand the impact loss of a patient has on the surviving caregivers and how sleep may influence the caregivers' movement through bereavement. Funding sources: Center for Health Promotion and Disease Prevention Research, University of Texas at Austin, School of Nursing.

RECRUITMENT RETENTION RELIABILITY: THE CHALLENGES OF CONDUCTING A RANDOMIZED CLINICAL TRIAL. Julie Chamberlain, MS, RN, Ann Berger PhD, RN, AOCN®, University of Nebraska Medical Center, Omaha, NE.

The purpose of this presentation is to provide a model to guide the PD in the development of strategies to meet the challenges of recruitment, retention and reliability within a RCT. A second purpose is to encourage dialogue and networking to foster growth in this nursing role.

The role of the Project Director (PD) is critical to the success of a randomized clinical trial (RCT) and presents many challenges that have no specific answers. Today with HIPAA regulations and IRB constraints, recruitment and retention are daily challenges. Reliability requires great attention to the operation of the RCT, delivery of the intervention and management of the database. Nurses have an excellent opportunity to be mentored through the research process and lead the research team, yet many of these day-to-day challenges have no written guidelines for practice and can consume large amounts of time and effort.

The center of the model contains the participant with the focus on recruitment. HIPAA regulations have made recruitment a challenging process that requires much effort and creativity in establishing clinical relationships and marketing the study. Two sections surround the center: the first section is retention of participants in either arm of the study. In addition to receiving the intervention or the attentional control, the participant may receive additional support and incentives. The second section is operational and the challenge is maintaining reliability of the study. Data collection, entry and management are included here. Team meetings continue, standardization of procedures is ensured and on going reports are sent to review boards that oversee the study.

Using this model can assist the PD in implementing plans and procedures to meet the challenges of recruitment, retention and reliability and promote networking and dialogue to foster growth in this nursing role.

The multifaceted role of the PD overlies the entire model. The PD must continually communicate, coordinate, educate and evaluate in order to successfully manage and meet the challenges of a RCT. To facilitate professional growth, the PD will benefit from dialogue and networking with mentors in the field. Funding sources: NIH/NINR RO1 NR007762-03.

ASSESSING COGNITIVE FUNCTION IN WOMEN WITH AND WITHOUT BREAST CANCER USING FUNCTIONAL MAGNETIC RESONANCE IMAGING (FMRI). Bernadine Cimprich, PhD, RN, FAAN, Barbara Therrien, PhD, RN, Patricia Reuter-Lorenz, PhD, Daniel Normolle, PhD, Patricia M. Clark, MSN, RN, Catherine Vincent, PhD, RN, Daniel F. Hayes, MD, Douglas Noll, PhD, Robert Welsh, PhD, James Nelson, PhD, University of Michigan, Ann Arbor, MI.

Cognitive impairment is a common side effect of adjuvant chemotherapy for breast cancer having detrimental effects on daily functioning, valued life roles, and quality of life.

The incidence of persistent cognitive deficits following adjuvant chemotherapy for breast cancer ranges from 17%–35%, although the underlying causative brain mechanisms are not well understood. The purpose of this pilot study was to determine the feasibility of using fMRI to assess attention and working memory in women newly diagnosed with early stage breast cancer.

The study focused on two basic cognitive processes, attention and working memory, because they are prerequisites for effective function in daily life.

Ten women with Stage I or II breast cancer (31–61 years) prior to adjuvant chemotherapy and 10 healthy controls (31–64 years) were recruited. Subjects completed a Verbal Memory Task (VMT) with four levels of task demand to assess brain activation patterns related to attention and working memory during fMRI.

Descriptive analyses of VMT reaction time and accuracy were performed. Brain image analyses were performed using the SPM99 analysis package.

Preliminary behavioral and imaging analyses are completed for 7 patients and 7 controls. Accuracy on the VMT for patients was 88%–98% and for controls, 92%–97%. Patients had significantly ($p < .05$) slower reaction times in the more demanding task conditions. High vs. low demand conditions showed group differences in brain function (using a statistical threshold of $p < .01$). Controls showed expected activation in the medial frontal cortex (MFC) in high demand conditions. In contrast, in the high demand conditions, patients showed increased activation not only in the MFC but also in the left inferior frontal gyrus, right lateral inferior frontal areas, left parietal and right parietal areas. Preliminary findings show a trend of slowed performance on a working memory task in a group of women with early stage breast cancer prior to adjuvant chemotherapy. Patients also showed recruitment of additional components of attention/working memory circuitry in both hemispheres in order to perform the more demanding task. Behavioral and imaging findings in this study suggest vulnerability in attention and working memory systems in middle age women with breast cancer prior to adjuvant chemotherapy. Funding sources: Research Initiative Funds from University of Michigan fMRI Research Laboratory and School of Nursing.

IN TUNE: PATIENTS FROM THREE ETHNIC GROUPS DESCRIBE NURSING EXPERTISE. Marlene Cohen, RN, PhD, FAAN, Jane Mahoney, RN, DSN, Daniel Lara, University of Texas Health Science Center at Houston, School of Nursing, Houston, TX; Guadalupe Palos, RN, LMSW, DrPH, Elizabeth Carlson, DSN, MPH, RN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Understanding patients' experiences with care is an important supplement to professional discussions of what is essential in effective nursing care. Much research has included too few persons of diverse ethnicity to know how experiences are similar and different for different groups.

Descriptions of experiences of persons of diverse cultures who had blood and marrow transplantation (BMT) included descriptions about providers that revealed aspects of nurses' behaviors and attributes that were both helpful and not helpful. The purpose of this presentation is to describe and illustrate aspects of expertise that nurses can use to provide purposeful patient centered care in a way that patients described as important and useful to them.

Hermeneutic phenomenological philosophy guided this study.

Hermeneutic phenomenological research, the study of how people interpret their lives and make meaning of their experiences, guided this portion of a larger study. Interviews were completed with 20 Caucasians, 20 African Americans, and 20 Latinos patients (interviewed by bilingual English-Spanish staff) 5 times over the first 100 days of their BMT. Interviews continued until data were saturated.

Data were analyzed by a culturally diverse research team using hermeneutic phenomenological research methods. Transcripts were coded into logical categories, data in categories were compared, and the category of nurse expertise emerged as a key aspect of the experience.

These BMT patients described nurses' expertise as including four aspects: a strong knowledge base, technical expertise, intuitive abilities to assess and

intervene effectively, and interpersonal expertise, which included human connection, empathy, caring, and the intention of helping. The detailed examples patients provided illustrated that nurses who were "in tune" with them had an awareness that is described as a result of reflective practice. They were able to assess and intervene effectively because they understood both verbal and non-verbal cues. These data did not differ among the ethnic groups, indicating that culturally competent expert care does not differ for these groups. Nurses guided by these aspects of expertise will be more likely to note the aspects of care that patients valued that are sometimes overlooked. Funding sources: This project was funded by grant RO1 NR05188-01A2 from the National Institutes of Health, National Institute of Nursing Research.

A RANDOMIZED TRIAL OF HOME-BASED EXERCISE FOR PATIENTS RECEIVING INTENSIVE TREATMENT AND EPOETIN ALFA FOR MULTIPLE MYELOMA. Ann Coleman, PhD, RNP, AOCN®, Sharon K. Coon, PhD, RN, AOCN®, Kathy C. Richards, PhD, RN, Elias J. Anaissie, MD, MIRT, C. Beth Stewart, BS, Jennifer L. Shaw, MPH, MAP, BA, University of Arkansas for Medical Sciences, Little Rock, AR.

A home-based individualized exercise program for patients receiving intensive treatment may decrease cancer-related insomnia and fatigue.

Approximately 50% of patients with cancer have insomnia and up to 100% have fatigue. At least 60% of patients with multiple myeloma (MM) are anemic (hemoglobin [Hb], 12 g/dL) at diagnosis. Nearly all become anemic during intensive treatment for MM and many require red blood cell (RBC) transfusions. Anemia can contribute to fatigue, the most common and often the most distressing symptom for patients with cancer. The purpose of this study is to determine if a home-based exercise program incorporating aerobic and strength resistance training will decrease fatigue and improve nighttime sleep and performance in patients receiving intensive treatment for MM and epoetin alfa therapy.

Winningham's theory of cancer-related fatigue provides the theoretical rationale for this study. Too much or too little rest and/or too much or too little exercise increases fatigue and results in decreased activity, which then leads to physiological deconditioning and increased fatigue. The resulting negative feedback loop results in a downward spiral toward disability. Aerobic exercise decreases fatigue for individuals with cancer and improves sleep for healthy individuals. Patients with cancer also experience skeletal muscle wasting; maximum benefit may be obtained when aerobic exercise is combined with strength resistance training.

This randomized controlled trial of a 15-week experimental period with 2 groups (exercise or usual care) with measurements at baseline, before stem cell mobilization, and after stem cell collection has a planned enrollment of 200 patients. Measurements, using instruments with established validity and high reliability, comprise fatigue (Profile of Mood States and Functional Assessment of Cancer Therapy-Fatigue), minutes of nighttime sleep (Actigraph), aerobic capacity (6 Minute Walk Test), muscle strength (weight lifted in pounds using dynamometer), Hb levels and RBC transfusions.

Available data from all patients completing study (currently 134) will be included in this preliminary analysis using descriptive statistics and repeated measures analysis of variance.

Preliminary analyses to date show trends towards increased nighttime sleep, better performance (aerobic capacity and muscle strength), and fewer RBC transfusions in the exercise group compared to the usual care group. Funding sources: UAMS College of Nursing Intramural Grant, Arkansas Tobacco Research Fund, Ortho Biotech, Inc.

CHALLENGES TO DEVELOPING A SUPPORT INTERVENTION FOR African American WOMEN WITH BREAST CANCER. Doris Coward, RN, PhD, University of Texas at Austin, Austin, TX.

A needs assessment and recruitment strategies consistent with ONS Multicultural Outcomes (ONS, 1999) guidelines were used to document the need for, and to adapt, a support group intervention in a Central Texas urban area for African American women newly diagnosed with breast cancer. The purpose of this poster is to describe challenges encountered in adapting, and recruiting for, the support group.

Differential treatment and decreased survival in African American women with breast cancer may be related in part to lack of knowledge and assertiveness in newly-diagnosed women (Ashing-Giwa and Ganz (1997). Promotion of breast cancer advocacy includes empowering survivors to advocate for themselves and for other women. Although cancer support groups are traditional resources for the education and support that promotes empowerment, few minority persons participate (Barg & Gullatte, 2001). Another approach may be necessary to empower African American women to effectively advocate for treatment information and appropriate care.

Local African American breast cancer survivor leaders perceived a need for education and support for newly diagnosed women. However, few such women participated in local cancer education and support resources, including a Self-Transcendence Theory Breast Cancer Support Group Project developed by a CNS researcher specifically for newly diagnosed women. The CNS partnered with the survivor leaders to adapt the theory-based group specifically for local African American women. While recruiting for support group participants, the CNS helped plan, and presented at, monthly cancer education programs sponsored by Sisters Network, a national African American breast cancer survivors' organization. However, over a two year time period not enough newly-diagnosed women were recruited to conduct and test a support group intervention specifically for African American women.

Accruing participants from a relatively small minority population is problematic even when collaborating with population leaders. Starting early to build credibility and trust in that population, being flexible with eligibility criteria, starting with pre-experimental studies, and even paying participants may be required.

Although adapting and testing effective cancer education and support interventions for African Americans is needed, nurse researchers may encounter barriers to conducting such projects. Lessons learned from this project may facilitate recruitment of participants and successful project completion in future projects. Funding sources: Funded by NIH (NINR and NCCAM).

THE SYMPTOM CLUSTER OF PAIN, FATIGUE, DEPRESSION, AND SLEEP DISRUPTION IN WOMEN WITH BREAST CANCER. Jean Davis, PhD, RN, April Vallerand, PhD, RN, Kimberly Hart, MD, Wayne State University, Detroit, MI.

Patients with cancer rarely present with a single symptom. There is a need to assess multiple symptoms in patients experiencing pain because pain is frequently accompanied by depression, fatigue, and sleep pattern changes. There is evidence that patients with multiple symptoms have poorer outcomes. Interleukin 6 (IL-6), a cytokine related to sick behaviors and changes in sleep patterns, may play a role in modulating the symptom cluster of pain, fatigue, depression, and sleep disruption.

Although close to 50% of cancer patients receiving therapy reportedly suffer from symptoms of pain, fatigue, depression, and sleep disruption, little research has been done to study this symptom cluster. The purposes of this study are to: (1) determine the relationships among the symptoms of pain, depression, fatigue and sleep disruption as a symptom cluster in women diagnosed with breast cancer undergoing radiation therapy, (2) determine blood levels of IL-6 in these women, and (3) determine the relationships among IL-6 and the symptoms of pain, fatigue, depression, and sleep disruption.

The Conceptual Model of Symptom Management guides this study. The dimension of symptom experience will be explored in terms of a symptom cluster.

A descriptive, correlational design will be employed.

Sixty pre-menopausal women 18 years of age and older diagnosed with DCIS Stage 1b or less, post-lumpectomy, and receiving radiation therapy will be enrolled. The following standardized instruments with adequate reliability and validity will be used: Brief Pain Inventory, Center for Epidemiological Studies–Depression Scale, Brief Fatigue Inventory and the Pittsburgh Sleep Quality Scale. IL-6 blood levels will be measured by ELISA radioimmunoassay techniques.

Informed consent will be obtained from eligible participants. Scales will be administered and IL-6 blood levels will be drawn during week 5 of radiation therapy.

Subject characteristics will be analyzed using measures of central tendency and dispersion. Descriptive and appropriate correlational statistics will be employed to analyze the major variables.

Assessing symptom clusters, especially those of pain, fatigue, depression and sleep disruption, in cancer patients is essential to optimal symptom control from diagnosis throughout the course of the illness. Funding sources: Detroit Medical Center/Wayne State University College of Nursing Scholars Award.

TREATING CHEMOTHERAPY-INDUCED NAUSEA WITH ACUPRESSURE. Suzanne Dibble, DNSc, RN, Jill Israel BSN, University of California San Francisco, San Francisco, CA; Misha Cohen, OMD, LAc, Chicken Soup Chinese Medicine, San Francisco, CA; Judy Luce, MD, University of California San Francisco, San Francisco, CA.

Although the newer antiemetic agents have controlled a notable portion of the vomiting associated with chemotherapy administration, delayed nausea continues to be a significant problem.

Therefore, the specific aims of the current randomized clinical trial (5R01CA084014-03) are to compare differences in the nausea experience and intensity among three groups (Total N = 237) undergoing doxorubicin hydrochloride (Adriamycin®) and cyclophosphamide with or without fluorouracil chemotherapy for breast cancer. The groups are those receiving a) usual nausea care plus Active Acupressure via finger pressure on the nei guan point (P6), b) usual nausea care plus placebo acupressure and c) usual nausea care.

Acupressure is based upon the concept that the body is activated by "Qi" or a type of energy that travels along pathways at differing depths of the body known as "meridians". Along the meridians are points known as "acu" points in Chinese, which are the pumping stations for the "Qi". These meridians, similar to a river, can become deficient, excessive, stagnant, or wayward. Applying pressure (acupressure) or inserting a needle (acupuncture) into one of these points can relieve imbalances by either stimulating or easing energy flow. Acupressure is the older of the two techniques; a Chinese home remedy that gave rise to the more "technological" approach of acupuncture.

Using twenty-two oncology settings, participants were recruited who had experienced nausea with their previous chemotherapy treatment. They were randomly assigned to treatment groups. Stratification criteria included regimen and site. The interventions were conducted by carefully trained research assistants. All participants will be followed on a daily basis for a cycle of chemotherapy (a cycle is usually 21–28 days).

Analyses will be done using repeated measures analysis of variance and analysis of covariance, when baseline data is an appropriate covariate.

A strength of this study is that it does not pit modern Western and Chinese medicine against each other to determine which is more effective. All participants will continue to receive their Western medical care, but the added value of acupressure will be explored. Preliminary results of this trial will be presented. Funding sources: 5R01CA084014-03.

CARDIOVASCULAR FITNESS, BODY COMPOSITION, AND MUSCLE STRENGTH IN CANCER PATIENTS DURING AND AFTER CANCER TREATMENT. Marylin Dodd, RN, PhD, FAAN, Patricia Painter, PhD, Christine Miaskowski, RN, PhD, FAAN, Steven Paul, PhD, John Duda, RN, Maria Cho, RN, PhD, University of California San Francisco School of Nursing, San Francisco, CA.

Preliminary studies report the benefits of exercise on cancer treatment related fatigue, but not on: (1) cardiovascular fitness, measured by peak oxygen uptake (VO2peak); (2) body fat composition, measured by Dual X-Ray absorptiometry (DEXA); or (3) muscle strength, measured by isokinetic muscle testing.

The purpose of this preliminary analysis is to test for changes in cardiovascular fitness, body fat composition, and muscle strength during and after cancer treatment.

The data for this preliminary analysis are from a larger randomized trial testing the effectiveness of an individually tailored exercise intervention (projected sample is 100). The integrated Fatigue Model provided the framework.

Sample: Eighty women with breast cancer (mean age = 49 years (SD=9.5)). Subjects were tested at three time points: at baseline, which was between their first and second chemotherapy treatments (T1), after completion of cancer treatment (T2), and a duration equal to treatment time following cancer treatment (T3).

Measures: Symptom-limited treadmill tests measure oxygen uptake (VO2peak), DEXA scans assess body composition, and isokinetic muscle function testing measures muscle strength (quadriceps peak torque). The isokinetic test selected for this analysis is knee extension peak torque at 180 degrees/sec.

A repeated measures ANOVA was conducted to determine the differences in the average VO2peak scores, body fat percentage, and peak torque over the three time points.

Results: There was a significant main effect of time in: (1) the average VO2peak scores, $F_{2,75} = 10.65$, $p < .01$ (T1 = 25.21 + 6.4; T2 = 24.19 + 6.1; T3 = 25.94 + 6.61 ml/kg/min); (2) the average body fat composition, $F_{2,75} = 10.63$, $p < .01$ (T1 = 35.64 + 8.9; T2 = 36.5 + 8.7; T3 = 37.13 + 8.7); and (3) the average peak torque, $F_{2,73} = 3.34$, $p < .05$ (T1= 47.32 + 14.9; T2 = 46.54 + 14.7; T3 = 48.68 + 13.6 ft/lb). Maximal exercise testing and muscle strength testing are well tolerated in patients undergoing cancer treatment. Overall, subjects undergoing cancer treatment tolerated maximal exercise without problems. Subjects experience reduced cardiovascular fitness and increases in body fat percentage and muscle strength during their treatment (T2) and return to baseline fitness and muscle strength after treatment (T3), while body fat (%) remains elevated. Funding sources: NIH, NCI CA 83316.

THE ASSESSMENT OF BARRIERS TO SYMPTOM REPORTING FOR WOMEN WITH OVARIAN CANCER.
Heidi Donovan, PhD, RN, Margaret Fields, RN, BSN, Yookyung Kim, PhD, Susan Sereika, PhD, University of Pittsburgh School of Nursing, Pittsburgh, PA; Joseph Kelley, MD, University of Pittsburgh Cancer Institute and Magee Womens Hospital, Pittsburgh, PA.

Women with ovarian cancer experience multiple concurrent symptoms from disease and treatment, but many under-report their symptoms to health care providers.

Multiple studies have identified patients' beliefs that act as barriers to reporting single symptoms (e.g. pain, fatigue), but there is no instrument designed to assess barriers to reporting multiple, concurrent symptoms. The purpose of this study is to conduct psychometric evaluations of two versions of the Symptom Management Barriers Questionnaire (SMBQ). Version 1 includes separate questions for each of a subject's three "most noticed symptoms"; Version 2 includes global questions that address "overall symptoms".

Leventhal's self-regulation theory which proposes that persons' illness-related representations (beliefs) drive coping with health threats.

This study follows a single group, descriptive, correlational, within-subjects design. Subjects are 60 women experiencing > 2 symptoms associated with ovarian cancer or treatment. Immediately after an appointment with a physician, subjects complete valid, reliable measures of symptom severity, symptom reporting, symptom interference with life activities, in addition to both versions of the SMBQ. Subjects are randomized to order of completion of the two SMBQs. Subjects also complete both SMBQs, in the same order, two weeks later to evaluate test-retest reliability.

Data collection is in progress. Twenty-one women have been recruited to date. The following findings will be presented: 1) Internal consistency and test re-test reliability of the two versions of the SMBQ (inter-item and item-total correlations, Cronbach's alpha, intraclass correlation coefficient); 2) Within-subject comparisons between the scores on the "overall symptoms" SMBQ and mean scores from the three "most noticed symptoms" SMBQ (t-tests); 3) Predictive validity of both SMBQs, by determining whether barrier scores on each SMBQ are related to symptom reporting and symptom interference with life activities (correlation and regression analyses); and 4) patient preference between the two versions (descriptive statistics).

Development of an instrument to assess barriers to multi-symptom reporting is an important first step in optimizing symptom management for women with ovarian cancer. Funding sources: Center for Research in Chronic Disorders, University of Pittsburgh.

DEVELOPMENT OF AN INSTRUMENT TO MEASURE INDEPENDENT NURSING ACTIONS IN COOPERATIVE CARE.
June Eilers, PhD, APRN, BC, Nebraska Medical Center, Omaha, NE; Judith A. Heermann, PhD, RN, Margaret E. Wilson, PhD, CPNP, Jan R. Attwood, PhD, RN, University of Nebraska College of Nursing, Omaha, NE.

Significance: Cooperative Care (CC) is a model of care based on a partnership between a transplant recipient/lay caregiver dyad and healthcare professionals. Preparation of the lay caregivers to assume acute care responsibilities is a key nursing intervention. Identification and measurement of independent nursing activities, which aim to improve outcomes, is critical to evaluate interventions designed to educate/prepare lay caregivers.

Problem/Purpose: Although lay caregivers administer direct care to acutely ill transplant recipients, nurses remain ultimately responsible for outcomes. The purpose of this portion of a multi-phase study is to develop an instrument that captures the nature and dose of indipendent oncology nursing actions in CC.

Theoretical/Scientific Framework: The nursing process provides the broad theoretical framework for this study that focuses on the independent nursing activities considered to be within nursing's scope of diagnosis and treatment.

Methods: The design of the multi-phase instrument development project is inductive and descriptive using both qualitative and quantitative approaches. In the first phase of the study, qualitative data provided by the 12 CC nurses during care episodes guided the inductively determined domains and categories of independent nursing actions. In this phase of the study, items are being generated and will be piloted tested for clarity, apparent internal consistency, and content validity using the CC nurses as "content expert" raters. In analyzing ratings for clarity, the proportion of "clear" ratings per item has to meet the criterion level of .75–.80 of the raters. Proportions are computed and treated in the same way for apparent internal consistency and content validity procedures.

Data Analysis: Interpretation of the data for all three rating procedures occurs simultaneously. The decisions about clarity, apparent internal consistency, and content validity will be made together. However, an item that does not meet criterion on one rating will not be retained in the instrument. Proportions for retained items will be recomputed, with revisions made until the instrument meets criteria.

Implications: The instrument being developed will aid nursing in communicating CC nursing to others. Potential uses of the tool include testing of interventions designed to educate/prepare caregivers for their role as lay caregivers. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Bristol-Myers Squibb Oncology.

RELATIONSHIPS AMONG OBJECTIVE SLEEP PARAMETERS, OBJECTIVE HOT FLASHES AND SUBJECTIVE HOT FLASHES IN BREAST CANCER SURVIVORS.
Julie Elam, RN, MSN, OCN®, Janet S. Carpenter, RN, PhD, Indiana University, Indianapolis, IN.

Sleep disturbances are an ONS research priority. Findings suggest sleep disturbances are common in menopausal breast cancer survivors. Previous research found that the majority of breast cancer survivors (BCS) having hot flashes reported poor sleep quality and high sleep disturbance on subjective questionnaires (73%). However, the relationship between sleep and hot flashes has not been validated with objective measures in BCS. Objective sleep quality has also not been fully examined in relation to subjective hot flashes in BCS.

To examine relationships between objective sleep parameters (sleep efficiency, wake bouts, and mean wake bout time) and objective and subjective hot flashes.

The Lenz Theory of Unpleasant Symptoms served as the study framework. The three interrelated components of the model (symptoms experienced (number of wake bouts), influencing factors that cause the symptoms (hot flashes), and consequences of the symptoms (poor sleep efficiency, high number of wake bout minutes) are studied here.

Two-week baseline data from a randomized, placebo-controlled, cross-over study testing the efficacy and side effects associated with use of an SNRI for hot flashes, mood, fatigue, sleep, and quality of life in breast cancer survivors. Data will be analyzed from 2 nights wrist actigraphy (objective sleep), two nights sternal skin conductance monitoring (objective hot flashes), and diary entries (subjective hot flashes).

Sample demographics will be analyzed using frequencies and descriptive statistics. Correlations between sleep (percentage sleep efficiency, number of wake bouts, and mean time of wake bouts in minutes) and hot flashes (objective and subjective frequency) will be reported.

Expected findings between sleep and hot flashes include: (1) negative correlation between % sleep efficiency and hot flash frequency (objective and subjective), (2) positive correlation between number of wake bouts and hot flash frequency (objective and subjective), and (3) positive correlation between mean wake bout time and hot flash frequency (objective and subjective). Findings will provide increased knowledge regarding the relationship between sleep and hot flash frequency in BCS and may be useful for guiding future descriptive or intervention research. Funding sources: Supported by NINR/NIH grant R01 NR05261.

HEALTH CARE ACCESS: POST-PROSTECTOMY SURVEILLANCE. Elizabeth Ercolano, Yale University School of Nursing, New Haven, CT.

Research has noted that disparaties in access for cancer care exist with few studies about determinants to access during cancer post-treatment follow-up.

A descriptive study was designed. The major aims were to describe patient, provider, institution, and health plan characteristics suspected to influence access to cancer follow-up services. Additional aims were to explore the relationships among these characteristics to the utilization of follow-up services and to examine the fit of this follow-up practice with National Comprehensive Cancer Network (NCCN) and American Cancer Society (ACS) guidelines.

A review of the empirical literature about cancer care access was done, noting gaps in the research about access to follow-up services. A framework of health care access was adapted to cancer care and used to guide the study design.

A descriptive study was undertaken and a survey was created specific to post-treatment follow-up, since none existed. Content validity was established for the survey. The subjects were men, treated by radical prostatectomy, in survival for 3–5 years. Data were collected by phone and written interviews.

The patient, provider, institution, and health plan characterisitics were described. The follow-up services used by the men were also described. Chi-square and Anovas were performed to explore the relationships of these characterisitics to each other and to the utilization of follow-up services. Each patient's care was evaluated for "fit" with the national guidelines.

Complete data was obtained for 57 men, the majority who were Caucasian. All men had access to regular follow-up care done principally by a urologist associated with a cancer center. The follow-up consisted of ongoing physician visits and use of surveillance services such as PSA testing and digital rectal examinations. All men had health insurance except one who was self-pay. Health plans used referrals, co-pays and deductibles which did not deter access. Access to providers resulted in the monitoring of late-term effects such as incontinence and erectile dysfunction experienced by more than half of the men. The majority of the men's care was consistent with national guidelines. Future research should include longitudinal and prospective studies about access to follow-up services for other cancers, both genders, different health systems, ethnically diverse populations, and use of national guidelines. Funding sources: Columbia University School of Nursing Alumnae Association, partial funding.

SLEEP PATTERNS OF WOMEN RECEIVING ADJUVANT CHEMOTHERAPY FOR BREAST CANCER. Jeanne Erickson, RN, MSN, AOCN®, Debra Lyon, PhD, RN, Diana Taibi, PhD(c), RN, Susan Kennel, PhD(c), RN, University of Virginia, Charlottesville, VA.

Women receiving adjuvant chemotherapy for breast cancer experience a number of troubling side effects during the treatment period. Fatigue, sleep disturbances, anxiety, and depression are common symptoms in this population and contribute to a lower quality of life.

While progress has been made to prevent and manage these problems, patients often report incomplete relief of these distressing symptoms. This study is a preliminary exploration of sleep data from a randomized controlled trial to test the effects of microcurrent cranial stimulation on distressing symptoms in women receiving adjuvant chemotherapy for breast cancer.

Sleep is an active process that serves several physiological functions, including energy restoration, rejuvenation, and memory consolidation. Problems related to sleep and sleep disturbances are troubling symptoms for patients with diverse illnesses, including breast cancer. Women receiving chemotherapy for breast cancer report difficulty falling asleep, increased night-time awakenings, and difficulty falling back asleep, resulting in lower sleep efficiency. Sleep disturbances are associated with higher levels of fatigue, which compromise quality of life in this population.

The larger study is a longitudinal, repeated measure design, with a randomized sample of 50 women receiving adjuvant chemotherapy for breast cancer. Sleep behaviors are measured weekly using the General Sleep Disturbance Scale (GSDS) and at three intervals using actigraphy over three cycles of chemotherapy. Actigraphy is a valid and objective measure of sleep, and the GSDS has evidence of reliability and validity, particularly in women.

Longitudinal scores on the GSDS and actigraphic measures of sleep will be graphically displayed for an initial sample of at least 4 women to show their patterns of sleep and sleep symptoms over 3 cycles of adjuvant chemotherapy. Future analyses will include correlations to explore differences in measures over time, and effect size will be examined via pair-wise comparisons of selected variables.

These preliminary findings will add to knowledge about sleep disturbances experienced by women over a course of adjuvant chemotherapy for breast cancer. Clinicians can incorporate this information into their practice as they implement interventions to improve sleep in this population. Funding sources: American Cancer Society and National Cancer Institute.

OSTEOPOROSIS RISK, SYMPTOM DISTRESS, AND INTEREST IN STRENGTH TRAINING IN MEN RECEIVING ANDROGEN ABLATION THERAPY. Melissa K. Fulton, RN, MSN, Urology, PC, Lincoln, NE; Carol Ott ,RN, OCN®, PhD, University of Nebraska Medical Center College of Nursing, Kearney, NE; Melissa K. Fulton, RN, MSN, Urology, PC, Lincoln, NE.

While androgen ablation therapy (AAT) has decreased death rates from prostate cancer, it also increases the risk of osteoporosis.

Purposes are to: a) describe the prevalence of risk factors for osteoporosis in men receiving AAT; b) compare functional status and symptom distress between those interested and not interested in a future strength training (ST) study; and c) examine relationships among self-efficacy for ST, functional status, and symptom distress.

Bandura's Self-Efficacy Theory (1997) was applied to the behavior change of future ST.

This descriptive and correlational study includes 40 men (mean age=75.8 yrs) with locally advanced prostate cancer, capable of self-care, and receiving AAT. EORTC QLQ-C30 (with established reliability and validity) and the EORTC QLQ PR25 (in Phase 4 development) were used to measure functional status and symptom distress.

Several risk factors for osteoporosis were present in >40% of the men while only 18% recalled bone density testing. 68% were interested in a future ST study. Analyses for group differences of symptom distress between those interested and not interested (Mann Whitney U) indicated no significant differences for selected functional status and symptom distress variables. There were significant positive relationships of self-efficacy for learning and overcoming barriers to ST with most functional status variables (r = .41 to 62; p < .05), and significant negative relationships with pain (r = −.48 to −.52; Funding sources: UNMC College of Nursing Mini Grant.

A PILOT STUDY TO DETERMINE THE NUTRITIONAL NEEDS OF RADIATION PATIENTS. Tracy Gosselin, RN, MSN, AOCN®, Rhonda Tinnen, Duke University Health System, Durham, NC.

Nutrition services are a critical component of any cancer program. Patients today are receiving more services and treatments in the outpatient setting and use of combination therapy has increased. Patients are often faced with

appetite changes and alterations in gastrointestinal (GI) function that lead to weight loss. Nurses are in a pivotal position to develop educational materials, educate patients and advocate for patient needs.

The purpose of project was determine how many patients receiving radiation therapy or combination therapy needed to be evaluated by a dietitian. The radiation clinic currently receives dietary support from the inpatient dietitian one morning a week. With operational hours from 7–5 pm patients have limited access to the dietitian and may only see the RN for nutritional guidance.

The Scored Patient-Generated Subjective Global Assessment (PG-SGA) was selected by the RN's as the patient assessment tool. This tool was selected because it has multiple levels of nutritional triage recommendations and established reliability and validity. Another tool was developed to note the treatment field, current dose and total dose of radiation, if receiving combined treatment, what agents were being used, their frequency and if they had seen a dietitian. The nurses randomly sampled 88 patients using both the PG-SGA and the tool.

The assessment tools were turned in and entered into an Access database. Of the 88 patients surveyed it was determined that 60% of those patients receiving radiation alone needed to see a dietitian based upon the triage guidelines. 83% of those patients receiving combined therapy needed to see a dietitian based upon the triage guidelines. Of the disease sites reviewed breast, gastrointestinal, head & neck and lung cancer patients were the ones who predominately needed to see a dietitian.

Based on the above data, presentations have been made at both the department and service line level. The data has also been shared with the Director of Nutrition Services who is benchmarking with other programs. A work group is being convened to establish screening criteria as well as to ensure that educational materials and sample diets based upon specific side effects are up to date.

PATIENTS ASSISTING LUNG SURVIVORS (PALS PROGRAM): AN INTERACTIVE SUPPORT APPROACH TO PATIENTS WITH LUNG CANCER. Marilyn Haas, PhD, RN, CNS, ANP-C, Mountain Radiation Oncology, Asheville, NC; Diana Wortham, MSN, OCN®, Mission Hospital, Asheville, NC.

Research links positive outcomes for "support interventions" including enhanced knowledge and improved physical outcomes (Holland, 2004). Nurses can promote utilizing non-traditional telephone support groups.

Lung cancer (LC), the "unspoken" or ignored disease, is the leading cause of all gender related mortality. National attention, research studies, and funding are lagging behind (CARMA, 2000). Underpinned by a lack of social empathy, LC does not elicit the same emotional feelings, social reform, or legislative platform from healthcare professionals (Haas, 2002). Changes in healthcare systems have necessitated LC patients to enhance support outside hospital settings. Patient-centered-care redefines the relationship between providers and consumers by shaping healthcare delivery approaches to empower and foster independence, and build on individual/family strengths (Gerteis, et.al 1993). The purpose is to determine the perceived support and overall satisfaction with using a formal/informal telephone support program for LC patients. Utilizing Erickson's Role Modeling Theory, the oncology nurse's role and interventional aims are: 1) promoting trust 2) client control 4) strength 5) setting health directed mutual goals (Erickson, et.al, 1983).

A prospective, descriptive study of 20 LC patients, self-identified from inpatient/outpatient oncology settings, was conducted from 9/03–3/04. Two methods of networking were utilized: ALCASE Phone Buddy program (peer-to-peer LC support network) and 120 minute pre-paid phone card enabling familial and social support was given to patients during teaching by oncology nurses. Consents were obtained for follow-up utilizing the FACT-G, Multidimensional Scale of Perceived Support and a questionnaire exploring patterns/outcomes of intervention utilization. LC patients utilized phone cards anytime to talk with family, friends, LC survivors.

Of the 20 LC patients, 17 patients participated in the follow-up questionnaire. Patients were Stage III (82%) and IV (12%) and evenly represented both genders. While 100% utilized the 120-minute phone card and 18%

ALCASE Phone Buddy card, 100% felt telephone support was helpful and provided emotional support, especially off hours. The FACT-G supported the same findings.

Results can be used to better understand patient perceptions and methods for information seeking. Summary ideologies may contribute to conducting future research to evaluate how nursing can develop and implement support programs for LC clients. Funding sources: Educational mentorship for one novice researcher.

PRIMARY ADJUVANT TREATMENT CONSULTATIONS IN BREAST ONCOLOGY: EXPLICATING CONTENT AND IDENTIFYING PREDICTORS OF PSYCHOSOCIAL ADJUSTMENT. Tom Hack, PhD, Faculty of Nursing, University of Manitoba, Winnipeg, Winnipeg, Manitoboa, Canada; Tom Pickles, British Columbia Cancer Agency, Vancouver, British Columbia, Canada; Barry Bultz, Dean Ruether, Tom Baker Cancer Centre, Calgary, Alberta, Canada; Lorna Weir, British Columbia Cancer Agency, Vancouver, British Columbia, Canada; Lesley Degner, University of Manitoba, Winnipeg, Manitoboa, Canada; John Mackey, Cross Cancer Institute, Edmonton, Alberta, Canada.

The empirical literature demonstrates that a significant proportion of women with breast cancer are dissatisfied with the kind and/or amount of biomedical and psychosocial information received from health caregivers. Patients are known to be highly anxious during the primary adjuvant treatment consultation and to have poor recollection of information received during this consultation.

A systematic review of a representative subset of consultation audiotapes was conducted for the purpose of identifying patient and oncologist characteristics—and other communication factors associated with the primary adjuvant treatment consultation—that are predictive of satisfaction with communication, information recall, mood, and cancer-specific quality of life.

An empowerment theoretical model was used to describe the setting of goals and agenda items for the consultation, the examination of patient values during the consultation, and the physician's role during the consultation.

The consultation audiotapes were coded using the Medical Interaction Process System (MIPS); a system developed for use in oncology that provides an objective, reliable, and valid means of rating consultations. The MIPS classifies patient-physician exchanges in terms of 'content' and 'mode' of exchange. Coding reliability checks were used during rater training until a mean reliability estimate of .95 was achieved.

Univariate statistics (t tests, Mann-Whitney U tests, and chi square statistics where appropriate) were used to assess the association between sociodemographic and illness variables, patient and oncologist consultation characteristics, and the outcome variables. Significant variables at the univariate level were then entered as independent variables in a stepwise, linear regression analysis.

A total of 78,983 utterances were generated from 180 patient-oncologist consultations. Clinician utterances accounted for 73% of the consultation, while patient utterances made up 27%. Biomedical content was predominant, and accounted for 93% of all utterances, while psychosocial content made up 7% of the consultation. Biomedical and psychosocial content accounted for 89% and 11% of patient utterances, respectively, and 94% and 6%, respectively, of physician utterances. Three ratios (patient directedness, patient centredness, and psychosocial focus) were generated, and the statistical relationships between these ratios and the outcomes of interest will be presented. Funding sources: Canadian Breast Cancer Research Alliance.

EFFECTS OF A MUSIC THERAPY INTERVENTION FOR WOMEN WITH METASTATIC BREAST CANCER. Suzanne Hanser, EdD, Berklee College of Music, Boston, MA; Susan Bauer-Wu, DNSc, Lorrie Kubicek, BS, CMT, Martha Healey, MS, FNP, Craig Bunnell, MD, Judy Manola, MS, Dana-Farber Cancer Institute, Boston, MA.

Hundreds of thousands of women are living with metastatic breast cancer (MBC) with its many psychological and physical symptoms. Studies are needed to identify effective interventions to improve symptoms and enhance coping and quality of life (QOL) in MBC.

Various psycho-behavioral interventions have been shown to benefit MBC patients, and considerable descriptive data support the use of music therapy (MT); but no prospective study has evaluated MT in this population. This study examined the effects of MT (immediate and over-time) on in MBC patients' psychological functioning and QOL.

MT, a cognitive-behavioral intervention whereby patients use music strategies to cope with cancer-related stressors, is based on a transactional stress-coping framework.

Using a longitudinal, experimental design, 70 MBC patients were randomized to either a MT or usual care group. The MT consisted of three 45-minute individual sessions (3–5 weeks apart) with a music therapist, including techniques to use music as therapy, at home. Psychological symptoms were measured at baseline, 6 weeks, and 3 months with the Hospital Anxiety and Depression Scale (HADS) and QOL with the Functional Assessment of Cancer Therapy-Breast (FACT-B) plus Spirituality subscale. Visual analog scales and heart rate were assessed in the MT group immediately before and after individual sessions.

Paired t-tests and Wilcoxon rank-sum tests compared change scores. Content analysis was done on written patient feedback elicited at the end of the third MT session.

Significant improvement in symptoms and decreased HR were observed after each of the three MT sessions: relaxation, P = <.0001; comfort, P = < .0001; happiness, P = <.01; HR, P = .02, although no significant differences between groups were found over time. High attrition and small sample size may explain the lack of significant group differences. MT completers (n = 23) reported great satisfaction and frequent use of music to cope with cancer. While MT produced the immediate benefits of enhanced relaxation and comfort for MBC patients, additional studies with larger sample sizes are needed to assess over-time effects. The high attrition rate underscores the complexities inherent in conducting intervention research with MBC patients.

QUALITY OF LIFE OF BREAST CANCER SURVIVORS WITH LYMPHEDEMA. Sue Heiney, PhD, RN, CS, FAAN, Palmetto Health South Carolina Cancer Center, Columbia, SC; Camelia Vitoc, MD, Joan Cunningham, PhD, Arnold School of Public Health, University of South Carolina, Columbia, SC; Kel Jansen, ROT, Palmetto Health, Columbia, SC.

Advances in treatments have significantly increased survival for breast cancer patients (BrCA). Unfortunately, 28–38% of these survivors develop secondary lymphedema (SLE). Physical effects include pain, reduced motion, and risk for infection. Knowledge is particularly needed to better understand the impact of QOL in rural white Southern and African American (AA) BrCA patients in an environment of major health disparities.

BrCa treatment and the development of SLE are known to affect quality of life (QOL). Differences in QOL between patients with and without SLE have not been well documented. The primary purpose of the After Breast Cancer (ABC) study is to understand women's knowledge of and experiences with SLE. The secondary aim and focus of this abstract is to compare QOL of BrCA patients with and without SLE.

The QOL component of the study is based on Ferrell's 4 dimensional model of QOL (physical, psychological, social and spiritual). The spirituality dimension is particularly relevant to a sample drawn from the Bible belt, where spirituality is a major cultural component.

A correlational design is used. Packets with consents, the ABC survey, QOL and demographic data instruments and a postage paid mailer were sent to 957 BrCA patients. The QOL component of the study used the valid and reliable Quality of Life–Breast Cancer Version instrument which meaures 4 dimensions of QOL, physical, psychological, social and spiritual well-being.

Descriptive and correlational statistics (ANOVA, linear correlation and regression) will be used.

Currently, 314 surveys have been returned; 49 women refused; and 20 women were deceased; 96 had SLE. Ethnicity is 82% European American, 17% AA and 1% other. Preliminary data analysis for the first 216 participants found significant differences in social well-being (p < .001) and overall QOL (p = .01). Preliminary results document significant QOL differences between

women with and without SLE. Our sample includes more AA than previous studies. The 36 % return rate is especially good for a mailed survey to a sample known to have low literacy. These results provide evidence for the differences between QOL in women with and without SLE, especially the impacts to physical and social well-being. Also, the study points to critical areas that should be addressed in helping women cope with SLE. Funding sources: Bonner Family Fund, Palmetto Health Foundation.

QUALITY OF LIFE OF PATIENTS NEAR THE END OF LIFE. Carla Hermann, PhD, RN, University of Louisville, Louisville, KY.

The primary objective of care for dying patients is to improve their quality of life (QOL). There are major gaps, however, in knowledge regarding all issues related to end of life (EOL) care, including how to enhance dying patients' QOL. The few available studies have focused on hospice patients, but less than twenty percent of individuals in the United States experience EOL receiving hospice care. Research with a focus on identifying determinants of dying patients' QOL is needed.

The purpose of this study was to increase understanding of QOL at the EOL. Specific aims were to: (1) describe the QOL of patients near the EOL; (2) examine symptom frequency, symptom severity, symptom distress, functional status, anxiety, and depression in patients near the EOL; and (3) identify determinants of QOL of patients near the EOL.

Many patients near the EOL, such as advanced lung cancer patients, are actively seeking treatment. A high number of uncontrolled symptoms and a great deal of physical and psychological distress have been reported for patients near the EOL. Little is known about their QOL. QOL, viewed multi-dimensionally, encompasses four different but overlapping dimensions: physical, psychological, social and spiritual.

Eighty adults diagnosed with stage IIIB or IV lung cancer within the previous month participated in this longitudinal, cross-sectional study. Fifty-five subjects participated at the 2-month follow-up and 41 at the 4-month follow-up. Subject attrition was due to patient death for all but one subject. Subjects were interviewed for responses to instruments measuring QOL, symptoms, anxiety, and depression.

Longitudinal data were summarized using "area under the curve". Randomized regression models were used to make use of all available data.

Although most subjects received their initial cancer diagnosis within thirty days of entering the study, only half were alive for the 4-month follow-up. Symptom distress was the most important correlate of QOL. Significant downward trends were present with functional status, anxiety and symptom experience. Advanced lung cancer patients are often near the EOL upon diagnosis. Interventions that reduce symptom distress may increase QOL of patients near the EOL. Further study should include testing interventions aimed at decreasing symptom distress. Funding sources: National Institute of Nursing Research.

PREDICTORS OF PAIN, FATIGUE, AND NAUSEA IN NEWLY DIAGNOSED PATIENTS WITH LUNG CANCER PRIOR TO CHEMOTHERAPY. Amy Hoffman, MSN, RN, PhD student, Barbara Given, PhD, RN, FAAN, Alexander von Eye PhD, Audrey G. Gift, PhD, RN, FAAN, Charles Given PhD, Michigan State University, East Lansing, MI.

Lung cancer is the second most common malignancy and the foremost cause of cancer mortality in both men and women in the United States. Most patients with lung cancer present at diagnosis with advanced disease and suffer from multiple symptoms that continue throughout their treatment and disease progression. Each additional symptom places greater burden on the patient with lung cancer but there is little to identify those patients most at risk for symptom burden.

This study examined the patient and disease characteristics predicting symptom burden from pain, fatigue, and nausea in newly diagnosed patients with lung cancer prior to receiving chemotherapy.

The Theory of Unpleasant Symptoms (TOUS) was used to guide the study. The TOUS conceptualizes symptoms as occurring together and identifies categories of antecedents to symptoms. Symptom burden for this study includes symptom severity, limitation, and bother.

Secondary data analysis from the baseline observation of a randomized control trial was performed on 82 patients with lung cancer using only their pre-chemotherapy information. The burden associated with each symptom (i.e., pain, fatigue, and nausea) was calculated by summing each subject's responses to severity, limitaion, and bother scores for each symptom and dividing by three to standardize total symptom burden to a 10-point scale.

Fatigue (94%), pain (67%), and nausea (51%) were the most prevalent symptoms, but the rank order for burden was fatigue, nausea, and pain. Mean symptom burden score increased as the number of symptoms climbed from 0 to 3. Best subset regression identified a model with seven statistically significant predictors (i.e., age, anxiety, depressive symptomatology, co-morbid conditions, being on disability, not being able to work, and having health insurance) of symptom burden accounting for 43.8% of the variance. Each of the predictors independently contributed to the symptom burden.

Fatigue, pain and nausea are symptoms experienced by most patients with lung cancer. Patients most at risk for these symptoms can be identified early and interventions developed to more adequately alleviate the symptom burden. Funding sources: Grant R01 NR/CA01915—The Family Home Care for Cancer——A Community-Based Model.

FEASIBILITY, RELIABILITY, AND VALIDITY TESTING OF A COMPUTER-GEN-ERATED QUALITY OF LIFE ASSESSMENT AND SCORING PROGRAM FOR PATIENTS WITH LUNG CANCER (LCSS-QL). P.J. Hollen, PhD, RN, University of Virginia, Charlottesville, VA; R.J. Gralla, MD, Lung Cancer Alliance, New York, NY; N. Leighl, MD, Princess Margaret Hospital, Toronto, Canada; B. Landen, RN, H. Kimber, RN, V. Buttu, RN, COMET Group, Toronto, Canada.

This study tests an electronic version (LCSS-QL) of the Lung Cancer Symptom Scale, converting the validated paper measure to a format using a hand-held computer. The device provides immediate graphics of scores and change over time. Objectives include to: 1) determine correlation of the LCSS-QL with the paper version, 2) measure completion times, 3) assess acceptability of the LCSS-QL by patients, nurses, and physicians. Testing was based on the LCSS model (Hollen, 1994).

This methodological study evaluates feasibility, reliability, and validity of the LCSS-QL. Patients are entered in the community settings of 10 COMET clinics in Ontario. All patients have NSCLC, KPS > 60, no prior chemotherapy, and receive initial courses of docetaxel + platinum. 200 patients are planned; the initial 80 complete both the paper and electronic forms (pretreatment, and with the next 4 chemotherapy cycles—paper version every other cycle). The final 120 complete only the LCSS-QL. Multiple agreement methods are used; Pearson r does not correct for systematic bias. Analyses include: a) general agreement between electronic and paper forms (intraclass correlation, Lin's concordance correlation; Bland-Altman plots characterizing bias); c) Cronbach alpha, and d) completion times.

31 patients to date include: 52% women; KPS (median 80%; range 60%–100%); age (median 67; range 46–78); Stage IV: 77%. Acceptance of this simple electronic QL instrument by patients, nurses, and physicians has been excellent. Mean completion time is 2.9 minutes (SD 2.03). To date, the agreement is promising. Example coefficients for global QL item are Pearson r, 0.77; ICC, 0.86; Lin's CCC, 0.86; alpha (paper, 0.84; electronic, 0.85). By the February 2005 meeting, all 80 initial patients will be entered.

If convergence between the two formats is high, then existing psychometric properties for the original measure can be generalized to the new presentation. If feasibility, reliability, and validity testing confirm these results, this electronic format provides a practical method to bring QL evaluation to patient management and to clinical trials.

A 2002 international quality of life (QL) conference concluded that improved patient completion rates with less measurement error are key to enhancing QL use. Funding sources: Supported by a grant from Aventis Canada.

DETERMINANTS OF EXERCISE FOR BREAST CANCER SURVIVORS IN TAI-WAN. Hsin-Tien Hsu, RN, PhD(c), Marylin J. Dodd, RN, PhD, FAAN, Kathryn A. Lee, RN, PhD, FAAN, Geraldine V. Padilla, RN, PhD, FAAN, University of California San Francisco, San Francisco, CA; Noreen C. Facione, RN, PhD,

FAAN, Loyola University Chicago, Maywood, IL; Shiow-Li Hwang, RN, PhD, National Taiwan University, Taiwan.

Breast cancer is the second leading cause of cancer in Taiwanese women. Cancer-Related Fatigue (CRF) has been recognized as a universal side effect of cancer treatment. Exercise is one of the few interventions suggested to prevent or decrease CRF.

No information is available about the determinants of exercise for breast cancer survivors in Taiwan. It is important to identify major determinants of exercise and develop a theoretical model to direct intervention research. Therefore, the purpose of this study is to examine the relationship between fatigue, motivating factors of exercise, and exercise behavior among breast cancer survivors.

Social Cognitive Theory

This report is the baseline data of a prospective, longitudinal, repeated measures on going study.

Descriptive analyses, correlation, t-test, chi-square and ANOVA

Findings: A total of 121 women completed questionnaires at one month after treatment finished. Characteristics of subjects were: mean ages were 48.43, 9.935 years, 71.7% were married, 43.8% were homemakers, 73.6% were from Fujian Province, 41.2% were Buddhist, 34.5% were college educated. The majority of the women had received a stage I (27.1%) or stage II (51.7%) breast cancer diagnosis. All subjects had surgery and received chemotherapy (40.5%), radiotherapy (8.3%), or both (47.1%). Average days for chemotherapy were 132 days and 40 days for radiotherapy.

For the current activity level, 58.7% of subjects reported being able to carry on normal activities but having minor signs or symptoms related to treatment. Overall, 28.3% intended to exercise, 20.8% exercised regularly less than 6 months, and 15% exercised regularly more than 6 months. Results shows that age (p < .001), exercise history (p < .001), social support for exercise (p < .002), exercise self-efficacy (p < .000), exercise outcome expectancy (p < .011) and perceived barriers to exercise (p < .000) significantly influence exercise status among breast cancer survivors.

Implication for Nursing Practice: Preliminary data from our research indicates that there is abundant information related to culturally different exercise behavior on the breast cancer survivors. Findings from this study will contribute significantly to the literature on psychosocial and exercise aspects of breast cancer survivors in Taiwan. Funding sources: Funded by Department of Defense, Breast Cancer Research Program, DAMD17-03-1-0521

POVERTY AND THE COMPLETION OF ADVANCED DIRECTIVES: A META-ANALYSIS. Anne Hughes, RN, MN, AOCN®, Laguna Honda Hospital and Rehabilitation Center, San Francisco, CA.

Poverty increases the burden persons endure when living with cancer. Poor people face substantial barriers to quality cancer care, experience more pain and suffering, and are more fatalistic about the disease (Freeman, 2004). Federal and state laws mandate that health care facilities inquire about a patient's advance directives in the event of critical illness. Advance directives are believed the cornerstone of good end of life care.

The purpose of this meta-analysis is to describe the extent to which poverty influences the completion of an advanced directives.

Meta-analysis is a standardized process of systematically identifying research, summarizing findings and creating a common matric to compare results across studies to answer a specific research question.

Three approaches were used to identify studies for inclusion. Electronic bibliographic databases i.e., PubMed and Cochrane Collaboration were searched, reference lists from identified studies were reviewed and leading researchers were contacted for potential unpublished research. Inclusion criteria were developed: english language, published or unpublished, quantifiable measure of poverty, comparison or control group, and some measure of advance directive.

Each study was evaluated for quality by the single reviewer who extracted data in an unblinded fashion. Effect sizes were calculated for each study included.

Six studies, from over 144 studies identified, met the inclusion criteria. Four were randomized control trials and two cross-sectional design. The quality of the studies was variable. Effect sizes were quite small and ranged from –.28

to + .17. Three effect sizes were non-significant. Of the remaining three, two studies were negatively significant, i.e. lower income was not associated with completion of advanced directive and one positively significant, i.e., lower income was associated with advanced directive completion. Comparing studies was complicated by different annual income cutoffs for poverty, and different years when data was collected so buying power of same annual income may differ. In conclusion, this meta-analysis was unable to determine the influence of poverty in completion of advanced directives. In the absence of an evidence base, nurses need to explore with each patient, their preferences for articulating in advance their wishes for treatment and a surrogate decision-maker. Funding sources: American Cancer Society Doctoral Scholarship in Nursing, DSCN-01-202-01-SCN, National Institute of Nursing Research, NIH, F31NR079923.

DEPRESSION, SATISFACTION AND QUALITY OF LIFE (QOL) IN CANCER PATIENTS UNDERGOING PAIN MANAGEMENT. Shirley Hwang, RN, MS, Victor Chang, MD, Qi Xia, MS, VA New Jersey Health Care System, East Orange, NJ; Donald Hoover, PhD, Rutgers University, Piscataway, NJ; Shanti Srinivas, MD, Basil Kasimis, MD, VA New Jersey Health Care System, East Orange, NJ.

We find that depression strongly predicts QOL and satisfaction in cancer pain patients, which suggests that treating depression may improve these outcomes.

The relationship of satisfaction and QOL to pain management is unclear. We previously found that QOL and satisfaction may be independent outcomes of pain management and that the timing of assessment may be important (Hwang, JPSM; 2002: 190–200). The purpose is to develop a multidimensional longitudinal QOL and satisfaction cancer pain outcome model.

A multidimensional QOL framework categorized the predictor variables into six dimensions: individual characteristics, pain, symptoms, psychological, function and health. The outcomes were QOL and satisfaction.

This IRB approved longitudinal survey studied 195 cancer patients with baseline worst pain > 4/10 (median age 68 yrs, range 44–87) who were managed according to AHCPR guidelines. All patients completed Functional Assessment of Cancer Therapy (FACT-G), satisfaction, Brief Pain Inventory, Memorial Symptom Assessment Scale–Short Form, Geriatric Depression Scale and health status—at 4 weekly time points. KPS was assessed weekly.

Changes in pain, QOL and satisfaction over time were estimated by mixed effect models. To identify independent predictors of QOL and satisfaction, multiple linear regression analyses for cross-sectional data and mixed effect model for longitudinal data were performed.

There were significant improvements over the three weeks in mean worst pain (8.4 to 5.1, p< 0.0001), pain interference (38.1 to 17.0, p < 0.0001), FACT-G QOL (62.7 to 71.6, p < 0.0001) and satisfaction(1.42 to 2.99, p < 0.0001). Different sets of predictors were identified at each time point for QOL and for satisfaction, but depression predicted QOL and pain relief predicted satisfaction consistently over time. The mixed effect model showed that depression(p < 0.0001), pain interference(p = 0.0005), KPS(p = 0.0005) and health(p = 0.04) each predicted QOL. Pain relief(p < 0.0001), depression (p = 0.0006), worst pain(p = 0.005), age(p = 0.04) and timing of assessment (p < 0.0001) each predicted satisfaction. These results demonstrated the dynamic and multidimensional nature of QOL and satisfaction outcome predictors in cancer pain patients. Depression was important to both QOL and satisfaction. Screening and treatment of depression may improve QOL and satisfaction outcomes. Funding sources: VA HSR&D PCC 98068.

A FEMINIST ANALYSIS OF INTERNET CANCER SUPPORT GROUPS. Eun-Ok Im, PhD, MPH, RN, CNS, University of Texas at Austin, Austin, TX; Wonshik Chee, PhD, University of Texas at San Antonio, San Antonio, TX; Hsiu-Min Tsai, MSN, Li-Chen Lin, MSN, University of Texas at Austin, Austin, TX.

The purpose of this presentation is to analyze Internet Cancer Support Groups (ICSGs) searched through Google.com, Yahoo.com, MSN.com., AOL.com., and ACOR.org using a feminist perspective, and explore issues in using ICSGs as a research setting or recruitment resource.

A total of 317 general ICSGs and 229 ethnic-specific ICSGs were analyzed. Research staff recorded issues as the issues arose and wrote memos regard-

ing the issues from a feminist perspective. The written memos and records were reviewed and analyzed using the content analysis by Weber (1990). The analysis indicated that inconsistent terms were being used to refer to ICSGs, and there was no way to validate that the participants of ICSGs were real cancer patients. Most of the ethnic-specific ICSGs retrieved through the Internet search were actually general ICSGs whose members were dominantly Whites. Female participants tended to share their stories and seek for emotional support. ICSGs for both men and women hardly represented womens voices and experiences. Messages in most bulletin boards and chat groups tended to be dominated by a few dominant participants. Most of the information resources provided by ICSGs were not validated by health professionals. Most of the websites did not ensure confidentiality of the interactions.

The issues discussed in this presentation will provide directions for future Internet research, especially for Internet research using ICSGs as a research setting or a data collection method.

The findings suggest the needs for development of ethnic-specific support groups for ethnic minorities, education programs for moderators and/or facilitators, standards and/or policies regulating health-related resources provided in ICSGs, and quota sampling in Internet recruitment.

When ICSGs are used in research to support the predominant androcentric views and interests, those who are not part of this dominant group (e.g., ethnic minorities, women) are marginalized, and their issues are either not considered relevant for study or not reflected accurately in research and health care practice. Funding sources: NIH, NINR (1 R01 NR007900-01A1).

ISSUES IN INTERNET RECRUITMENT OF RESEARCH PARTICIPANTS. Eun-Ok Im, PhD, MPH, RN, CNS, University of Texas at Austin, Austin, TX.

The purpose of this paper is to provide future directions for recruitment of research participants through the Internet based on issues raised in recruitment process in two Internet studies one among cancer patients (Study 1); and the other among international oncology nurses (Study 2).

Throughout the research process, research staff recorded recruitment issues as they arose and wrote memos regarding the issues and their possible reasons. Weekly group discussions were conducted, and written records of these discussions were kept. Then, the written memos and records were analyzed using the content analysis by Weber. The analysis indicated a very low response rate (2). Most participants of Study 1 were a select group of high income, well-educated White males. The participants of Study 2 tended to be young, highly educated, and high income nurses. In Study 1, a low response rate in winter and summer time was noticeable. In Study 2, major holidays were identified by the participants as a major reason for the dramatic decrease of their responses. There was no way to ensure that the participants were real cancer patients in Study 1. Study 2 posed a problem for international participants who needed to spend more time to fill out the questionnaire and participate in email group discussions because English was their second language.

The issues discussed in this presentation will provide directions and guidelines for future Internet research in oncology nursing. This presentation has a limitation in generalizability of the findings because only two Internet studies were analyzed.

Based on the discussion on these issues, the followings are proposed for future Internet research (a) creative motivation strategies, (b) sensitivity to gender, ethnicity, and socioeconomic status of potential participants, (c) appropriate timing of data collection, and (d) sensitivity to potential ethical issues.

With the lack of knowledge on Internet research in general, issues in Internet recruitment have been rarely explored and discussed in oncology nursing. Thus, it is imperative to explore issues in Internet recruitment and provide future directions for Internet recruitment at this beginning stage of Internet research in oncology nursing. Funding sources: Funded by the ONS Foundation through an unrestricted grant from SmithKline Beecham.

EFFECTS OF MASSAGE ON PAIN INTENSITY, ANXIETY, AND PHYSIOLOGICAL RELAXATION FOR TAIWANESE PATIENTS WITH METASTATIC BONE PAIN. Sui-Whi Jane, University of Washington, Seattle, WA; Diana J. Wilkie, University of

Illinois at Chicago, Chicago, IL; Randal D. Beaton, Betty B. Gallucci, Hsiu-Ying Huang, University of Washington, Seattle, WA.

50–74% of patients with metastatic cancer are more likely to report pain compared to 15–17% patients with non-metastatic pain. Bone metastatses are the commonest cause of pain that can't be completely relieved by medications alone. The existing studies demonstrate an immediate or short-term effects of massage on general cancer-realted pain but not sepcifically for bone pain. Whether massage is also effective for this specific population and to what the extent of the appropriateness of the interval for measuring outcome variables is not yet established. Therefore, it becomes important for oncology researchers to prove that massage really serves as an effective strategy to optimum bone pain relief with more rigorous approaches.

To validate the duration of massage effects on pain intensity, anxiety, and physiological relaxation over time.

A modified Gate Control Theory of Pain proposed by Mezlack & Wall (1965) will serve as a theoretical framework for exploring the underlying mechanism of massage therapy.

The investigator proposes a quasi-experimental design with repeated measures to examine the duration of massage effects over time on pain intensity, anxiety, and physiological relaxation in 30 Taiwanese patients with metastatic bone pain during an in-patient hospitalization in a 3600-bed Taiwanese teaching hospital. Time effects of the massage therapy will be evaluated with present pain intensity as measured with a single-item PPI-VAS, anxiety as measured with a single-item Anxiety-VAS, and physiological relaxation as measured with heart rate (HR) and blood pressure (BP).

Each value of post-intervention measures on PPI-VAS, Anxiety-VAS, and HR and BP will be separately compared to the value of the baseline time point by using paired t-tests.

The amount of change of massage effects over time will allow investigators to identify the best time points in time at which the outcomes should be assessed in order to demonstrate the magnitude of massage benefits in future randomized clinical trials. Clinically, these results can establish scientific knowledge of how to appropriately implement this non-pharmacological nursing intervention concurrently with pharmacological treatment optimally aimed at improving metastatic bone pain management. Funding sources: McLaws Nursing Scholarship and Benolie Fund from the School of Nursing, University of Washington.

THE EFFECTS OF PROGRESSIVE MUSCLE RELAXATION AND GUIDED IMAGERY IN REDUCING CANCER PAIN: A SYSTEMATIC REVIEW. Sui-Whi Jane, Doctoral Candidate, University of Washington, Seattle, WA; Jyhun-I Chen, Chang Gung Institute of Technology, Tao-Yuan, Taiwan.

Despite extensive progress in the scientific understanding of pain, 51–77% of patients with cancer experience moderate to severe intense pain at some time in their illness trajectory. Theoretically, 90% of cancer pain can be adequately relieved with relatively simple medical interventions; however, in practice, less than 50% of cancer patients actually achieve effective pain relief due to the multidimensional nature of pain phenomena and tolerance and unexpected side effects of analegics. Attention to the psychosocial variables modulating pain through non-pharmacological interventions such as progressive muscle relaxation (PMR) and guided imagery (GI) provide an additional and viable avenue for managing cancer pain. Within scientific realms, it is crucial for researchers and clinicians to validate that these two techniques serve as effective strategies for pain management with rigorous evaluation processes. More importantly, none of the existing published meta-analyses specifically examining the effects of PMR and GI on cancer pain. Thus, the aims of this paper are to 1) systematically review the efficacy of PMR and GI in managing adult cancer pain; 2) critically analyze existing methodological issues derived from these reviewed articles; 3) furthermore make recommendations for future research.

Despite the existing methodological issue, PMR and GI are considered to be easy-to-learn and less time-consuming interventions and may provide patients with additional benefits for the management of cancer pain. In practice, thus, it is vital for healthcare providers to appropriately employ them in conjunction with pharmacological treatment, thereby enhancing pain management.

To provide clinicians with evidence-based nursing interventions, the focus of future studies for PMR and GI will be on defining their optimum strength, underlying mechanisms of action from the psycho-neuro-immunological perspective, appropriate intensity of protocol, and cost-effectiveness. Additionally, potential mediators and moderators that may hinder or augment the therapeutic effects are needed to explore.

This systematic review examined seven published studies with full text from 1985 to 2003 in English upon the inclusion criteria. The effects of PMR and GI in this review have yielded inconsistent across studies, partially due to variations in sample sizes, the characteristics of populations, the intensity and duration of intervention protocols, and the selection of outcome variables and measurements. Additionally, several methodological flaws may contribute to this inconsistence, including the lack of a consistent theoretical framework, rigorous inclusion criteria for ensuring the homogeneity of subjects, and a standardized intervention protocol, sensitivity of selected measures, adequate statistical power, consistent effect sizes, and consideration of potential confounding variables and placebo effects. Five of seven studies concluded that there was no significant difference between the control and intervention groups on decreasing pain intensity and one study even found that the treatment group reported increasing in pain intensity. Whereas only two studies revealed group effects on ability of control pain and decreasing pain distress and anxiety, but the group effect didn't exist among intervention groups and the increased complexity of the intervention seemed not to be additive to intended beneficial outcomes. Overall, evidence from this review fails to prove positive effects of PMR and GI for cancer pain management. The focus of future study will be on taking the above methodological flaws into account to ensure the reliable evidence-based findings of PMR and GI.

HEMATOLOGICAL TOXICITIES, SYMPTOM BURDEN, AND QOL IN ADJUVANT AND NEO-ADJUVANT BREAST CANCER PATIENTS RECEIVING DOSE DENSE CHEMOTHERAPY (DDC). Gina Johnson, MSN, APRN, BC, Accelerated Community Oncology Research Network, Memphis, TN; Lee Schwartzberg, MD, Kurt Tauer, MD, The West Clinic, Memphis, TN; Qian Mao, Barry Fortner, PhD, Accelerated Community Oncology Research Network, Memphis, TN.

CIN and CIA are significant chemotherapy-induced toxicities that require careful clinical attention. Understanding the symptom and QoL impact of DDC is important to anticipating appropriate patient education and supportive interventions, including erythropoietic agents and growth colony stimulating factors, to enhance clinical outcomes in evidence based medicine.

This study evaluated changes in ANC, Hgb, QoL, and symptom burden during DDC.

DDC is a promising approach for adjuvant and neo-adjuvant breast cancer patients (pts). However, shorting the chemotherapy cycle increases the potential for chemotherapy-induced toxicities.

Consecutive pts with Stage II/III breast cancer receiving Q 14 day AC followed by a taxane were retrospectively identified at a large community oncology practice. Twenty (20) weeks of chart data were reviewed for disease, chemotherapy, anemia, neutropenia, symptom burden, and QoL parameters.

Symptom burden and QoL was measured by the Cancer Care Monitor. Anemia and neutropenia specific symptoms and index scores for physical, psychological, and functional status are being examined within subjects across DDC and between subjects in relation to anemia and neutropenia grade. Symptom burden and QoL is also being explored in relation to growth factor support and intervention. Dose reductions, delays, and discontinuation are also being explored in relation to toxicities.

73 pts (median age 50 [range 30–69], 34% Stage III) were treated with adjuvant (73%) or neoadjuvant (27%) DDC. 53 pts received 8 cycles, 14 pts received 5–7 cycles, and 6 pts received 4 cycles total. Mean Hgb fell by 1.5 g/dl after 2 cycles and 2.1 g/dl after 4 cycles of AC. The mean Hgb at end of study was 11.5 g/dl. Epo was administered to 50/73 pts (68%) with 28 beginning therapy by week 7. 2 pts (3%) received PRBC transfusions at week 5 and 11 respectively. Worst CTC anemia grade (number of pts) recorded during all cycles was: Grade 1 (41), Grade 2 (26), and Grade 3 (3). Worst CTC neutropenia grade (number of pts) during all cycles was: Grade 0 (48), Grade 1 (8), Grade 2 (7), Grade 3 (2) and Grade 4 (8). No pt developed febrile neutropenia

or was hospitalized for neutropenia complications. Funding sources: This study is based in part on a study funded by Amgen Inc.

WHEN DO EXPERIENCES WITH AFFECTED FAMILY MEMBERS AND FRIENDS, AND PERSONAL EXPERIENCES WITH ABNORMAL BREAST SYMPTOMS INFLUENCE PERCEIVED BREAST CANCER RISK? Maria Katapodi, RN, MSN, PhD, Marylin Dodd, RN, PhD, FAAN, University of California San Francisco, San Francisco, CA; Noreen Facione, RN, PhD, FAAN, Loyola University, Chicago, IL; Kathy Lee, RN, PhD, FAAN, Bruce Cooper, PhD, Janice Humphreys, RN, PhD, University of California San Francisco, San Francisco, CA.

Although experience with affected family members increases perceived breast cancer risk, it is less clear whether women with a positive family history perceive higher breast cancer risk because they understand that they share genetic material with their family members or because they worry.

The study aimed to examine 1) whether having experiences with affected family members and friends, and experiences with abnormal breast symptoms increased perceived breast cancer risk and 2) whether knowledge of breast cancer risk factors and worry moderated the relationships between these experiences and perceived risk.

The Adoption Precaution Process (Weinstein, 1988) suggests that personalized information about risk factors and personal experience leads to a more accurate perception of susceptibility to disease.

This cross-sectional survey recruited 184 women from community settings (43% White, 26% Black, 17% Asian, 14% Hispanic) to complete a questionnaire in English. Participants have never been diagnosed with cancer and were between 30 and 85 years old (X = 46 b12). Most (49%) were college graduates and had a median annual income $30,000 to $40,000. A Principal Component Analysis of three probability measures created a new measure of Perceived Risk (Cronbach alpha = .75). We used the Breast Cancer Risk Factor Knowledge Index (Cronbach alpha = .80), a four-item Worry scale (Cronbach alpha = .85), and four indicators of experiences with abnormal breast symptoms.

Descriptive statistics and hierarchical regression analysis. Moderator effects were tested with established methods (Baron & Kenny, 1986).

Having a family member and a friend with breast cancer accounted for 6% and 2% respectively of the variance in perceived risk (p < .05). Experiences with affected family members and friends, and abnormal symptoms influenced perceived risk through knowledge of risk factors, worry, and heuristic thinking. Knowledge of risk factors moderated the relationship between family history and perceived risk, and worry moderated the relationship between abnormal symptoms and perceived risk. Educational interventions should be aimed at increasing women's knowledge about risk factors, addressing their worries, and take into account cognitive mechanisms of information processing. Funding sources: Department of Defense, Medical Research, Clinical Nurse Researcher Award No. DAMD17-03-1-0356.

PARENT DECISION MAKING: WEB BASED DATA COLLECTION PILOT. Katherine Kelly, RN, MN, University of Missouri Health Care/Children's Hospital, Columbia, MO; Kimberly Pyke-Grimm RN, MN, Children's Hospital of San Diego, San Diego, CA; Janet Stewart, RN, PhD, University of Pittsburgh School of Nursing, Pittsburgh, PA.

Supporting parental treatment decision-making (TDM) is a central pediatric oncology nursing function. Pediatric oncology multi-site research mandates validating novel methods for centralized remote data entry such as web-based surveys.

Parental TDM is an important area of nursing research. Increased knowledge about parents' TDM could inform interventions designed to improve TDM, reduce emotional distress, and improve families' adjustment to childhood cancer. On line data collection could facilitate the multi-site research necessary to obtain adequate sample sizes. The purpose of this study is to 1) determine the feasibility of internet-based, multi-site data collection using electronic instruments accessed via an interactive web site, and 2) determine the acceptability of this method to parents.

The conceptual model (Stewart, Pyke-Grimm & Kelly, in press) that informed selection of instruments for this study incorporates elements

from Degner and Beaton's (1987) control preferences model, O'Connor's (1997) decisional conflict model, Thorne and Robinson's (1989) model of health care relationships and Chu & Power's (1995) interactive model of synchrony.

In this descriptive pilot study we will ask 20 parents from 3 sites to complete the web survey, two instruments in the traditional pencil and paper format, and an interview about their experience within two months of making a decision regarding their child's participation in a clinical trial. Survey instruments have been previously used and validated in treatment decision making research.

Descriptive statistics and internal consistency estimates will be calculated for each instrument. Paired sample t-tests will be used to test the effect of survey method on completion time and score differences. If more than 50% (95% CI) of the parents prefer web-based method or have no preference, the web-based method will be considered acceptable. Parent interviews and investigator field notes will be subjected to content analysis.

To date the web survey has been constructed and initial beta testing completed. Data collection will begin this summer and completed in October 2004. Final results will be available for this presentation. Results from this study will provide proof of concept for the data collection strategy and will also be used to estimate sample sizes for successor multi-site studies. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Aventis Pharamaceuticals.

THE EFFECT OF A PILOT EXERCISE INTERVENTION ON BONE REMODELING IN BREAST CANCER SURVIVORS. M. Tish Knobf RN, PhD, AOCN, Yale University School of Nursing, New Haven, CT; Karl Insogna, MD, Yale University School of Medicine, New Haven, CT; Kristopher Fennie, MPH, PhD, Yale University School of Nursing, New Haven, CT; Loretta DiPietro, PhD, Yale University School of Medicine, New Haven, CT; A. Siobhan Thompson, MPH, Yale University School of Nursing, New Haven, CT.

Significance: Estrogen deficiency from chemotherapy-induced menopause or withdrawal of supplemental estrogen puts breast cancer survivors at risk for accelerated bone loss.

Problem and Purpose: Breast cancer survivors represent 22% of the 9 million cancer survivors and one of the key areas identified by the Office of Cancer Survivors is to test interventions to minimize adverse outcomes and promote positive health practices. The purpose of this pilot study was to evaluate the effect of a weight loaded exercise intervention on bone turnover, body composition, physical functioning and symptom distress. This interim analysis will report on the primary outcome, the rate of bone turnover.

Scientific Framework: Winningham's Psychobiological-Entropy Model of Functioning (1999) and the Error Strain Distribution Hypothesis (Lanyon 1996).

Methods: A one group pre and post test design was used to test a 3 times per week, 16 week supervised exercise intervention. A weight loaded waist belt progressed from 1 lb to 5 lbs over the first five weeks which was then maintained. Women with breast cancer who experienced chemotherapy induced menopause, or were within two years of menopause or discontinuance of hormone replacement therapy were eligible. Bone turnover was assessed by measuring serum concentrations of the N-terminal propeptide of type I collagen (NTX) and osteocalcin.

Wilcoxin signed rank test and repeated measures were used for analysis.

Findings and Implications: This interim analysis reports on the first 20 subjects who completed baseline and 16 week measures. The majority of subjects were married, well educated and had a mean age of 51.5 yrs (SD = 6.2). Sixty-five percent of subjects received chemotherapy, 45% were taking Tamoxifen and 35% an aromatase inhibitor. Subjects taking Tamoxifen had significantly lower levels of serum NTX (p = .02). In the group as a whole, there was a trend towards decreasing NTX values with time although not statistically significant. The intervention was feasible with high adherence rates (87.5%–90.5%). The ability to detect a change at 48% power with 20 subjects indicates a potential effect of the intervention to reduce rates of bone turnover and bone loss, which will require confirmation in analysis of the data from the completed study. Funding sources: American Cancer Society Professor Oncol-

ogy Nursing; NINR P20 Center for Self Management, Yale School of Nursing, Intramural Funds, Yale Cancer Center.

PRELIMINARY PSYCHOMETRIC TESTING OF A RELAXATION ABILITY SCALE. Kristine Kwekkeboom, PhD, RN, University of Iowa College of Nursing, Iowa City, IA.

Unrelieved pain and distress remain a problem for persons with cancer despite analgesic therapy.

Relaxation strategies may be useful adjunctive interventions in managing cancer pain and distress, however, some individuals experience a paradoxical increase in anxiety and become very uncomfortable with relaxation interventions (Heide & Borkovec, 1983; Smith, 2001). Nurses may be able to use a measure of relaxation ability in identifying patients likely to benefit from relaxation interventions. Thus, the purpose of this study was to assess initial psychometric properties of a measure of relaxation ability.

The Model for Cognitive-Behavioral Interventions (Kwekkeboom, 1999) suggests that skill or ability with a specific intervention moderates success with that treatment.

Using a correlational design, a convenience sample of 27 healthy adults completed the relaxation ability scale twice, at a 3-week interval, in addition to measures of past relaxation use and outcome expectancy for relaxation interventions. The relaxation ability scale was comprised of 9 items taken from the relaxation item pool of the Wisconsin Experience Questionnaire (Kihlstrom et al., 1989; Nadon et al., 1991). Items selected for the scale reflect the process of becoming relaxed.

Cronbach's alpha, t-tests, Mann-Whitney U, and correlation coefficients were calculated.

Internal consistency of the scale was alpha = 0.87 at time 1 and alpha = 0.85 at time 2. Test-retest reliability was r = 0.81 (p < .01). Relaxation ability scores appeared greater among persons who used relaxation for symptoms successfully in the past (M = 2.33, SD = 0.67) compared to persons who had never used relaxation or who were unsuccessful in past attempts (M = 2.26, SD = 0.73), however, the difference was not significant in this sample. A difference in outcome expectancy was significant, with persons who had successfully used relaxation in the past reporting more positive outcome expectancy. Relaxation ability was correlated with the belief that relaxation works (r = .49, p < .01). While these preliminary data support internal consistency and test-retest reliability, future research will need to confirm validity by testing the scale in a prospective study, implementing a relaxation intervention in a large sample of persons with cancer-related pain.

WORRY AND COGNITIVE REPRESENTATIONS OF ILLNESS IN INDIVIDUALS TREATED FOR LUNG CANCER. Rebecca Lehto, PhD, OCN®, Ann Arbor VA Health Care System, Ann Arbor, MI; Bernadine Cimprich, PhD, FAAN, University of Michigan, Ann Arbor, MI.

The study examined the impact of worry on formation of cognitive representations of illness among individuals newly diagnosed with suspected lung cancer. Worry, a cognitive process driven by anxiety and fears, is common among newly diagnosed cancer patients, but little research has explored how worry influences early illness perceptions. Cognitive representations are learned knowledge structures that guide thoughts and behavior and influence illness adjustment. Worry may affect illness representations by biasing perceptions and facilitating formation of threat-laden thoughts that contribute to further anxiety and poorer adjustment.

This study examined: 1) the influence of worry on cognitive representations of illness over time, and 2) the relationship of selected patient factors and worry in persons with suspected lung cancer.

A theoretical framework of person-environment compatibility from a cognitive map perspective.

Using repeated measures, forty-two volunteers (27 males, 15 females) aged 37 to 83 years with suspected lung cancer were assessed in the early post-diagnostic period, and again three weeks following surgery. Measures of worry (Penn State Worry Questionnaire, 3CM Worry rates), the cognitive representation of illness (Illness Perception Questionnaire-Revised, Conceptual Cognitive Map), and measures of patient factors; state-trait anxiety, the illness experience, cognitive functioning, social support, and optimism were used.

Repeated measures ANOVA determined changes in worry and representations of illness measures over time. Correlation and regression analyses determined relationships between worry, illness representations, and possible covariates.

Higher worry was significantly (p < .05) related to negative dimensions of the cognitive representations of illness. The high worriers had higher emotional distress, lower perceived control, and lower perceptions of illness coherence than low worriers over time. Regression analyses showed that state anxiety was a significant (p < .05) predictor of cancer-related worry when controlling covariates. Four variables, state anxiety, an unsatisfying illness experience, less optimism, and ineffective cognitive functioning predicted negative dimensions of cognitive representations of illness. The findings provide new information about detrimental effects of worry on illness representations and indicate need for nursing interventions to counteract negative effects of worry on cognitive representations of illness. Funding sources: Research supported by NINR, 1 F31 NR07695-01A1.

CHALLENGES IN CONDUCTING A MULTI-STATE ONCOLOGY NURSING CLINICAL TRIAL. Frances Lewis, RN, MN, PhD, University of Washington School of Nursing, Seattle, WA; Marcia Grant, RN, DSN, City of Hope National Medical Center, Duarte, CA; Joan Haase, RN, PhD, Indiana University/Purdue Universiety, Indianapolis, IN; Arlene Houldin, RN, EdD, University of Pennsylvania, Philadelphia, PA; Janice Post-White, RN, PhD, University of Minnesota, Minneapolis, MN.

The purpose of this presentation is to analyze five methodological challenges and their management that were experienced by a team of nurse scientists when conducting a multi-state clinical trial, the Enhancing Connections Program (alphabetical): Arizona, California, Indiana, Minnesota, Pennsylvania, and Washington.

The purpose of this presentation is to analyze 5 major challenges that a team of nurses experienced in conducting a 6-state clinical trial of a behavioral nursing intervention. i-state clinical trial of a behavioral nursing intervention, the Enhancing Connections Program involving (alphabetical): Arizona, California, Indiana, Minnesota, Pennsylvania, and Washington. The principal investigator and the state's principal investigators will present both the challenges, ways they were managed, and recommend ways to manage them in future clinical trial studies.

Challenges in the clinical trial involved: 1) maintaining intervention integrity across multiple interventionists and states; 2) dealing with tolerable limits of variability in the delivery of the intervention while allowing for nurse-interventionist discretion; 3) facing recruitment challenges, including maintaining high morale in intermediaries; 4) maintaining each state team's focus and cohesion; and 5) maintaining intermediaries' commitment for recruiting a highly homogeneous sample over a long accrual period.

Multiple strategies and structures were instituted to manage and minimize the five challenges, including: intensive initial and follow up training with extensive printed materials; performance checklists for intervention monitoring; review of intervention integrity across multiple states; custom-designed spreadsheet tracking forms; processes for tracking timeliness; developing and sustaining nurturant, interactive links with a network of site intermediaries; and holding regular conference calls across the states, among other strategies. Each challenge was managed and our experience enables us to recommend ways to prevent, minimize or address such challenges in future clinical trial studies in oncology nursing.

Our goal is to facilitate both rigorous science in oncology nursing as well as offer informed, practical solutions to real-life challenges that will likely surface in future clinical trial studies with behavioral nursing interventions.

Future behavioral research studies in oncology nursing can benefit by addressing these specific challenges early on in the planning process. The conduct of behavioral interventions in oncology nursing within a clinical trial design requires much more than knowing the threats to internal validity; it requires implementing new structures and processes across a multi-state trial. Funding sources: National Cancer Institute, NIH.

DOMAINS OF SPOUSAL BREAST CANCER-RELATED CONCERNS: A META-SYNTHESIS OF QUALITATIVE RESEARCH. Frances Lewis, PhD, RN, University of Washington, Seattle, WA; Barbara Cochrane, PhD, RN, Fred Hutchinson Cancer Research Center, Seattle, WA; Ellen Zahlis, MN, Mary Ellen Shands, MN, RN, University of Washington, Seattle, WA.

The increased psychosocial distress of spouses of women with breast cancer and its negative consequences for the diagnosed wife have been documented extensively in previous research.

Both cross-sectional and longitudinal studies in couples with breast cancer provide extensive evidence of spousal distress. However, it is one thing to document the level of morbidity in a spouse; it is another to describe the spouses' perceived illness-related concerns that impact his psychosocial functioning. The purpose of this study was to synthesize previous qualitative research with spouses in order to derive conceptual domains of their illness-related concerns.

The current study is based on a relational model of adjustment to breast cancer in which members of the household, including spouses, directly experience ill-related concerns and are impacted by the diagnosed wife's affect, mood, and behavioral changes related to the cancer.

Secondary analyses were conducted on results obtained from five case-intensive elicitation interview studies involving over 300 spouses. All wives had been diagnosed with breast cancer an average of 6–12 months earlier. Interview data were audio-taped, transcribed verbatim, and inductively coded to identify the conceptual domains of illness-related spousal concerns.

Results across all studies were integrated to identify overarching domains of the spouses' illness-related concerns. Resulting domains were cross-validated with original transcription text and by peer confirmation of the domains, definitions, and exemplars identified.

Seven domains of spousal illness-related concerns were identified, the spouses' own words: Being overwhelmed with her vulnerability and the unpredictable illness; Riding the roller coaster of her emotions; Managing disruption in lifestyle and routines; Stuffing personal emotions; Struggling to read and support her; Dealing with her changed body; and Feeling inadequate to protect her. An understanding of these domains is important to advance intervention research and evidence-based oncology nursing practice. Intervention research is needed that appropriately targets these priority concerns of spouses. Funding sources: National Cancer Institute, National Institutes of Health.

THE MEANING OF PROSTATE CANCER TREATMENT-RELATED ERECTILE DYSFUNCTION: LOW-INCOME LATINO MEN. Sally L. Maliski, PhD, RN, Mark S. Litwin, MD, MPH, University of California Los Angeles Department of Urology, Los Angeles, CA.

This study will provide oncology nurses with insights into the meaning of prostate cancer treatment-related erectile dysfunction (ED) among low-income Latino men.

Because most prostate cancer treatments affect sexual function, it is necessary understand its meaning within cultural and treatment contexts to design culturally appropriate interventions. However, little is known about ED among low-income Latino men. Our purpose is to describe meanings of prostate cancer treatment-related ED among low-income Latino men. The specific aims are to elicit Latino men's perspectives on prostate cancer-related ED, identify emergent themes, and describe concepts of meaning and their underlying structure.

This study is grounded in the assumption that cultural beliefs and socioeconomic factors influence the meaning made of cancer-related symptoms. Furthermore, cultural concepts of masculinity are assumed to affect perceptions of ED.

The design employs ethnomethodology that combines ethnographic perspective (cultural) with phenomenologic techniques (meaning) to develop an in-depth understanding of erectile dysfunction through personal interviews. Interviews are conducted by male, bilingual interviewers in the man's home or by telephone depending on distance to home and the participant's preference using an open-ended guide. Interviews are audiotaped and transcribed verbatim. Spanish transcripts are translated using a forward-backward-forward process. Follow-up telephone interviews are conducted 3 months later to clarify questions and confirm emerging meanings.

The PI reads all transcripts in their entirety. The sentence is the unit of analysis for data management using NVivo. Unit-by-unit coding is done, identifying the major thought in each unit. For each transcript, themes will be identified from the codes. Emerging codes and themes will be constantly compared to previous ones. Concepts will be identified from the categories, derived from clustering themes across transcripts. These concepts will be dimensionalized to show the range of themes supporting the concepts and the surrounding variations within themes evidenced in codes. Themes and concepts will be examined back through the unit-by-unit coding for expressions of culture-influenced beliefs.

Initial coding is revealing multiple factors affecting masculine identity, acceptance of current ED if temporary, and reluctance to use "unnatural" means of achieving erections. Funding sources: Department of Defense Prostate Cancer Research Grant.

UNSOLICITED COMMENTS ON QUANTITATIVE SURVEYS: AN UNTAPPED DATA SOURCE. Sally Maliski, PhD, RN, University of California Los Angeles Department of Urology, Los Angeles, CA; Mark S. Litwin, MD, MPH, University of California Los Angeles Department of Urology and School of Public Health, Los Angeles, CA.

Our purpose is to describe a methodology developed to analyze unsolicited comments written on longitudinal quantitative Health Related Quality of Life (HRQOL) surveys.

Often, people write comments on surveys, perhaps needing to convey thoughts not captured by the items and their choices. Surveys do not allow for individuals' tendency to narrativize to make meaning from situations. Thus, these insights go unaccessed.

Numerous HRQOL surveys among men treated for prostate cancer exist. These studies have investigated both general and prostate cancer-specific HRQOL. Few have been longitudinal. To our knowledge, none have reported an analysis of unsolicited comments on these HRQOL surveys. Therefore, the information in these comments has remains unexplored.

We developed a methodology to qualitatively analyze and quantitatively display unsolicited comments on a survey measuring general and prostate cancer-specific HRQOL, urinary symptoms, fear of recurrence, and decisional regret administered over a 2-year period. Our goals were to develop and apply a methodology for analysis and display of this type of data, and identify patterns of concerns expressed in these comments over time.

Unsolicited comments written on these surveys were abstracted from the parent study database for pre-treatment, 1, 2, 4, 8, 12, 18, and 24 months post-treatment. Comments were grouped by ID number by date. We read through all comments. Not all subjects wrote comments at each time point. Thus the number of subjects at each time point varies. Investigators coded the main idea expressed by each statement in each comment. We grouped codes into categories qualitatively and then calculated the number and percent of subjects with codes falling within each category at each time point. Categories with number and percent of times that category appeared at each time point were entered into an Excel spreadsheet. Graphs displaying longitudinal patterns for the most common prostate cancer treatment-related symptoms were created using the percents.

This method allows for descriptive display of data. Its usefulness lies in suggesting explanations of quantitative findings, uncovering areas for exploration, and opening a new data source.

This method allows for analysis of data not originally solicited, but which can provide valuable insights into issues of importance.

INTRODUCING THE MUC16 GENE. NEW NURSING IMPLICATIONS FOR EARLY DETECTION OF OVARIAN CANCER. Monica McLemore, MPH, RN, University of California San Francisco, San Francisco, CA; Bradley Aouizerat, PhD, University of California San Francisco, San Francisco, CA; Christine Miaskowski, PhD, RN, FAAN, University of California San Francisco, San Francisco, CA.

The CA125 biomarker is used to monitor progression and regression of ovarian cancer and has not been recommended for population screening as it is not specific nor sensitive to meet screening standards. Surgery, changes in chemotherapeutic agent, and initiation of palliative care are made based on CA125 changes in sera. Understanding tumor markers and their use aids

nurses to help patients with decision-making and answer important questions about interpretating these markers. CA125 protein is encoded by MUC16 and is subject to splicing variation. There are 4 known isoforms of CA125 with varying number repeat domains, which house epitopes that identify CA125 in 2 commonly used assays, which do not take into consideration which isoform is being quantified.

Recently, data from molecular geneticists have provided information about the MUC16 gene that have implications including explainations about why CA125 is highly variable across and within populations and why serial measurement is more reliable than single measurement.

The CA125 biomarker cannot distinguish ovarian cancer patients because the current method used to assay the protein. Ethnic and genetic variation among individuals has been shown to impact how people metabolize and respond to drug therapy. This framework can be applied to screening and surveillance biomarkers and should be used to establish ethnicity or genotype specific cutoffs for these markers.

Case and control banked samples will be used in a pooled DNA analysis to: a.) Construct genomic maps of MUC16 in diverse populations to identify single nucleotide polymorphisms-SNPS, b.) Population frequencies of SNPs found in step A will be examined for specific cutoffs and patterns, c.) Information about variation within the biomarker will be compared to clinical data including historical CA125 levels, stage/grade of disease, and chemotherapeutic regimen.

Given the case control design, appropriate parametric and non-parametric statistical analysis will be performed to assess differences between control and case populations on genetic, clinical and demographic variables.

The findings of this study may allow for new CA125 level guidelines to allow for population based screening for Ovarian Cancer. Funding sources: National Institute of General Medical Sciences.

FAMILY COMMUNICATION AND DECISION MAKING REGARDING INHERITED BREAST/OVARIAN CANCER RISK INFORMATION. Suzanne Mellon, University of Detroit Mercy, Detroit, MI; Lisa Berry-Bobovski, BA, Robin Gold, MS, CGC, Nancy Levin, BS, Karmanos Cancer Institute, Detroit, MI; Michael Tainsky, PhD, Karmanos Cancer Institute and Wayne State University, Detroit, MI.

Dramatic advances in cancer genetics and identification of germline mutations in cancer genes such as BRCA1 and BRCA2 have led to new options in genetic risk assessment for families with histories of breast and ovarian cancer. However, little research has been carried out with individuals and their families regarding how cancer risk information is communicated within families and factors that may affect individuals and family members making informed decisions about their health.

The purpose of this study was to explore participants' knowledge of cancer risk, their perceptions and concerns regarding inherited cancer risk information, family communication patterns, and factors that may affect decision-making about inherited cancer risk information.

A family stress model, based on McCubbin and McCubbin's resiliency model, guided this research.

Nine focus groups of family dyads were conducted (N = 39) consisting of breast or ovarian cancer patients and close female relatives. Three types of focus groups were used: family dyads together, cancer survivors only, and family members only. A diverse sample of Caucasian (N = 27) and African American (N = 12) participants was represented. A semi-structured interview guide was used in all groups.

Content analysis of transcribed focus group interviews was done using the qualitative software package NVivo. Coding of data was done independently by the investigators with verification procedures throughout the analysis.

Analysis revealed six major thematic categories: knowledge and uncertainty of cancer risk, meaning of inherited cancer risk to the family, vigilance in watching out for cancer, barriers in communicating inherited cancer risk information, diversity in family communication patterns, and the family's influence on decision making. There was a pervasive sense of worry among survivors and family members and a heightened perceived risk for their families. Misinformation about genetic cancer was often present as well as vigilance in watching each other's health. Diversity in communication patterns was present across and

within families. A majority of women also viewed their families as critical in decision making about risk information. Results from this study support the inclusion of family members in addressing inherited cancer risk information and the importance of contextual family factors to consider when intervening with high risk families. Funding sources: This work was supported by the Barbara and Fred Erb Endowed Chair in Cancer Genetics to M.A. Tainsky and research funds from the Karmanos Cancer Institute.

SCREENING RELATED BELIEFS BY STAGE OF BEHAVIOR ADOPTION. Usha Menon, PhD, RN, B. Erin Witter, PhD, University of Utah College of Nursing, Salt Lake City, UT; Victoria L. Champion, DNS, RN, FAAN, Indiana University School of Nursing, Indianapolis, IN; Celette Sugg Skinner, PhD, Duke University Comprehensive Cancer Center, Durham, NC.

Colorectal cancer (CRC) remains the third leading cause of cancer death in the United States despite increased attention to early detection and prevention behaviors. Interventions to increase screening for cancer often focus on impacting behavior change by altering beliefs and knowledge.

This study combined two strong behavior change models (TTM and HBM) to provide a basis for tailoring education to increase CRC screening behavior. The primary aim of this study is to test the effectiveness of tailored and non-tailored interventions designed to increase the use of FOBT and sigmoidoscopy among non-adherent men and women aged 50 years or older.

According to the Transtheoretical Model (TTM), behavior change occurs in series of stages rather than as a dichotomous event. Each stage is incremental and effective interventions must focus on altering beliefs at each stage to impact behavior change. The Health Belief Model (HBM) provides guidance for tailoring education at each of the stages for behavior change.

In this prospective, randomized intervention study participants (N = 206) were randomly assigned to one of 3 groups: 1) usual care, 2) tailored print communication, and 3) non-tailored print communication. Data were collected via telephone at baseline and 2 months post-intervention. The sample was primarily Caucasian (81%), female (57%), middle class, reported at least a high school education (64%), with a mean age of 60.

Several beliefs differed by stage of behavior adoption. Knowledge as well as beliefs about perceived susceptibility, benefits, barriers, and self-efficacy were assessed for each screening test. For stool blood test, there were significant differences in barriers (F = 9.48, p < .001), benefits (F = 3.17, p < .001) and self-efficacy (F = 2.58, p < .05) were significantly different by stage; precontemplators had significantly higher barriers and lower self-efficacy than individuals in contemplation and action.

Results from this study indicate that individuals differ significantly in beliefs according to their stage of screening adoption. These results could guide future research to develop interventions tailored to individual beliefs and stage of behavior adoption. Funding sources: National Cancer Institute.

TELEPHONE LINKED CARE: IMPROVING COMMUNICATION ABOUT UNRELIEVED SYMPTOMS. Kathi Mooney, RN, PhD, AOCN®, FAAN, Susan L. Beck, RN, PhD, AOCN®, FAAN, William N. Dudley, PhD, University of Utah, Salt Lake City, UT; Ramesh Farzanfar, PhD, Robert H. Friedman, PhD, Boston Unversity and Boston Medical Center, Boston, MA; Camille Broadwater, MPH, University of Utah, Salt Lake City, UT.

Cancer chemotherapy causes distressing side effects. Since many patients are at home and do not report symptoms, providers do not know that symptoms are unrelieved and can not intervene.

The purpose of this study was to test a computer-based telecommunication system, Telephone Linked Care (TLC-Alert), designed to increase patient/provider communication about treatment-related symptoms.

The study was guided by Communication Theory and concepts from The Theory of Unpleasant Symptoms.

Using an experimental design, chemotherapy patients with at least one moderately severe symptom on first cycle were randomized to TLC-Alert or usual care. Eleven symptoms were monitored daily for the second and third cycles. TLC utilizes automated telephone conversations to monitor patients' symptom experience. It then alerts providers (physician and nurse) by fax or

email about moderate to severe symptoms, allowing providers to respond in any manner. Symptom data were measured with standard 1–10 severity ratings. A semi-structured exit interview documented provider perspective on TLC as a communication tool.

Descriptive statistics, chi square analysis and repeated measures ANOVA were used to describe the sample, their symptom experience and to test differences between the groups.

250 patients participated (126 TLC-Alert; 124 usual care). The participants were primarily female (75.6%), white (92.6%), married (72.5%), with breast cancer (41.3%). On average participants made 74% of daily calls. The highest prevalence of symptoms at moderate to severe levels were: trouble sleeping (76%), fatigue (74%), distress about appearance (74%), depressed mood (62%), pain/discomfort (58%), and nervous/anxious (57%). There were no differences between groups on symptom severity. However, TLC-Alert had more provider-initiated contacts (28.3% versus 14.0%; p = 0.05). Provider interviews demonstrated mixed responses to TLC. Some providers reported that TLC provided too much information with little time to respond and patients becoming overly focused on their symptoms. They viewed many symptoms as subjective (fatigue, sleep) with useful information coming only from quantifiable symptoms (fever, vomiting). While provider-initiated calls doubled with TLC, the increase was modest, resulting in no significant symptom improvement. TLC was effective in increasing communication, yet providers may under value patient-reported symptoms, representing a significant barrier to improved symptom relief with both clinical and research implications. Funding sources: Funded by The National Cancer Institute-1 R01 CA89474-01.

RISKS OF CHEMOTHERAPY EXPOSURE FROM TRANSPORTING CHEMO-THERAPY PATIENTS TO RADIATION ONCOLOGY DEPARTMENTS. Katen Moore, MSN, APRN, BC, New Jersey Healthcare System Department of Veterans Administration, East Orange, NJ; Marilyn Haas, PhD, ANP-C, Mountain Radiation Oncology, Asheville, NC; Peter Goyer, MS, RSO, New Jersey Healthcare System Department of Veterans Administration, East Orange, NJ.

The risk of chemotherapy exposure by radiation oncology (RO) nursing is becoming critical as more patients are being transported with chemotherapy to RO departments without evidence-based guidelines.

The purpose was to assess available protocols and educational guidelines concerning the risk of occupational chemotherapy exposure not routinely cited for "being at risk", i.e. Radiation Therapy (RT) Departments. While annual surveillance recommendations and guidelines for hospital medical oncology and pharmacy staff exists, workplace hazardous substance (i.e. chemotherapy) guidelines are not found in RT Departments, nor given the same attention as their counterparts. There are no published recommendations or existing guidelines for RT departments, leaving RT personnel unaware of their risks and without knowledge about the appropriate actions necessary in the event of a chemotherapy spill. Concurrent Continuous Intravenous Chemotherapy ("CCIVC") is too ubiquitous to ignore in this staff population and was the reason for this research. A Pub Med literature search did not identify any articles specifically addressing chemotherapy exposure outside the medical oncology or pharmacy settings (4/04).

To begin quantifying the need for action, seven e-mails were sent to RT sites treating patients with CCIVC. Five of seven sites reported having no policies regarding transportation of CCIVC patients to and from RT departments. Subsequently, a non-random CCIVC questionnaire was piloted to RT nurses at the 2004 ONS Congress RT SIG meeting.

Thirty-one questionnaires were completed, representing 16 US states and Alberta, Canada and 50% working in outpatient hospital-based RT settings. Over 50% of the respondents were staff nurses and 33% department managers. Though 88% indicated there were CCIVC patients coming through their departments, 50% were unaware of having any hospital policies regarding transporting CCIVC patients and over 70% had no known policies regarding travel to RT clinics. Furthermore, only 64% had chemotherapy spill kits in RT departments, 15% of RT nurses evaluate daily patency of infusion sites, and only 15% of radiation therapists had training to assess IV sites.

Current safety measures to protect RT staff appear to stop at the borders of

medical oncology and pharmacy settings. Though the actual exposure risk may be small now, with more patients on CCIVC regimens, the risk will only increase in the future. Without precautions to guide staff, RT personnel will remain at high risk.

AFRICAN AMERICAN COUPLES COPING WITH BREAST CANCER. Phyllis Morgan, PhD, APRN, BC, Fayetteville State University and Johns Hopkins University Schools of Nursing, Fayetteville, NC.

Diagnosis of breast cancer is a stressful life event that requires women and their partners to develop coping strategies for adaptation. Despite the known relevance of coping strategies on survival and adjustment to breast cancer, and the influence that cultural values may have on coping behaviors, the process of coping with breast cancer among African American couples has not been well-studied.

The purpose of this qualitative study utilizing grounded theory methods was to explore the processes by which African American couples cope with breast cancer.

The concepts that were derived evolved naturally without utilizing a pre-existing conceptual model or theoretical framework (Strauss & Corbin, 1998).

Interviews were conducted within the mid-Atlantic United States at a safe and convenient place for participants. African American women who were within 6 months to 2 years post-diagnosis participated in the study. Theoretical sampling was used to recruit additional participants for the study until the phenomena of interest was fully explored.

African American couples were asked to complete a demographic data sheet and participate in a 1 to 1-1/2 hour semi-structured interview. Interviews were tape-recorded and transcribed verbatim.

Qualitative data was reported based on identified themes from the constant comparative method. Demographic data was analyzed utilizing descriptive statistics.

African American women and their male partners reported difficulty expressing their needs and concerns with each other in relation to breast cancer. Coping was described as a day-to-day process. Intimacy was one of the most difficult challenges for couples to maintain especially during the treatment phase of the disease. Prayer and spirituality were identified as integral components of coping with the breast cancer experience for African American couples. Males often discussed how they felt helpless and left out of the process. Supportive networks were found to be essential for couples.

It is imperative for nurse practitioners to have an understanding of the impact of breast cancer among African American couples. Nurse practitioners should develop culturally sensitive interventions that are geared towards assisting African American couples to communicate more effectively throughout the breast cancer experience. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Sigma Theta Tau International; and American Academy of Nurse Practitioners.

PREVALENCE OF CANCER CARE BY PRACTICING REGISTERED NURSES IN GREATER LOUISVILLE. Mary Mundt, PhD, RN, Carla Hermann, PhD, RN, April Conner, MSSW, University of Louisville, Louisville, KY.

The Center for Cancer Nursing Education and Research (CCNER) at the University of Louisville met with community practice partners to discuss a community-wide educational needs assessment. The group agreed that registered nurses encounter persons with cancer and cancer-related health concerns in all nursing practice and community settings. There was little knowledge about where and with what frequency this occurs. This information is needed to advance cancer nursing practice to respond to cancer as a continued and serious public health problem.

The purpose of the study was to document the prevalence of registered nurse encounters with cancer patients according to the variables of frequency of contact, practice setting, educational level, and experience. The information will be used by CCNER for planning community-wide interventions to improve cancer nursing care.

This study uses a population-based model of describing the occurrence of an event/s to establish prevalence. The population of interest is all licensed registered nurses in a five county region surrounding Greater Louisville (N =

9,971). The events documented are: a) frequency of nurse encounters with cancer patients, b) practice setting, c) years of experience as an RN and d) educational preparation of the nurse.

A random sample of 1,180 was selected from the registration list of the Kentucky Board of Nursing. A mailed survey format was used. Subjects received an introductory letter and a survey printed on a stamped, addressed postcard. The survey contained 7 questions—5 forced-choice and 2 open-ended. A second mailing was sent to all non-responders after five weeks.

The analysis will include frequency and percent of response to each question. Chi square analysis will be used to determine differences according to the variables of practice setting, education, and experience of respondents.

To date 46% of the sample is accounted for with 499 (42%) useable returns and 4% undeliverable/new addresses. Data collection continues. The findings of this study will be important to improve knowledge about the self-reported experience of registered nurses in caring for cancer patients. It is imperative that all nurses increase awareness of the needs of cancer patients and their ability to provide high quality cancer nursing care. Funding sources: Department of Health and Human Services, Health Resources and Services Administration.

DESCRIBING THE EXPERIENCE OF HAIR LOSS WITH CANCER CHEMOTHERA-PY. Lillian Nail, PhD, RN, FAAN, Frances Lee-Lin, RN, MN, OCN®, CNS, Jennifer Scherer, MPH, Oregon Health and Science University, Portland, OR.

Hair loss (HL) is consistently rated as highly distressing to cancer patients, may signal others that someone has cancer, and disrupts self-image. Although HL is a common side effect of chemotherapy and affects approximately 250,000 American adults annually, there is little information about the experience of chemotherapy-induced HL. No published studies capture the extent to which various strategies suggested for dealing with HL are adopted, how HL influences the individual's daily life, and the extent to which the "new" hair differs from the original scalp hair. The information currently provided to patients about the HL experience is largely based on anecdotal reports, opinion, and speculation.

The purpose of this retrospective descriptive survey is to describe selected aspects of the HL experience in adult cancer patients and to explore relationships of personal characteristics (age, gender, race/ethnicity, and hair characteristics) to variation in hair regrowth, responses to HL, and strategies used to deal with HL.

Cognitive appraisal theory was used to guide the selection of study variables for this exploratory survey. Key variables include recollection of appraisal of HL, selection of coping strategies, distress and disruption in function due to HL, and the match of expectations to actual experience.

The anonymous survey was developed by the investigators to reflect the theoretical framework and variables discussed in the research, clinical, patient education, and lay literature. Content and face validity were established through review by clinical experts. Clarity and feasibility were established by review of responses of the first 20 subjects. Subjects (N = 200) are being recruited from clinical facilities, cancer advocacy groups, and cancer support groups.

Descriptive statistics, correlations, and cross-tabulations will be used to analyze the results. Relationships between responses to HL and personal characteristics will also be explored.

The findings of this preliminary study will provide essential information about people's experiences with HL due to chemotherapy. The information is critical to developing accurate informational materials to support coping with cancer treatment and understanding the influence of personal characteristics on responses to HL. Furthermore, the findings will contribute to the development of further research on coping with side effects of cancer treatment. Funding sources: National Cancer Institute, K24 CA98442.

SLEEP/WAKE PATTERNS VIA 42-CONSECUTIVE HOUR AMBULATORY POLY-SOMNOGRAPHY IN ADVANCED CANCER PATIENTS. Kathy Parker, PhD, RN, FAAN, Jo Ann Dalton, EdD, RN, FAAN, Nell Hodgson Woodruff School of Nursing, Emory University, Atlanta, GA; Donald Bliwise, PhD, Department of Neurology, Emory University, Atlanta, GA; Sanjay Jain, MD, PhD, Hematology/Oncology,

Emory University, Atlanta, GA; Mary Kay Kohles-Baker, MSW, RN, Cathy Vena, PhD(c), Nell Hodgson Woodruff School of Nursing, Emory University, Atlanta, GA.

Patients with advanced cancer frequently report sleep/wake disturbances but polysomnographic (PSG) measures of these patterns have never been described.

To describe polysomnographic measures of sleep/wake patterns of patients with advanced cancer.

According to the Two-Process Model of Sleep Regulation, irregular nocturnal and daytime sleep can interact to disrupt control of the sleep/wake cycle.

The sample included 31 subjects with metastatic solid tumors recruited during the initial two years of this study. The mean age was 56.7 (8.3); 18 were male and 13 were female. Twelve subjects were White and 18 subjects were Black.

Subjects underwent continuous, ambulatory PSG for 42 hours in their home environment. Analysis included data from two nights (pooled) and the intervening day. Sleep parameters obtained included total sleep time (minutes), sleep efficiency (time asleep/time in bed X 100,%), sleep latency (minutes), latency to the onset of rapid-eye-movement sleep (REM) sleep (minutes), and the percentages (%) of stages 1 through 4 non-rapid-eye-movement (NREM) and REM sleep.

Descriptive statistics were used to summarize sleep parameters. The amount of sleep and waking obtained across the study period was also summarized in 1-hour bins.

Subjects obtained an average of 407.7 (77.7) minutes of nocturnal sleep. The sleep latency was normal at 24.4 (36.0) but the sleep efficiency was low [78.5 (10.3)%]. Most sleep was light NREM Stage 1 [11.5 (5.6)%] and Stage 2 [74 (8.7)%]. An absence of deep NREM Stage 3 [0.3 (0.80)%] and Stage 4 (0.00)% was noted in most subjects. REM sleep was reduced [13.4 (8.1)%] and the REM latency was prolonged [117.4 (86.0) minutes].

During the daytime, subjects slept an average of 92.6 + 115.5 minutes; 12.4 + 7.3% - Stage 1; 75.0 + 9.3% - Stage 2; 0.3 + 1.3 - Stage 3, 0% - Stage 4; and 12.4 + 9.1% REM.

Hourly analysis across the 42-hours revealed a poorly consolidated sleep/wake pattern.

Results suggest that advanced cancer patients have dysregulation of sleep/wake patterns and that clinical interventions designed to improve both the quality of nocturnal sleep and daytime alertness are warranted. Funding sources: National Institute of Nursing Research RO1 008125, P20 07798.

INFORMATION NEEDS OF ADOLESCENTS WITH CANCER. Celeste Phillips, MSN, RN, Joan Haase, PhD, RN, Indiana University School of Nursing, Indianapolis, IN; Carol Decker, MSW, PhD(c), Indiana University School of Social Work, Indianapolis, IN.

Adolescents with cancer (AWC) have much poorer outcomes than younger children or adults: a 30% increase in diagnosis compared to a 10% increase for younger children and lower rates of decreasing mortality and lower 5-year survival rates than younger children.

Although provision of cancer-related information can improve outcomes, little is known about the types of information AWC need and want. The purpose of this paper is to describe AWC perspectives on cancer-related information. Specific aims are to describe the AWC-rated importance of various cancer-related information topics, analyze gender and age group differences in need for information and compare information needs of two different time-since-diagnosis groups of AWC.

This report is drawn from a larger study of resilience and quality of life.

The sample consisted of adolescents with newly diagnosed cancer (n = 74) and those one to three years from diagnosis (n = 39). The Information Preferences of Adolescents scale was used to measure the adolescents' information ratings. The scale asks the respondent to rate on a Likert-type scale each of 18 cancer-related items for importance.

The scores on each of the items and the total score were analyzed for each of the two time-since-diagnosis groups. Both groups of AWC rated the need for information as high, although there were differences in specific items rated

highest. While there were no significant age group differences, the females had significantly higher item means and total scores in the newly diagnosed group. The qualitative analysis of the additional write-in items generated four themes.

The overall high ratings from the adolescents underscore the need to include AWC in initial and on-going discussions related to their diagnosis and treatment as well as the need for support from the healthcare team (including the MDs, RNs, social workers, etc) to address their psychosocial needs. The findings from this study can serve as a guide for the opening discussions with AWC on the implications of the diagnosis, treatment, and psychosocial aspects their cancer. The initial discussion at diagnosis will serve to open discussions on cancer-related topics, but on-going probing for concerns is required as new information needs arise. Funding sources: NIH/NINR R29 NR03882-01A1.

THE EXPERIENCE OF PARTNERS OF WOMEN WITH OVARIAN CANCER. Julie Ponto, RN, MS, AOCN®, CNS, Debra Barton, RN, PhD, AOCN®, Mayo Clinic Cancer Center, Rochester, MN.

Ovarian cancer is the second most common gynecologic cancer in the US and has the highest mortality rate of all cancers of the female reproductive system. Approximately 70% of women have stage III or IV disease at the time of diagnosis where the five-year survival rate is less than 30%. These factors pose unique challenges for the woman with cancer and her partner including intensive and prolonged treatment, it's associated morbidity and significant uncertainly for the future.

The partner's experience of ovarian cancer is largely unexplored. Studies conducted in families with cancer have found that husbands of women with cancer may experience as much stress related to the cancer experience as the patients themselves. The purpose of this study is to describe the experience of the partners of women with ovarian cancer.

Husserlian phenomenology provides the philosophical framework for this study which will explore the essences and meanings of the partner's experience. Phenomenologic reasoning assumes that individuals are self-reflective beings who incorporate into their life experiences the effects of spatiality, temporality, corporeality and relationality. The individual's experience is unique and paramount.

A qualitative, exploratory, descriptive research design was undertaken. Criterion sampling was used to identify partners of women with ovarian cancer who were at least 18 years of age, able to speak and read English, and able to participate in a one-to-one telephone interview. Data was collected through telephone interviews, which provide participants the opportunity to share their ideas, thoughts and perceptions during individual interviews. The interviews were audiotaped and transcribed verbatim. The interviewer reviewed the transcriptions to verify transcription and add commentary regarding the tone, flow and character of the interview.

Analysis will be performed by two members of the research team to extract essences and meanings of the experience. These will be clustered into categorizes representing the experience. Discrepancies will be discussed between the coders until agreement is reached. Results of the analysis will be presented.

The experiences of partners of women with ovarian cancer remain largely unexplored and warrant investigation. The results of this descriptive work should yield meaningful information that will guide future research in this population. Funding sources: Mayo Clinic Cancer Prevention and Control.

TESTING THE QUALITY HEALTH OUTCOMES MODEL IN CANCER CARE. Laurel Radwin, RN, PhD, University of Massachusetts Boston, Boston, MA; Gail Wilkes, RNC, MS, AOCN®, Boston Medical Center, Boston, MA; Joanne M. Garvey, PhD(c), RN, Wendy Hubenthal, MEd, MS, Mary Philpot, RN, BSN, Caitlinn Mann, BS, University of Massachusetts Boston, Boston, MA; Jill O'Donnell, BS, RN, Beth Israel Deaconess Medical Center, Boston, MA; Susan Whalen, BS, RN, Brigham and Women's Hospital, Boston, MA; Weibo Lu, MS, RN, Second Military Medical University, Shanghai, China.

A convincing body of evidence verifies the relationship between nurse staffing levels and poor patient outcomes. The relationship between the quality of cancer nursing care and desired outcomes for hospitalized patients deserves similar attention.

The purpose is to determine relationships among the quality of patient-centered cancer nursing care, desired health outcomes, patient trait and state characteristics, and nursing-focused healthcare system characteristics.

The Quality Health Outcomes Model (QHOM) posits relationships between interventions and outcomes that are affected by patient characteristics and health care system characteristics. In this study, the intervention component of the QHOM is conceptualized as patient-centered nursing care; the outcome component as desired health outcomes; the healthcare system component as nursing focused characteristics; and patient characteristics as trait and state characteristics.

A correlational longitudinal design is used. The sample will include 240 hospitalized cancer patients, and approximately 30 nurses who provide direct patient care. Patient participants will complete three self-administered questionnaires during hospitalization, a telephone interview one week after discharge, and a questionnaire at the first clinic visit. Nurse participants will complete monthly questionnaires. Estimates of reliability and validity of the questionnaires are acceptable.

Patient questionnaires and interviews measure four interventions representing the quality of patient-centered nursing care: responsiveness, individualization, coordination, and proficiency. Patient questionnaires also measure desired health outcomes: sense of well-being, cancer patient optimism, authentic self-representation, trust in nurses, fortitude, and functional status. Nurse questionnaires measure nursing-focused healthcare system characteristics: nursing experience, nursing expertise, nurse-physician collaboration, nurse control over practice, and nurses' advocacy for patients. Nurse staffing will also be measured.

A patient demographic questionnaire measures patient trait characteristics. Nursing acuity data and medical diagnosis variables measure patient state characteristics.

Exploratory data analyses will be conducted before analyses testing the specific study hypotheses. Structural equation modeling will be used to examine relationships among the variables. Two models will be tested; one examines the moderating effects of system and patient characteristics on the relationship between interventions and outcomes; the other examines the mediating effects of the characteristics.

Preliminary findings will be presented and implications will be described. Funding sources: Mentored Clinical Scientist Development Award from the Agency for Healthcare Research and Quality (K08 HS 11625) to Dr. Radwin.

DEVELOPMENT OF A TAILORED PRINT INTERVENTION TO PROMOTE COLON CANCER SCREENING. Susan Rawl, PhD, RN, Victoria Champion, DNS, RN, Indiana University School of Nursing, Indianapolis, IN; Celette Skinner, PhD, Duke University Medical Center, Durham, NC; Linda Scott, MS, Karen Schmidt, RN, MS, Leslie Weaver, MSW, Indiana University School of Nursing, Indianapolis, IN; Samantha Steen, Indiana University Cancer Center, Indianapolis, IN; Patrick Monahan, PhD, Indiana University School of Medicine, Indianapolis, IN.

First-degree relatives of colorectal cancer (CRC) survivors have a two- to threefold increased risk of developing the same disease. Screening which leads to removal of precancerous polyps has been shown to decrease CRC incidence by 75–90%.

Despite their increased risk, participation in CRC screening among first-degree relatives is low. Tailored print interventions based on theories of behavior change have demonstrated considerable promise as interventions for promoting health behaviors. The primary purpose of this study was to develop and test a tailored print intervention to increase participation in screening among first-degree relatives of CRC survivors.

The interventions contains messages individualized for each recipient based on assessment of each person's demographics, CRC risk factors, health beliefs (perceived risk, benefits, barriers, self-efficacy), and stages of adoption for CRC screening.

An ongoing randomized trial is being conducted to determine efficacy of this tailored print intervention; participants are randomly assigned to receive the tailored print intervention (experimental) or a non-tailored American Cancer Society brochure (control). Data regarding readership, relevance

and satisfaction with both the tailored and nontailored interventions were collected via structured telephone interviews at one week post-intervention. This presentation will describe the process used to develop the tailored print intervention and results of comparisons between experimental and control groups' perceptions of the readership, perceived relevance and satisfaction with the print materials.

Analyses will be conducted using descriptive statistics and chi-square tests of independence.

Research implications for development of tailored print interventions and assessment of readership, relevance and satisfaction will be presented. Funding sources: National Cancer Institute.

FATIGUE IN BREAST CANCER SURVIVORS: A PSYCHOMETRIC ANALYSIS. Kristina Reuille, MSN, RN, Janet Carpenter, PhD, RN, Indiana University School of Nursing, Indianapolis, IN.

Fatigue is a well-known and distressing side-effect of cancer treatment. For some survivors of cancer, fatigue may be a persistent problem. Although reliable and valid measures of fatigue have been identified for patients undergoing treatment, the psychometrics of these measures have not been widely evaluated in cancer survivors.

Fatigue may persist after treatment has ended. However, measures of fatigue have not been widely evaluated for reliability and validity in cancer survivors. Therefore, the purpose of this study is to analyze the psychometrics of several instruments used to measure fatigue in breast cancer survivors (BCS), with the goal of determining which instruments are the best unique measures of fatigue in this population.

Psychometric theory and a symptom experience model based on the Common Sense Model will guide this analysis.

Baseline data are being collected from 55 BCS (Mean age = 51; SD = 9) participating in a randomized clinical trial testing the efficacy of, and side effects associated with, a medication to treat hot flashes in BCS. The majority of women are married (84%), employed (75%), and Caucasian (92%). Mean time since treatment is 37 months (SD = 44) and 51% of the women are taking tamoxifen.

Fatigue measures include: 1) F_POMS-sf; 2) Piper Fatigue Scale); 3) Circumplex Octant 6 (low activation, negative affect), and 4) the MOS-SF36 Vitality Subscale. Construct validation measures include: 1) CES-D; 2) STAI; 3) PANAS; 4) Ham-D; 5) MOS-SF36 physical functioning and role-Physical subscales; 6) Marlowe Crowne Social Desirability Scale (MCSDS) and 7) the Pittsburgh Sleep Quality Index.

Planned analyses include 1) Cronbach Alpha reliabilities; 2) content validity evaluation assessing fatigue dimensions (quality, intensity, duration, distress); and 3) construct validity including convergent, discriminant and known groups validity using Pearson correlations and t-tests.

Preliminary hypotheses are that fatigue measures will: a) correlate positively with measures of depression, anxiety, and negative affect; b) correlate negatively with the physical subscales of the MOS-SF36; c) correlate weakly with the MCSDS; and d) be significantly higher for those with poor sleep quality (using the PSQI cutoff score).

Findings will be used to guide selection of fatigue measures in future studies of breast cancer survivors. Funding sources: Supported by NINR/NIH grant R01 NR05261 and PHS grant 5T32NR07066.

PSYCHOMETRIC TESTING OF THE CANCER TREATMENT-RELATED FATIGUE REPRESENTATION (CTRFREP) SCALE. Kristi Reuille, MSN, RN, Victoria L. Champion, DNS, RN, FAAN, Joan E. Haase, PhD, RN, Indiana University School of Nursing, Indianapolis, IN.

Cancer treatment-related fatigue (CTRF), a distressing symptom of cancer treatment, affects up to 100% of patients. The relationship between CTRF intensity and its associated distress is not direct; some who experience high levels of intensity experience little distress, whereas for others, low-level intensity may result in high levels of distress.

CTRF representation—the beliefs, thoughts and associated emotions of the CTRF experience—may relate to development or absence of CTRF distress.

A valid, reliable measure of representation is needed to test models of CTRF experience (i.e. intensity and distress) including representation. The purpose of this study is to test a measure of CTRF representation adapted from existing illness representation measures.

The Common Sense Model (CSM) and symptom experience literature guided the development of a model of CTRF experience including representation. This model and psychometric theory are guiding the study.

To develop the CTRFRep, items were added to existing illness representation measures to reflect CTRF representation as described in research. Content validity was established using 4 content area/measurement experts. The CTRFRep (item N = 96) has subscales reflecting Identity (N = 19), Timeline (N = 10), Consequences (N = 11), Controllability (N = 20), Coherence (N = 5), Emotional Representation (N = 8) and Cause (N = 23).

Adult patients are eligible for the study if 1) receiving > 4 weeks of radiation treatment, 2) not receiving brain radiation and 3) without known brain metastases. Data collection occurs via in-person interview 4 weeks following radiation treatment. The projected sample size is 100.

Construct validation measures include the: 1) F_POMS-sf; 2) MFI-20; 3) CES-D; 4) PANAS and 5) Cancer Related Fatigue Distress Scales (CRFDS). Planned analyses include: 1) internal consistency reliability; 2) construct validity of CTRFRep subscales—convergent and discriminant—using Pearson correlations; and 3) exploratory factor analysis to determine the factor structure of the overall scale. The goal of the analysis will be to generate a parsimonious measure of CTRF representation.

A reliable and valid measure of CTRF representation can be used to test models of the CTRF experience in which representation is hypothesized to mediate the relationship between CTRF intensity and its associated distress. Funding sources: This research is supported by PHS grant 5T32NR07066.

IN-HOME PAIN EDUCATION FOR CANCER PATIENTS-A PILOT STUDY. Mary Anne Hales Reynolds, RN, PhD, CS, Idaho State University Department of Nursing, Pocatello, ID.

The World Health Organization estimates 3.5 million people suffer from cancer-related pain daily and, in theory, poorly managed pain impacts negatively quality of life for the cancer patient and their caregiver.

The purpose of this study is to evaluate the effectiveness of a well-established pain management education protocol (PMEP), developed at the City of Hope (COH) in a rural Eastern Idaho community (E. Idaho). Specific aims are to: (1) examine the effect of PMEP on quality of life, pain knowledge and attitudes, and pain scores; (2) compare demographics and outcome scores between COH and E. Idaho; and (3) generate information for future PMEPs and research.

Quality of life is conceptualized as multidimensional including: physical, psychological, social, and spiritual well-being domains. Poorly managed pain interrupts all four domains and is seen as a loss of function, interferes with normal roles, and may result in unnecessary suffering.

A convenience sample of twenty-five E. Idaho home health/hospice adult cancer patients and caregivers will receive two, one hour PMEP sessions, set in their home, within a two-week period of time. The PMEP includes general information about pain and pharmacological and non-pharmacologic pain management. Teaching methods include verbal instruction by the nurse, a patient-education booklet, and two audiocassettes. All scripts were developed by the COH. Using a pre-post test/time-series design, measurements will be obtained before the first PMEP session and one week after the last PMEP. Instruments include: Quality of Life Patient and Family Versions; Patient and Family Pain Questionnaire; and Self-Reported and Caregiver Reported Pain Scores. All instruments have established reliability and validity data.

Data analysis will include aggregated descriptive profiles of the E. Idaho study population compared to COH populations. Descriptive statistics will be used to evaluate outcome measures over time using repeated/measures MANOVA to examine the PMEP effectiveness.

Clinical implications from this study relate to evaluating the effectiveness of in home patient education by nurses, and the refining, adapting, and tailoring the transferability of the COH-PMEP. This information can then be used in

developing future patient education and research programs that will address the unique needs of oncology patients. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Knoll Pharmaceutical.

LYMPHEDEMA EDUCATION AND IDENTIFIED EDUCATIONAL RESOURCES IN BREAST CANCER PATIENTS. Sheila Ridner, PhD, RN, ACNP, Vanderbilt University School of Nursing, Nashville, TN.

Significance: Approximately 15% to 28% of American breast cancer survivors develop chronic lymphedema after breast cancer treatment.

Problem and Purpose: Breast cancer survivors report dissatisfaction with information received about the risk of getting lymphedema. Survivors with lymphedema verbalize distress towards healthcare professionals for failure to educate them about lymphedema. The purpose of this retrospective study was to compare lymphedema and risk reduction strategy education prior to breast cancer treatment between women with and without subsequent lymphedema.

Theoretical/Scientific Framework: Self-regulation theory proposes that individuals cope based upon their understanding of an experience. Inherent in this theory is the need for patients to have adequate information about the experience. Failure by healthcare professionals to educate about the lymphedema risk experience may impair patients' ability to manage this risk.

Methods: Breast cancer survivors (74 with lymphedema, 75 without) were asked: (1) Prior to having breast cancer treatment did anyone talk to you about your risk for lymphedema? If yes, who?; (2) Prior to having breast cancer treatment did anyone talk to you about ways to decrease your risk for lymphedema? If yes, who?; and (3) If you want to learn more about lymphedema occurring after breast cancer treatment who would you ask or where would you look for information?

Data Analysis: Chi-square was used to analyze results. Frequency data were calculated to identify educational resources.

Findings and Implications: Significant group differences were noted: (1) 81% with lymphedema did not recall receiving lymphedema risk education compared to 60% without lymphedema (p = .005). (2) 88% with lymphedema did not recall being told of risk reduction strategies compared to 71% without lymphedema (p = .01). Surgeons, nurses, oncologists, and friends provided pretreatment information. The internet was the most cited resource.

These data suggest that breast cancer patients recall little education about lymphedema being given pretreatment and those with lymphedema recall the least amount being given. Although some healthcare professionals provide information pretreatment, the internet is viewed as the greatest resource. Healthcare professionals should consistently provide this education. Research concerning the influence of pretreatment education on lymphedema risk reduction and optimal methods of educational delivery is indicated. Funding sources: NRSA Grant 5 F31 NR07854; Iota Chapter Sigma Theta Tau; Vanderbilt Disseratation Enhancement Award.

PICC LINE INSERTION COMPLICATIONS UPPER ARM VS. LOWER ARM. Philip Rosati, RN, OCN®, Regina Lee, RN, CCRC, Christine Belle, RN, BSN, CCRP, Sunrise Hospital and Medical Center, Las Vegas, NV.

Growing numbers of oncology patients have PICC (peripherally inserted central catheter) lines placed as the VAD (venous access device) of choice. The potential complications of these devices can be profound.

Common complications of antecubital space PICC placement include deep vein thrombosis, mechanical phlebitis, infection and mechanical occlusion. There are no existing clinical studies that specifically compare complication rates of PICCs when inserted into the upper arm versus the traditional insertion method of antecubital space placement. The hypothesis suggests PICC complication rates can be decreased, and patient outcomes increased utilizing the upper arm insertion method. The use of high tech tools and advanced practice techniques such as ultrasound guidance and micro introduction facilitate placement in the upper arm where blood flow is greatest, thereby potentially reducing complications.

PICC catheters placed in the upper arm (above the antecubital fossa) using advanced placement techniques will have fewer post placement complications than those placed in the lower arm (below the antecubital fossa), utilizing the same PICC catheter and advanced placement techniques. The Groshong NXT will be the only catheter inserted for purposes of this study.

This is a randomized parallel group study to evaluate the placement of a Groshong NXT PICC by comparing post insertion complication rates between upper and lower arm placement. Patients will be randomly assigned to the lower arm or upper arm group. A total of 250 patients will be enrolled from each of four participating facilities for a significance level of alpha 0.05 and 80 power to detect a 5 difference.

Analysis and summaries will be performed using the following two datasets 1. All randomized patients. 2. Completed patients. Analysis will compare the incidence of complications between the two groups at the end of the first seven days of treatment including the demographics and other pretreatment characteristics. The denominators for the calculations will be based on the number of patients in each group. The Cochran-Mantel-Haenszel formula will be utilized.

This study will provide the rationale to protect the compromised oncology patient population with outcomes-based practice guidance for PICC insertions. Funding sources: BARD Access Systems and Sunrise Hospital and Medical Center.

ENHANCING THE LIKELIHOOD OF PRACTICE CHANGE IMPLEMENTATION: SELECTION OF TEAM MEMBERS. Dana Rutledge, RN, PhD, California State University, Fullerton Department of Nursing, Fullerton, CA; Cindy Idell, RN, MSN, AOCN®, City of Hope National Medical Center, Duarte, CA.

Implementing evidence-based practices is a healthcare imperative. Processes that maximize the success of implementation are little-studied. This project discusses the potential impact of team member selection using experiences with an ongoing project.

Knowledge utilization frameworks (diffusion of innovations, CURN, Iowa Model) support evidence-based practice (EBP) and research utilization strategies (linkage agents, pilot work), yet require specific knowledge and experience sets for persons implementing practice changes. To date, no one has evaluated use of theory-based selection processes for team members in an EBP project. Rutledge (1995; in press) describes potential roles of nurses and others in EBP processes (e.g., information brokers, systems savvy providers, change agents, practice adopters, educators). Purposeful work team selection—maximizing inclusion of persons with specific skillsets—increases the likelihood of success in implementation/maintenance and decreases barriers such as difficulty understanding research or lack of authority to implement changes.

In 2002, Idell and colleagues, in a change project focused upon increasing pain re-assessment in nurses, put together a work team made of persons based on anticipated role fulfillment. As expected, many of the 23 team members have served more than one role in the project. Team attrition over 2 years (4 members lost) was unrelated to role or position.

During this continuing practice change effort, the most common roles are information brokers (47%), interested clinicians (37%), systems savvy members (37%), change agents (32%). Lesser roles include educators (21%), early new practice adopters (16%), evidence retrievers (11%).

Use of theory-based team selection in an EBP project may maximize process/clinical outcomes while decreasing barriers. Purposeful team role diversity has helped facilitate project success. Including information brokers, retrievers, and critiquers ensures selection of EBP strategies by interested RNs and early practice users rather than sole reliance on clinical judgment. Including managers, physicians and other systems savvy members (Pharmacy, Rehab, Research) enhances stakeholder buy-in, avoids replaying past mistakes, and illuminates driving/restraining forces. Authors recommend that future groups include fewer information brokers and more educators/early new practice users (proportionally) to encourage earlier and smoother implementation. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.

VIRTUAL REALITY INTERVENTION FOR CHEMOTHERAPY SYMPTOMS. Susan Schneider, PhD, AOCN®, Linda Hood, RN, MSN, AOCN®, Duke University School of Nursing, Durham, NC; Marcia Grant, RN, DNSc, FAAN, City of Hope National Medical Center, Duarte, CA.

Successful completion of chemotherapy offers a greater chance of tumor non-recurrence and long-term quality of life. However, many patients have difficulty adhering to the prescribed regimen because of related symptoms. Virtual reality (VR) provides a distracting, immersive environment, which blocks out competing stimuli, ameliorates chemotherapy symptoms, and thus, helps patients tolerate their chemotherapy regimen.

This study explored VR as a distraction intervention to relieve symptom distress in outpatients receiving chemotherapy and to determine the post-treatment effect on symptom distress after 48 hours.

Lazarus and Folkman's Stress and Coping Model identifies interactive distraction as an emotion-focused coping strategy utilized by individuals experiencing a threatening situation. VR is an immersive and interactive intervention, which engages several senses simultaneously. The individual wears a headset that projects an image with the corresponding sounds of the environment. The sense of touch is involved through a computer mouse that allows image manipulation.

A crossover design was used to determine whether VR was effective in reducing chemotherapy-related symptom distress in patients and whether the effects last for two days.

Over 100 adults receiving chemotherapy for breast, colon, or lung cancer at Duke University Health System were randomly assigned to receive VR during one chemotherapy treatment and no VR (control) during an alternate treatment. The Adapted Symptom Distress Scale-2, the Revised Piper Fatigue Scale and the State Anxiety Inventory measured aspects of symptom distress for two matched chemotherapy treatments at one pre-test and two post-test data points. The Presence Questionnaire and an open-ended evaluation were used to evaluate the subjects' VR experience. The influence of age, gender, coping style, and immersive tendency on the effectiveness of the VR intervention were explored. All instruments have demonstrated reliability and validity in this population.

Ninety-two subjects have been enrolled, with preliminary results demonstrating positive outcomes following VR use. Paired t-tests. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Ortho Biotech Products, L.P.

DETERMINANTS OF HOSPITAL NURSES INTEGRATION OF TOBACCO REDUCTION INTO PRACTICE: A PATH ANALYSIS. Annette Schultz, MN, PhD(c), RN, School of Nursing, University of British Columbia, Vancouver, British Columbia, Canada.

Reduction of tobacco use is the single most effective means to reduce cancer related morbidity and mortality. Nurses are encouraged to integrate tobacco reduction (TR) into practice, which provides hospitalized smokers with an opportunity to talk about tobacco use and stopping. Even though successful stopping is unlikely during hospitalization, this opportunity would educate and engage tobacco users in the process of stopping, which could be readdressed at post-discharge health care visits.

The purpose was to investigate acute care nurses' integration of TR into practice. This presentation discusses results from testing a hypothesized path model that defines relationships among intrapersonal and interpersonal variables associated with nurses' integration of TR.

This mixed-methods study investigated the practice, perspectives, and work context of nurses working on 16 adult in-patient hospital wards in Western Canada. An ecological perspective framed this study, which theorizes that behavior is a product of both individual and contextual factors.

A survey was completed by nurses (n = 214, response rate 54%), which measured the following variables: age, professional demographics, smoking status, workplace environment, perception of organization resources, perception of other nurses' TR activities, attitude toward a TR role, perception of barriers, and their own TR activities.

The analysis was guided by the theoretical model that hypothesized the relationship among the variables. A series of multiple regression analysis were conducted testing each path in the model.

Enhancing our understanding of nurses' integration of TR into practice could inform health policy and programming. Nurses' perception of other nurses' activities and organizational resources were the most influential variables.

There are three barrier dimensions: professional, concern for patient, tobacco related health issues. The perception of professional barriers appears to be the strongest influencing dimension. Less influential and still statistically significant was nurses' attitude toward providing TR. Smoking status was statistically significant, but only in relation to perception of professional barrier and in shaping nurses' attitude toward TR. Perceived innovativeness of the ward was also significantly related to level of TR activities. These findings suggest that support for TR champions partially through incorporation of organizational resources will influence all nurses' integration of TR activities. Funding sources: University of British Columbia, School of Nursing, Katherine McMillan Directors Discretionary Fund.

PSYCHOMETRIC TESTING OF THE REVISED FAMILY CAREGIVING SKILL PROFILE. Karen Schumacher, RN, PhD, University of Nebraska Medical Center College of Nursing, Omaha, NE; Barbara Stewart, PhD, Oregon Health and Sciences University, Portland, OR; Susan Beidler, RN, PhD, Florida Atlantic University, Boca Raton, FL; Patricia Archbold, RN, PhD, Oregon Health and Sciences University, Portland, OR.

This poster describes the third in a series of studies designed to develop and test a new instrument called the Family Caregiving Skill Profile (FCSP).

The development of caregiving skills is integral to the process of taking on the caregiving role when a family member begins treatment for cancer. Clinical experience suggests that family caregiving skill may be related to both patient outcomes (e.g. symptom distress, health services utilization) and caregiver outcomes (e.g. strain, anxiety). However, lack of an instrument with which to measure caregiving skill limits research in this area. The FCSP is designed to fill this gap. The first step in instrument development was a concept development study using qualitative research methods. The initial version of the FCSP was based on this study. The second step was the initial testing of the instrument, which documented reasonable internal consistency reliability and concurrent validity for a new instrument, and indicated revisions needed in FCSP items, scoring, and administration.

The current study aims to test the revised FCSP with a sample of 50 family caregivers of adults receiving chemotherapy for solid tumors or lymphoma. To administer the FCSP, a semi-structured interview is conducted with the family caregiver (and patient when he or she is able and willing to participate). Interview data are rated for the extent to which 68 indicators of skill across 8 subscales are present. Mean scores are calculated for each subscale and the FCSP as a whole. Internal consistency and interrater reliability will be calculated using Cronbach's alpha and Cohen's kappa respectively. Concurrent validity will be assessed using bivariate correlations between FCSP scores and theoretically related caregiver and patient variables. Predictive validity will be assessed by correlating FCSP scores with patient health service utilization during the subsequent month.

The results of this study will provide a basis for larger scale testing of the FCSP using multivariate psychometric techniques.

The ability to measure family caregiving skill would make it possible to include family caregiving skill as a variable in research. Funding sources: National Institute of Nursing Research (RO1 NR04685).

FIT TRIAL: A RANDOMIZED MULTI-SITE INTERVENTION TO INCREASE ADHERENCE TO ALPHA INTERFERON FOR MELANOMA. Anna Schwartz, PhD, ARNP, University of Washington, Seattle, WA.

Stage III melanoma is a serious, challenging cancer to treat. Interferon-alpha (IFN) is an efficacious treatment with severe, treatment limiting side-effects. Patients who are not able to receive full dose treatment are at greater risk for recurrence and death.

The purpose was to determine the effects of exercise + methylphenidate EX + MPD on fatigue, quality of life (QOL), and IFN tolerance. Primary objective: examine differences IFN patients randomized to EX + MPD or exercise-alone (EX) on: fatigue, QOL, functional ability, and cognitive function. The secondary aims: to determine the percent who 1) adhered to EX; 2) experienced methylphenidate toxicity ; 3) adhered to treatment.

IFN is associated with severe, dose-limiting toxicities, especially fatigue.

Even when changing from induction to maintenance phase, toxicities continue to effect adherence. To improve tolerance of IFN, interventions are needed to minimize side effects, improve QOL, and ultimately long-term outcomes. Research suggests aerobic exercise reduces fatigue and improves QOL, however, no randomized trials have examined EX + MPD on fatigue, QOL, and cognition in melanoma patients.

Two-arm, randomized trial tested EX + MPD vs EX on fatigue, QOL, functional ability and cognition of patients with melanoma receiving IFN (> 5 million units). 32 subjects were followed 4-months from IFN initiation. All subjects exercised aerobically 3–4 days/week, 15–30 minutes at a moderate intensity. Methylphenidate (10mg po qam) began after 1-week of therapy. Reliable and valid measures, of fatigue, QOL, functional ability and cognition were obtained every month.

Descriptive statistics and ANOVA were used to describe the sample and differences between groups.

Fatigue was lower in EX + MPD than EX (difference = 2.1, p < .05). No differences QOL between EX and EX + MPD. Functional ability improved (EX 5.6%, EX + MPD 6.4%, p > .05). Cognitive function was stable EX + MPD, and declined for EX (difference = 2.1, p > .05). 88% (N = 14) adhered to EX, 75% (N = 12) adhered to EX + MPD. Clinically important differences in fatigue, functional ability and cognition were observed in EX + MPD. EX + MPD may be an important intervention to improve tolerance for IFN and ultimately increase melanoma survival. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Schering Oncology Biotech and Integrated Therapeutics Group.

DIFFERENTIAL EFFECTS OF A COGNITIVE BEHAVIORAL INTERVENTION ON SYMPTOM MANAGEMENT. Paula Sherwood, RN, PhD, CNRN, Charles W. Given, PhD, Barbara A. Given, RN, PhD, FAAN, Michigan State University, East Lansing, MI; Victoria L. Champion, RN, DNS, FAAN, Indiana University, Indianapolis, IN.

Symptom management is essential to quality of life for cancer patients, and is a national priority for oncology nurses.

Cognitive behavioral interventions (CBIs) can decrease the severity of treatment-related symptoms for cancer patients. However, the effectiveness of CBIs for subgroups of patients is unknown, as samples are rarely large enough to determine significant differences. The purpose of this study was to examine the effectiveness of a CBI on symptom severity for specific subgroups of patients.

Cognitive behavioral theory guided the intervention, helping patients form a positive orientation to symptom management, understand the nature of symptoms, identify realistic goals, implement strategies to decrease symptoms' severity, and verify the effectiveness of strategies.

Data from two randomized clinical trials, which used an identical CBI, (N = 265 and N = 124) were combined for the analysis. Both studies recruited patients over 21 with a solid tumor cancer or non-Hodgkin's lymphoma who were undergoing chemotherapy. Patients in the control group received standard supportive care. Patients in the experimental group received a 5-contact, 10-week nurse-directed CBI. Symptom severity was assessed at baseline and at 10-weeks by asking the patient to rate the severity of eleven symptoms on a scale from 0 to 10, then summing individual severity scores to generate an overall symptom severity score. Reliability analysis of severity scores were not appropriate, as they were based on differing symptoms for each patient.

Regression analyses were used to determine the effects of symptom severity and depression at baseline, age, gender, study, site, stage, and type of cancer on symptom severity at 10-weeks.

The only significant predictors of symptom severity at 10-weeks were group (p = .00) and the interaction between symptom severity at baseline and sex (p = .01). Further analyses revealed that the intervention improved and/or maintained symptom severity for males with all levels of symptom severity at baseline and for females with moderate symptom severity at baseline. Regarding females with low and high symptom severity at baseline, the intervention did not improve or maintain symptom severity. Before significant financial resources are invested in interventions, subtle differences such as these must be further explored to tailor interventions toward those who are amenable to intervention. Funding sources: Mary Margaret Walther Cancer Institute, National Cancer Institute, and the National Institute for Nursing Research (2 R01 NR/CA01915).

PAIN KNOWLEDGE IN HOSPICE AND INTERNAL MEDICINE NURSES IN TAIWAN. Chen Shu-Ching, Taipei Medical University/Chang Gung Institute of Technology, Taoyuan Yeur-Hur, Taipei Medical University, Taipei, Taiwan.

Pain is a major care problem in terminal cancer patients. Due to the limited space in hospice-care institutions in Taiwan, some terminal cancer patients receive care in internal medicine wards. To provide better pain control for terminal cancer patients, it is necessary to identify how well prepared nurses are to manage cancer pain.

The purposes of this study were to examine and compare the level of knowledge about cancer pain management in nurses working in hospice and internal medicine.

The Nurses' Pain Knowledge and Attitudes Survey Chinese version was used cross-sectionally to assess nurses' knowledge about pain. Of 150 surveys distributed, 141 were returned with complete responses (71 from internal medicine nurses and 70 from hospice nurses; 94.0% response rate).

Data were analyzed by descriptive analysis, chi-square and independent t-test.

The results showed that (1) nurses working in both settings had insufficient knowledge of pain management, in particular, misconceptions and lack of knowledge about opioids; (2) nurses in both settings had more problems handling questions related to case study; (3) nurses in both groups had better knowledge about pain assessment than about pain management; and (4) nurses working in hospice had a significantly higher correct answer rate to survey items (74%) than did nurses working in internal medicine wards (47.1%). The results strongly suggest that nurses' knowledge about pain management still needs to be strengthened, especially for nurses working in non-cancer care specific internal medicine wards. More discussions of case studies about pain management are suggested to enhance nurses' abilities in integrating pain knowledge into a complex pain management situation.

THE RELATIONSHIP OF ATTITUDE, SUBJECTIVE NORM, PERCEIVED BEHAVIORAL CONTROL, AND PERCEIVED THREAT ON MAMMORGRAPHY BEHAVIOR. Susan Steele, DNS, RN, AOCN®, Our Lady of the Lake College, Baton Rouge, LA.

Breast cancer is a life threatening health problem of concern for many women. Early detection with mammography is a woman's best chance of surviving the disease, but unfortunately many women are not active participants in their own health.

The purpose of this study was to test the expanded Theory of Planned Behavior in order to determine the relationship between Southeastern Louisiana women's beliefs, attitudes, subjective norm, perceived behavioral control, and perceived threat to mammography intention.

The sample consisted of 302 adult women, between the ages of 40–74, who resided in one of the targeted parishes, were able to read English, respond to a written questionnaire (Chronbach's alpha of .7521 to .9242 and a CVI of .945), and without a prior history of breast cancer. Data was collected over a six-week period from community agencies in East Feliciana, Iberville and St. Helena parishes.

A correlation study design with multiple regression for path analysis was used.

The findings indicated that the perceived threat of breast cancer development and breast cancer susceptibility were not related to mammography intention. The addition of breast cancer severity to the Theory of Planned Behavior explained 28% of the variance. Based on stepwise regression of the significant variables that independently contributed to prediction of intention to have a mammogram included: "My doctor orders one" (alpha = .292; p < .001), "Having time to go" (alpha= .232; p < .001), "The thought of breast cancer scares me" (alpha = .186; p < .001) and "Will cause me to have pain" (alpha = .121; p = .019). When a physician discussed mammography with a woman and the woman was above the poverty level, she was twice as likely (odds ratio = 2.06) to have a mammogram. Therefore, healthcare providers

should encourage an annual screening mammogram, provide convenient access, and decrease the myths surrounding mammography. Funding sources: OLOL College: Endowed Professorship.

BALANCING RELATIONSHIPS WITHIN A DISCORDANT WORLD: THE SOCIO-CULTURAL CONTEXT OF BREAST CANCER SCREENING AMONG KOREAN IMMIGRANT WOMEN. Eunyoung Suh, PhD, RN, San Diego State University, San Diego, CA.

Korean immigrant women (KIW), who make up one of six major sub-populations in Asian American and Pacific Islanders in the U.S., are reported having far lower rates of breast cancer screening than that of women in general.

Sporadically reported barriers to the screening practices failed to illustrate the broader sociocultural contexts, within which women in this population seek help for breast health. Thus, the purpose of this study was to explore and interpret the cross-generational and sociocultural processes of breast cancer screening among KIW.

Three theoretical underpinnings of this study include symbolic interactionism, the meta-concept of cultural competence, and a concept of Korean womanhood.

The Grounded Theory methodology was utilized. Twenty KIW, age between 20 and 81, participated in a set of two consecutive qualitative interviews, which are conducted in Korean language.

The qualitative data was transcribed and analyzed using the constant comparison technique. The open coding was carried out in Korean to preserve Korean cultural values and nuance embedded in the text. Translation into English occurred from the axial coding constantly comparing the contextual meanings between two languages.

Balancing relationships within a discordant world is the core concept of the context of breast cancer screening among KIW. There are sociocultural discords in perceptions of breast cancer and screening procedures between Asian ways of thinking and Western biomedical premises. The existential conditions of the participants include being a Korean woman and living as an immigrant. The metaphysical dialectics among the participants encompass the traditional Korean health and illness beliefs, and predetermined life. The three contextual domains of breast, breast cancer, and breast cancer screening illustrated the unique perspectives from the participants in reference to their body, illness, and the Western medical procedures. The grounded theory illustrates how a group of KIW interacts with Western medical procedures that evoke multiple dissonances with their cultural reasoning. The voices of the participants shed lights on what health care professionals should incorporate in approaching KIW associated with their practices of breast cancer screening. Funding sources: Sigma Theta Tau Xi chapter research grant.

QUALITY OF LIFE AND WELL-BEING OF CAREGIVERS OF LEUKEMIA PATIENTS: A PRELIMINARY REPORT. Geline Tamayo, MSN, RN, CS, University of Texas M.D. Anderson Cancer Center, Houston, TX; Marlene Cohen, RN, PhD, FAAN, University of Texas Health Science Center at Houston, School of Nursing, Houston, TX; Anita Broxson, RN, MSN, Sotea Bauri, BSN, RN, Veronica Smith, MSN, RN, FNP, Mark Munsell, MS, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Primary caregivers must manage increasingly difficult care because cancer patients are increasingly receiving complex and aggressive treatments as outpatients. Most literature about caregivers of cancer patients addresses issues in hospice or palliative care settings. In contrast, this study focuses on caregivers of cancer patients who are receiving outpatient chemotherapy.

This project will describe and identify strategies to promote quality of life (QOL) and well-being of these caregivers.

The investigators developed a conceptual framework based on the literature to guide examination of caregivers' needs.

Data were collected with the Caregiver Well-Being Scale and the Caregiver Quality of Life Scale-Cancer, both reliable and valid tools used with cancer patient caregivers in other settings, and a learning needs questionnaire developed by the research team. Participants are primary caregivers identified by patients with leukemia receiving outpatient chemotherapy at a large comprehensive

cancer center in the southwestern United States. Ninety-eight participants have completed the survey to date, and data collection will continue until 200 caregivers provide data.

Descriptive statistics summarized the preliminary data. Statistical modeling and testing will be done when data collection is completed.

Preliminary analysis indicates that, on the well-being scale, the least-met needs were related to attendance to personal physical needs and expression of personal feelings and the best-met needs were related to security and self-esteem. The least-met need of activities of daily living was time for leisure activities. Primary concerns so far revealed in the quality of life scale are that patient care is a burden and disrupts caregivers' lives. According to the learning needs questionnaire, 72% of caregivers want more information about giving medications and 80% want more information about side effects and symptom management. The findings thus far indicate a need for more communication between professional staff members and caregivers. The QOL and well-being scales also indicate a need to assist caregivers in promoting their own physical and emotional health. Many caregivers need to identify ways to meet their own needs in order to remain able to assist family members. Future research may need to focus on teaching interventions, particularly on caregiver management of patients' symptoms and side effects.

PHILOSOPHICAL APPROACHES TO THE STUDY OF SPIRITUALITY AMONG FEMALE MEMBERS OF FAMILIES WITH HBOC. Susan Tinley, RN, MS, CGC, Creighton University, Omaha, NE.

The purpose of this presentation is to identify the most appropriate philosophical approach to the study of spirituality among female members of familes with hereditary breast/ovarian cancer.

There is little in the literature on this topic, but anecdotally it is common to hear these women indicate that spirituality helps make sense of the mystery of their experiences with cancer risk, illness and deaths. Studies among other populations who are dealing with illness in themselves or family members indicate that spirituality has many different meanings and experiences making it an elusive concept for study. For some spirituality is intimately entwined with their religious convictions and practices; for others it involves their relationship with a supreme being or God outside of any faith based tradition, and for still others with no relationship with a higher being, spirituality relates to their relationships with themselves, with others and with the environment. This elusive and immaterial nature of spirituality presents challenges for the identification of the most appropriate philosophical approach for its study. In the past decade, nurses have approached the study of spirituality from multiple philosophical paradigms.

This presentation provides an examination of three such approaches in order to identify the most appropriate for the study of spirituality among women in HBOC families. The three philosophical approaches include empiricism, poststructuralism and Heideggerian phenomenology. Each philosophy has assumptions about the derivation of knowledge. Empiricism assumes that concepts have universal definitions and knowledge is derived from value free observations that can be quantified. Poststructuralism assumes that new realities can emerge from deconstructing cultural and historical discourses about the concept of interest. Heideggerian phenomenology assumes that knowledge is derived from participant experience and meaning interpreted within the social and historical context. A representative study of spirituality from the nursing literature for each approach is reviewed in terms of the assumptions, the object of inquiry, the outcomes, and the advantages and disadvantages of the philosophical approach.

Each philosophical approach serves a legitimate purpose in expanding nursing knowledge about spirituality.

When studying a concept with diverse personal and cultural meanings, such as spirituality, among a population in which it has received little research attention, such as female members of families with HBOC, Heideggerian phenomenology provides the most fitting philosophical perspective.

TREATMENT-RELATED SYMPTOMS AND FUNCTIONAL STATUS IN WOMEN WITH ADVANCED OVARIAN CANCER. Lorraine Tulman, DNSc, RN, FAAN, Uni-

versity of Pennsylvania School of Nursing, Philadelphia, PA; Deborah McGuire, PhD, RN, FAAN, University of Maryland, Baltimore, MD; Karen Oleszewski, MS, RN, AOCN®, Jean Flack, BSN, RN, OCN®, Bernadette Trujillo, BSN, RN, OCN®, Franklin Square Hospital Center, Baltimore, MD; Brooke Slater, BSN, RN, University of Pennsylvania, Philadelphia, PA.

Research on chemotherapy-related symptoms in the 25,000 women annually diagnosed with ovarian cancer has focused on the description, incidence, and management of these symptoms but has failed to examine their effects on functional status, including performance of household, social, community, personal care, and occupational activities. This lack of knowledge prevents clinicians from proactively counseling women on barriers to maintaining functional status or hazards that may be encountered during their usual activities (for example, diminished sensation and motor function due to peripheral neuropathy).

The aim of this cross-sectional pilot study was to examine the relationship of treatment-related symptoms to functional status following initiation of first-line chemotherapy for Stages III and IV ovarian cancer, the stages in which 70% of women are diagnosed.

The study was based on the Theory of Unpleasant Symptoms.

Eighteen women at two clinical data collection sites who were about to begin or who were 4, 8, or 12 months post initiation of first-line chemotherapy were assessed with the following valid, reliable instruments: the Memorial Symptom Assessment Scale, the Peripheral Neuropathy Scale, the Inventory of Functional Status Scale, the GOG Performance Scale. Data collection occurred through personal interview and chart review.

Women just beginning chemotherapy had no chemotherapy-related symptoms, but had physical symptoms related to surgery and psychological symptoms related to their cancer diagnosis. Most women at 4 months (approximately halfway through chemotherapy) had begun to experience the detrimental effects of fatigue, peripheral neuropathy, and insomnia on functional status. Women at 8 monts reported fewer symptoms and improvement in functioning but peripheral neuropathy symptomatology continued to worsen. Women who were 12 months post initiation of chemotherapy exhibited about the same levels of symptomatology and functional status as the women at 8 months.

During and following first-line chemotherapy, a variety of significant physical and psychosocial symptoms appear to be associated with substantial impairment of functional status. Longitudinal research is needed to further determine the nature of these relationships in order to provide a foundation for developing and testing interventions to help women maintain their functional status as they battle this disease.

SLEEP-WAKE DISTURBANCES AND ASSOCIATED FACTORS IN PATIENTS WITH ADVANCED CANCER. Catherine Vena, RN, MSN, PhD(c), Kathy Parker, RN, PhD, FAAN, Emory University, Atlanta, GA.

While, sleep-wake disturbances play a significant role in well-being and functioning, few studies have focused on sleep and related factors in late stage cancer populations. This information is important for oncology nurse's practice and further research.

Sleep-wake disturbances, common complaints for oncology patients, have not been well described in all cancer populations. Therefore, we are examining subjective nocturnal sleep quality, daytime sleepiness, and related demographic, psychosocial, clinical, and treatment factors in persons with specific late-stage cancers.

According to the Two-Process Model of Sleep Regulation, both homeostatic and circadian processes interact to regulate normal sleeping and waking. People with cancer experience many clinical and treatment-related factors that interfere with these processes.

The sample included 80 medical oncology outpatients (48% female) with either stage IV colorectal (n = 37) or either stage IIIB-IV non-small cell or extensive small cell lung cancer (n = 43). Subjects completed the Pittsburgh Sleep Quality Index (PSQI) and the Epworth Sleepiness Scale (ESS). Demographic, clinical, psychosocial, and treatment factors were obtained via interview/record review, the Geriatric Depression Scale Short Form (GDSS),

Karnofsky Performance Status (KPS), and Medical Outcomes Study Short Form 36-version 2 (SF36v2).

Group differences in sleep-wake variables were analyzed with ANOVA and Mann Whitney U tests. Bivariate correlations and multiple regression analyses between sleep variables and related factors were conducted.

Sixty percent of the participants had moderate to severe nocturnal sleep disturbance and 43.8% had excessive daytime sleepiness (EDS) as evidenced by PSQI and ESS scores. EDS was associated with poor nocturnal sleep quality (r = .415; p = .015). Group differences in sleep quality and EDS were not statistically significant. There was no significant association between demographic variables and nocturnal sleep or EDS. There were significant associations between overall energy level, mental health, use of HT3 blockers and nocturnal sleep quality (Adj.R2 = .364; p = .008). EDS was significantly associated with the number of comorbidities, the number of medications, physical function, and pain (Adj.R2 = .193; p < .0001). These findings indicate clinical and treatment factors may play a role in the dysregulation of sleep-wake patterns. Furthermore, daytime sleepiness may significantly impact nocturnal sleep. Further research in this area should focus on development of interventions to improve nocturnal sleep quality and daytime alertness. Funding sources: Virginia Henderson Clinical Research Grant, Sigma Theta Tau International; Emory University, Graduate School of Arts and Sciences Quadrangle Research Fund.

IMPACT OF CANCER TREATMENT WITH PLATINUM-CONTAINING REGIMENS ON PERIPHERAL NERVE FUNCTIONING IN OLDER CANCER PATIENTS WITH DIABETES: AN EXPLORATORY STUDY. Constance Visovsky, PhD, RN, ACNP, Case Western Reserve University, Cleveland, OH.

Cancer remains a challenging problem for elders, as both cancer and co-morbid conditions are common in this age group, and can result in increased morbidity from toxicities associated with cancer treatments. The interaction of comorbid conditions and cancer treatment remains largely unquantified.

Knowledge concerning the effects of diabetes mellitus in conjunction with cancer treatment is very limited. Diabetics may be most at risk for the additive effects of neurotoxic agents, in addition to the effects induced by the chemotherapeutic agents alone. The purpose of this prospective, longitudinal study is to characterize peripheral nerve function in older diabetics undergoing cancer treatment for solid tumors with taxane or platinum-containing regimens. The specific aims are: 1) to determine the change in peripheral nerve function of diabetics occurring during and after treatment with neurotoxic taxane or platinum-containing chemotherapy regimens, and 2) to determine the extent to which age, pre-existing diabetes mellitus and level of glycemic control predict a differential pattern in outcome beyond the effect from the drugs; and 3) to develop a clinical assessment that would predict whether or not patients with diabetes mellitus are more or less susceptible to the neurotoxic effects of chemotherapy.

A physiologic framework of drug-induced neuronal degeneration was used.

A convenience sample of 50 participants with diabetes diagnosed with solid tumor cancer receiving treatment with taxane and/or platinum-containing regimens will be recruited. The outcome measures assessed are: sensation, vibration, gait, balance, muscle strength, sensory and motor nerve conduction and orthostatic blood pressure levels. Data will be collected at baseline, and every 3 weeks of treatment (4 cycles), and two months after treatment completion. Moderating variables are diabetes type (I or II) and level of glycemic control.

Descriptive statistics will be used to describe the peripheral nerve function. Data will be analyzed using plots and regressions slopes to determine change scores in the dependent variables over time. ANCOVA will be used to determine predictors controlling for cumulative drug dose.

Consistent, comprehensive measurement of progressive neuropathy in older diabetics will generate data useful in designing nursing interventions to reduce the impact of peripheral neuropathy on safety, activities of daily living, and quality of life. Knowledge about the effects of comorbidities and cancer treatment can assist in optimum treatment for debilitating neuropathies. Funding sources: National Cancer Institute.

Abstracts Accepted for the Eighth National Conference on Cancer Nursing Research

WHAT CONSTITUTES A DIGNIFIED DEATH? THE VOICE OF ONCOLOGY ADVANCED PRACTICE NURSES. Deborah Volker, RN, PhD, AOCN®, University of Texas at Austin School of Nursing, Austin, TX.

Collectively, the lay public and health care professionals share an interest in improving care of the dying and promoting dignified dying. Oncology nurses play a pivotal role in providing quality care at the end of life, and helping patients and their families to achieve their preferences for control over this experience.

ONS has identified implementation of end-of-life care practices in the clinical setting as a research priority, yet measurable indicators that are specific to dignified dying have not been well explored. Although the Institute of Medicine (IOM) posed a definition of a good death, the definition was based on personal, professional, and philosophical perspectives. Hence, the issue of what constitutes a good or dignified death remains in question from an empirical viewpoint. The purpose of this study was to explore the concept of dignified dying from the perspective of oncology advanced practice nurses (APNs). APNs were targeted because of their pivotal role in influencing both patient outcomes and generalist nursing practice.

Lewis' conceptual typology of control is the study's philosophical framework. The study rationale is based on the need for better conceptualization of outcomes meaningful to dying people and their families (IOM, 1997). Thus, an understanding of what constitutes a dignified death is warranted.

A naturalistic, hermeneutic approach was used to interview the study participants. A statewide sample of 19 oncology APNs was obtained by combining two data sets from studies of patient control and end-of-life care. To promote trustworthiness of study findings, research team members with expertise in qualitative methods and end-of-life care will review transcripts, field notes, and analytic decisions.

Audiotaped interviews are transcribed verbatim and are being analyzed using Cohen, Kahn, and Steeves' approach to phenomenological analysis.

Preliminary analysis suggests that dignified dying is an experience in which the patient's existential and physical comfort needs are met, and the patient's personal choices are respected. The poster will present final results. Findings can be used to better understand the oncology APN perspective of patient experiences at the end of life, inform academic programs that prepare oncology APNs, and improve clinical care for people who are dying. Funding sources: Funded by the ONS Foundation through an unrestricted grant from Genentech, Inc.; and the National Institute of Nursing Research (1 R15 NR007986-01).

QUALITY OF LIFE AND SYMPTOM EXPERIENCE OF SPOUSES OF MEN WITH PROSTATE CANCER. Mary Vonderheide, RN, MSN, OCN®, Sharp Grossmont Hospital, La Mesa, CA; Susan Rawl, RN, Indiana University, Indianapolis, IN; R. Brian Giesler, PhD, Victoria L. Champion, DNS, RN, FAAN, Indiana University, Indianapolis, IN; Debra Burns, PhD, Joanne K. Daggy, MS, Sally Weinrich, PhD, RN, Barbara Given, PhD, RN, FAAN, Charles Given, PhD.

The impact of a prostate cancer diagnosis and its subsequent treatment are not limited to the male patient; they have the potential to affect the quality of life (QOL) for both the cancer patient and his spouse. The needs of the spouses are often overlooked while healthcare professionals focus primarily on the needs of the cancer patient.

To explore relationships between prostate cancer treatment, post-treatment symptoms, and spouses' global and disease-specific QOL.

The conceptual framework that guided this study proposes that QOL can be conceptualized as encompassing three distinct domains (global—overall well-being, general—SF-36 & CES-D, and disease-specific—fatigue, nausea) that are hierarchical and theoretically related.

Cross-sectional analyses of baseline data from a randomized trial testing a physcho-educational intervention to improve QOL for prostate cancer patients and their spouses. Spouses of patients who recently completed treatment for prostate cancer were recruited from five cancer centers located in the Midwest. The majority of spouses were Caucasian, married, and living with the patient. Data were collected from patients and spouses separately within six weeks of the completion of treatment by trained interviewers using a computer-assisted telephone interviewing system.

Analysis of variance were used to examine relationships between spouses' disease-specific and general QOL with type of prostate cancer treatment received by their partners. Multiple regression was used to examine the influence of disease-specific QOL indicators on global QOL indicators within each treatment type.

Differences in spousal disease-specific and global QOL scores were observed across treatment types. After controlling for age, spouses of men who had surgery had lower urinary and sexual function scores than spouses of men who received radiation. Spouses of radiation patients had lower mental health scores than either spouses of men who had surgery or brachytherapy. Urinary, sexual, and bowel QOL indicators were significant predictors of both CES-D and SF-36 Mental Health Index Scores. The results of this study give support to the significant impact which men's prostate cancer treatment symptoms have on their spouses' QOL. Spouses need to be supported and educated about prostate cancer, its treatment, and the symptoms that their husbands are experiencing.

BREAST CANCER TREATMENTS AND BMD. Nancy Waltman, PhD, APRN, University of Nebraska College of Nursing, Lincoln, NE; Carol Ott, RN, PhD, OCN®, University of Nebraska College of Nursing, Kearney, NE; Gloria Gross, RN, PhD, University of Nebraska College of Nursing, Scottsbluff, NE; Janice Twiss, PhD, APRN, University of Nebraska College of Nursing, Omaha, NE; Ada Lindsey, RN, PhD, FAAN, Dean Emeritus, University of Nebraska College of Nursing, Omaha, NE; Timothy Moore, MD, University of Nebraska Medical Center, Omaha, NE.

Thirty percent of postmenopausal women in the U.S. have osteoporosis (decreased bone mineral density [BMD] that leads to fractures). Postmenopausal breast cancer survivors (BCS) are at greater risk for osteoporosis than other women.

This presentation examines relationships between BMD in women and treatments for breast cancer, including cytotoxic chemotherapy, aromatase inhibitors, and tamoxifen.

Treatments for breast cancer such as cytotoxic chemotherapy and aromatase inhibitors may accelerate bone loss in postmenopausal women, most likely by further depleting estrogen levels. Women with estrogen receptor-positive cancer are often treated with the hormone tamoxifen, and while tamoxifen is an estrogen antagonist in breast tissue, the effects of tamoxifen on BMD have been inconsistent.

This is a secondary analysis of a larger intervention study on prevention of osteoporosis in BCS. Baseline data for the first 100 women are described in the abstract, and results for all 240 women will be presented at the conference.

In this study, BMD was measured using DEXA, and women included in the study had a DEXA T score of –1.0 or lower.Data was analyzed using descriptive statistics, correlations, and t-tests.

Of the 100 women, 16 had osteoporosis and 84 had osteopenia. Average age was 57 years, time since menopause,11.4 years, and women had been diagnosed with stage 0, I, or II breast cancer an average of 6 years. The 66 women who had received cytotoxic chemotherapy had lower BMD of the spine (p = .05) compared to women who had not received chemotherapy. There was a trend for the 9 women who had received aromatase inhibitors to have lower BMD of the hip (p = .09) compared to women who had not received aromatase inhibitors. Fifty of the 100 women had been prescribed tamoxifen. Compared to women who had not been prescribed tamoxifen, these women had higher BMD of the hip (p = .02), and there was a trend for higher BMD of the spine (p = .10). Implications are that risk for osteoporosis in BCS may be related to the treatment they received for their cancer. Funding sources: R01 from NINR/NIH.

DYNAMICS OF INFORMAL BMT CAREGIVING. Loretta Williams, RN, MSN, OCN, AOCN®, University of Texas Houston School of Nursing and M.D. Anderson Cancer Center, Houston, TX.

Blood and marrow transplant (BMT) is a potentially curative therapy for patients with life-threatening illnesses. Over the last 10 years, family caregiving has become an essential aspect of BMT to support the patient emotionally and to provide assistance with physical care and symptom management.

An important goal for nurses is to assist family caregivers to improve outcomes for BMT patients and caregivers. Achieving this goal requires understanding of

the dynamics of caregiving. The purpose of this study is to refine a conceptual Informal Caregiving Dynamics model by describing caregiver commitment, expectations, and role negotiation and identifying other important caregiver energy sources not currently included in the model. The refined and validated model will give guidance in the development of supportive caregiver interventions.

A conceptual Informal Caregiving Dynamics model derived from the literature identifies commitment, expectations, and role negotiation as moving the caregiving relationship along an illness trajectory.

This is a qualitative, cross-sectional study. The study sample is projected to be 40 informal caregivers of patients undergoing BMT at a comprehensive cancer center in the south central United States. The caregivers' are describing their experiences approximately one month after the BMT in audiotaped dialogues, focusing on their present experience of caregiving with attention to past experiences and future hopes that affect the present experience. Analysis and identification of categories and themes by the researcher will be reviewed and confirmed by other researchers experienced in qualitative analysis, oncology nursing, informal caregiving, and BMT.

An exploratory descriptive method is being used to identify categories and themes from the transcribed dialogues. Descriptive statistics are being used to describe the sociodemographic characteristics of the caregivers and the sociodemographic and disease/treatment characteristics of the patients.

Evidence of commitment, expectations, and role negotiation has been found after initial analysis of the first five interviews. Commitment is the most consistently present category and includes recurring themes of becoming one with the patient and caregiving never ending. Analysis of dialogues will enable refinement of the Informal Caregiving Dynamics model to guide care of caregivers and ongoing research to test supportive interventions. Funding sources: American Cancer Society grant DSCN-02-211-01-SCN.

THE ROLE OF INFLAMMATORY CYTOKINES IN CANCER-TREATMENT-RELATED FATIGUE. Lisa Wood, PhD, RN, Lillian Nail, PhD, RN, FAAN, April Fischer, BSN, Collin Elsea, BS, Oregon Health and Science University, Portland, OR.

Cancer patients undergoing treatment often experience a debilitating fatigue, that has a profound impact on quality of life and on the ability of patients to adhere to treatment schedules. Thus, the management of fatigue is an essential component of cancer management.

Increased levels of cytokines appear to play a role in cancer treatment related fatigue (CTRF) which has lead to the hypothesis that CTRF may be homologous to the fatigue associated with "sickness behavior," a response to infection in higher vertebrates caused by increased levels of inflammatory cytokines in the peripheral circulation and the brain. To date, the molecular mechanisms underlying the initiation and perpetuation of CTRF are not established, and thus, the precise role of cytokine expression, if any, in CTRF remains unclear. We hypothesize that cancer, cancer plus chemotherapy, and chemotherapy drugs alone can induce inflammatory cytokine expression leading to fatigue.

We have initiated a study to evaluate the relationships among cancer and its treatment, fatigue, and inflammatory cytokine levels using an innovative approach that takes advantage of an established mouse model of sickness behavior. In this model, voluntary wheel running activity (VWRA) is used as a proxy for fatigue.

Mice bearing Lewis Lung Carcinoma will either be given cancer chemotherapy or left untreated. The effect of cancer and cancer plus chemotherapy on fatigue will be determined by assessing decline in VWRA from baseline.

Using a repeated measure ANCOVA we will determine the effect of cancer or cancer and chemotherapy on daily VWRA. To determine the relationship between fatigue and cytokine deregulation in mice receiving cancer and chemotherapy, we will 1) assess for changes in inflammatory cytokine gene expression in the brains of fatigued mice and 2) assess for changes in the levels of inflammatory cytokines in the peripheral circulation of fatigued mice.

As an outcome of these studies, we expect to determine whether cytokines play a role in CTFR and, if so, the mechanisms by which cytokine levels are increased in cancer treatment. This research is significant because it holds potential for the development of nursing interventions to reduce CTRF and improve the QOL of cancer patients. Funding sources: Pilot study funding (10,000) to determine the role of cancer chemotherapy in fatigue in mice (9/1/03–8/31/04). Awarded from Center Grant: NINR 1P20NR07807-03 (PI: Nail, Lillian).

ASSESSING CONSTIPATION IN THE PEDIATRIC ONCOLOGY POPULATION: A PILOT STUDY. Myra Woolery-Antill, MN, RN, Ellen Carroll, BSN, RN, Gwenyth Wallen, PhD, RN, Paul Jarosinski, Pharm D, Barbara Corey, MSN, RN, National Institutes of Heatlh, Bethesda, MD; Holly Wieland, MPH, RN, Ramzi Dagher, MD, U.S. Food and Drug Administration, Rockville, MD.

Constipation is prevalent in oncology patients and children are particularly susceptible. Sequelae of constipation include anorexia, nausea, vomiting, abdominal pain, ER visits, and a decrease in quality of life. However cancer treatment plans often overlook the presence of constipation and reflect a lack of consensus for effective assessment and management.

Treatment with vinca alkaloids and/or narcotics and lifestyle changes secondary to the disease process can have a negative impact on the child's bowel elimination status. There is no consistent definition for constipation. There are no reliable and valid instruments to measure the presence and severity of constipation in children, and only one validated adult measure, the Constipation Assessment Scale (CAS).

This study defined constipation from the medical position statement made by the North American Society of Pediatric Gastroenterology and Nutrition.

Sample: A pilot study (N = 34) evaluating the presence and severity of constipation, and the reliability and validity of a modified CAS in children with cancer is being conducted. Patients 2 times per day for pain are included in the study.

Methods: Initial and subsequent assessments for bowel function are conducted for 7 days after the last dose of vinca alkaloid and/or narcotic for a maximum of 6 weeks. A standardized nursing and nutrition assessment, a review of the history and physical, and a baseline CAS repeated at one-hour to assess test-retest reliability are obtained. Subsequent assessments include CAS administered 3 times per week and daily bowel diaries completed by the patient and/or their family.

T-tests will determine if the mean CAS scores in non-constipated group differs from the constipated group. The Wilcoxon rank sum test will be used if data are not normally distributed. Cronbach's alpha will be utilized to assess internal consistency of the CAS instrument.

Seventeen patients have enrolled in this study, with a mean age 15.7 years (range 9 to 21 years). Completing the bowel diaries has been difficult for adolescents, whereas children are more compliant possibly because their parents are more involved.

COMPARISON OF EMOTIONAL/BEHAVIORAL PROBLEMS IN ADOLESCENTS WITH CANCER AND EPILEPSY. Chao Hsing Yeh, Associate Professor, Chang Gung University, Tao Yuen TW

To understand and compare the emotional/behavioral problems in adolescents with cancer and epilepsy

Pediatric patients with chronic illness (e.g., cancer and epilepsy) endure prolonged and endless treatment protocols, severe side effects caused by treatment, and uncertainty regarding progression of their disease. Few studies have investigated adolescents' behavioral problems that begin after the diagnosis of a chronic illness has been confirmed. To date, there is no official documentation regarding the epidemiological prevalence of mental health conditions of adolescents with chronic illness (e.g., cancer and epilepsy) in Taiwan. This study was aimed to compare the emotional/behavioral problems of adolescents with different chronic illnesses (for example, cancer and epilepsy).

The child behavior checklist/4-18 (CBCL/4-18), reported by their parents was used. In this current study, eight narrow-band syndromes of CBCL/4-18 (Withdrawn, Somatic complaints, Anxious/Depressed, Social problems, Thought problems, Attention problems, Delinquent behavior, and Aggressive behavior) was used to compare the emotional/behavioral problems.

The subjects of this descriptive and cross sectional study include parents with adolescents with cancer (n = 63) and epilepsy (n = 113), who were convenience selected from the outpatients clinics in a children's hospital.

Descriptive analysis is used to describe the demographic information of the subjects and patients. Student t test with Bonferroni correction is used to compare the raw scores of syndrome problems.

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The findings shown that adolescents with epilepsy reported higher problems in Withdrawn, Anxious, Social, Thought, Attention, Delinquent and Aggressive than adolescents with cancer. Among those higher scores of syndromes, Anxious and Attention in epilepsy group are statistically significant higher than adolescents in cancer group. Adolescents in cancer group report higher score in Somatic problems, but this difference does not reach statistically significances. The finding suggested that adolescents with different chronic illness bear different level of emotional/behavioral problems. It is necessary to understand the emotional/behavioral problems of children in Taiwan who have cancer so that healthcare professionals can provide better mental health services for these children.

SATISFACTION WITH COMMUNICATION AND QUALITY OF LIFE FOR ADVANCED CANCER PATIENTS. Kim Wagler Ziner, RN, MSN, Victoria L. Champion, DNS, RN, FAAN, Indiana University School of Nursing, Indianapolis, IN; Barbara Given, PhD, RN, FAAN, Charles W. Given, PhD, Michigan State University, East Lansing, MI.

The National Cancer Institute SEER cancer statistics review 1975–2000, estimates 556,500 deaths in the USA due to cancer in the year 2004. Health professionals may play a pivotal role in helping patients to adjust to recurrent disease. Patients look to their healthcare providers, sometimes unconsciously; for social and decisional support, interpersonal skills, and information regarding how to manage treatment which can influence their subsequent Quality of Life (QOL) outcomes.

The purpose of this paper is to examine the relationship of patient satisfaction with the communication of their health care provider and subsequent Quality of Life outcomes of depression, anxiety, general health, mental health, social functioning and vitality.

Haase's theoretical framework of Resilience was used to support the relationship of provider support and subsequent QOL outcomes.

Instruments: Reliable and valid instruments were used for all variables. Depression was measured by CESD. Anxiety was measured by STAI. The SF-36 was used to measure; general health, mental health, social functioning and vitality. Satisfaction with communication was measured with Satisfaction with Care (Loblaw, Bezjak & Bunston, 1999). Sample: Data were obtained from a larger intervention trial that included a convenience sample of 124 patients with advanced cancer shortly after the recurrence or progression of their disease was diagnosed. Data from interviews at baseline and 20 weeks following the intervention are used to answer the research question.

First, descriptive statistics with one-way ANOVA were run to determine if type of cancer influenced satisfaction with communication. There was no significant difference in satisfaction with communication related to cancer type (F (8,101) = 1.796; p= .086). Also, there was no significant difference in satisfaction with communication scores related to gender (t (.05, 110) = −1.944; p = .054). Pearson Correlations were used to test the relationship of satisfaction with communication and Quality of Life (QOL) outcomes at baseline and 20 weeks. Baseline QOL outcomes were not correlated with satisfaction with communication but at 20 weeks, satisfaction with communication was significantly correlated with depression (r = −.287, p = .02), anxiety (r = .286, p = .02), general health(r = .386, p = .001), mental health(r = .286, p = .019), social function(r = .369, p = .002) and vitality(r = .417, p < .001).

Results indicate that cancer survivor's QOL outcomes may be influenced by their satisfaction with provider communication. Funding sources: Walther Cancer Institute.

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