

Abstract

Principal Investigator: Jeffrey M. Adams, PhD, RN

Research Title: The Impact of Nurse Leaders' Influence and Professional Preparation on Patient Outcomes

Background/ Significance Very little is known about those leading most of the 3.1 million nurses in U.S. hospitals. What is known, that the contemporary nursing leadership roles emerged from subordinate roots. Today most healthcare governing bodies suggest that “good” nursing leaders are essential for creating positive environments yielding better outcomes in hospitals. Despite this trend, nursing leaders are consistently identified as less influential than others in healthcare. This study will address this gap and provide empirical evidence to link nurse leaders' influence and preparation to patient outcomes measures. Thus, research identifying a measurable definition of “good” nursing leadership will support nurse leaders to practice at their fullest potential and empirically articulate success in the role to superiors, peers, and subordinates.

Methods This cross-sectional, non experimental survey study will focus on unit level leaders and patient outcomes. As such, we will be administering a validated survey instrument within a sample of nurse leaders overseeing staff on care delivery units within 30 U.S. acute care hospitals in Michigan, New England, New York and Texas. Patient outcomes data will be obtained from each institution also at a unit level. These data include directly measureable performance/patient indicators including patient satisfaction. The performance/patient indicators will be measured relative to unit-specific benchmarks. A series of statistical analyses will be used to infer associations between predictors (nursing leadership influence and professional preparation) and outcomes.

Nursing Relevance/ Implications As the ANCC has identified leadership as an essential component of Magnet-recognition and Magnet-recognized organizations serve as a foundation for the delivery of high quality nursing care, there is clear need to understand those leading patient care and the nursing profession. This research is an important piece toward developing a quantifiable measure of “good” nursing leadership. This study addresses multiple American Nurses Foundation and ANCC research priorities and the results will inform nursing practice, education, research, policy and theory. Furthermore, as the ANCC is receiving an increasing number of international inquiries and applications for hospital Magnet recognition, this initial study will provide evidence of the link between leadership and outcomes in the U.S. It will guide future research which will identify both domestic and international criteria to prepare successful nurse leaders of tomorrow.

Abstract

Principal Investigator: Hilary Barnes, PhD, CRNP

Research Title: Nurse Practitioner Workforce Distribution and the Effect of State-Level Scope of Practice Regulations on Practice Characteristics

Purpose: The purpose of this study is to examine nurse practitioner (NP) workforce distribution in order to describe the composition of NPs in primary care versus specialty settings and to examine where NP practices are located. Additionally, this study will examine whether state-level scope of practice (SOP) laws influence the likelihood that NPs will practice in primary care versus specialty settings.

Background/Significance: A principal goal of the Affordable Care Act (ACA) is to increase access to healthcare for all individuals. One critical aspect of this initiative is to ensure that there are an adequate number of healthcare providers to meet increased patient needs. There is already a high demand for primary care services in the United States (U.S.), leading to concerns of provider shortages. NPs are one group of providers that are being looked to as a potential means to meet this growth in demand. However, success of the ACA assumes that NPs are working in primary care settings. Little is known about NP workforce distribution and whether these providers are working in the settings and areas of highest need. Additionally, state-level SOP laws, which vary greatly, may inhibit the likelihood that NPs practice in primary care and limit sufficient distribution of NPs into primary care and underserved areas.

Methods: This cross-sectional study will use the 2012 SK&A provider data to examine practice setting (primary care versus specialty), provider configuration within practices, and geographical location of practices that include NPs. The dataset includes a national sample of practicing NPs, physicians, and physician assistants. Descriptive statistics will be used to describe the characteristics of these practice settings. Also, three categories using 2012 SOP laws, each with increasingly fewer restrictions, will be established for states. Using these SOP categories, a regression model will be used to examine whether state-level SOP laws predict whether NPs practice in primary care versus specialty settings.

Nursing Relevance/Implications: NPs continue to be an increasingly important component to the delivery of quality healthcare and increasing access to care in the U.S. NPs are educated and trained to provide primary care to the increasing number of patients, who will be gaining health insurance in the coming years. Examination of NP workforce distribution is critical to understanding where NPs are practicing and to determine the effect of state-level SOP laws on NP practice. SOP reform is an ongoing debate at both state and federal levels. The findings from this study have the potential to inform this debate so that states are able to ensure that there are a sufficient number of primary care providers available to respond to increasing patient demand following implementation of the ACA.

Abstract

Principal Investigator: Jyu-Lin Chen, RN, PhD, CNS

Research Title: iStart Smart for Teens: Innovative mHealthy Weight Management Program

Purpose: The purposes of this study are to adapt the Fitbit applications for providing tailored feedback for overweight and/or obese adolescents in smartphone and internet program, and to integrate Fitbit data into the electronic medical records (EMR) in primary care clinics.

Background/Significance: One third of adolescents in the U.S. are overweight and/or obese. Because obese youths are at high risk for cardiovascular disease, pre-diabetes and other health conditions, obesity prevention is critical. With the rapid expansion of cellular networks and substantial advancements in technology, it is now possible to integrate technology as a practical and reliable means of managing obesity in busy primary care clinics. This proposed study will utilize innovative monitor and smartphone-based technology for monitoring activity level and dietary intake digitally while simultaneously transmitting data to clinics.

Methods: Mixed methods will be used in this proposed study. In the adaptation phase, we will conduct focus group interviews with overweight and/or obese adolescent and pediatric primary care providers. The goal of the focus group interview is to identify the type, format and frequency of information that adolescent prefer to receive and the type of activity and dietary information that providers would prefer in terms of data and format that will appear in EMR.

Feasibility study phase: After completion of the adaptation phase, we will use a randomized control study design with a total of 40 overweight and/or obese adolescents to assess the feasibility and efficacy of the intervention. A study invitation letter with the research assistant's contact information will be posted in the pediatric clinics. Potentially eligible families can contact the research assistant if they wish to participate in the study. After the baseline assessment, eligible participants will be randomized into the intervention (n=20) or control group (n=20). Assessment includes BMI, blood pressure, physical activity, dietary intake, and self-efficacy regarding diet and physical activity. Assessments will be conducted at baseline and immediately at the end of intervention.

Participants assigned to the intervention group will receive a Fitbit Zip and will review internet-based program on their smartphone or computer. Participants will be asked to wear the Fitbit device and use the program every day for three months.

Participants in the control group will be given an Omron pedometer and a food and activity diary, and will be asked to use them for three months.

Analysis plan: Qualitative content analysis techniques will be the method of analysis for the focus group interview data. To assess the potential efficacy of the intervention, a repeated measures design will be used employing multilevel generalized linear regression models.

Nursing Relevance/Implications: Technology has become part of patient care and daily life, and nurses can utilize this technology to promote healthy lifestyles and to prevent obesity.

Abstract

Principal Investigator: Gwendolyn Childs, PhD, RN

Research Title: Exploring African American Adolescent Females' Sexual Limits for Engaging in Oral Sex

Purpose: The goals of this qualitative study are to: 1) identify and explore the boundaries African American (AA) females, aged 14 to 18, place on engaging in oral sex and the context in which these boundaries are decided; 2) identify social and situational factors that influence AA adolescent females to cross those boundaries; and 3) determine the content and language for text messages intended to promote the establishment of boundaries for oral sex.

Background/Significance: A major initiative of Healthy People 2020 is the elimination of health disparities. AA adolescent females are disproportionately affected by STIs. The presence of an STI increases the risk for becoming infected with HIV. The proposed research will address a significant gap in knowledge about sexual decision-making among AA adolescent females by eliciting information about sexual boundaries for oral sex. Gaining insight into the complexities of adolescent sexual decision-making beyond vaginal intercourse could potentially lead to development of STI/HIV prevention interventions that are relevant to the social and situational context of AA adolescent females.

Methods: Convenience sampling will be used to recruit 40 AA adolescent females (20 for individual interviews; 20 for focus groups) in Jefferson County, Alabama. Participants will be recruited through community sponsored activities such as health fairs, summer day camps, and events sponsored by local AA sororities and fraternities. Criteria for inclusion are: (1) AA female, (2) age 14 to 18, (3) able to read and speak English, (4) willing to participate in an individual interview or group discussion, (5) receive parental/guardian consent to participate, and (6) provide adolescent assent to participate. Data will be collected using semi-structured interviews and focus groups. Interviews will focus on decision-making about initiating oral sex and perceptions about oral sex. Focus groups will be held to obtain feedback on the text messages developed based on findings from the interviews. Verbatim transcripts of audiotapes, observation notes, and demographic data will be primary data for analysis. Content analysis will be used in analysis and interpretation of data to formulate meaningful categories, themes, and patterns. The qualitative research software, QSR N-Vivo®, will be used to code and sort data into categories. The SPSS statistical software will be used to conduct descriptive analyses to describe the study sample.

Nursing Relevance/Implications: The proposed research is relevant to nursing in terms of sexual health promotion for at-risk populations such as AA adolescent females. It is anticipated that findings from this proposed research will shed light on important sociocontextual factors that influence AA adolescent females' decisions to engage in oral sex. Having an understanding of those factors will inform strategies that nurses utilize to educate their patients about sexual health and consequences of engaging in unprotected sexual activity of all type.

Abstract

Principal Investigator: JiYeon Choi, PhD, RN

Research Title: Providing Telerehabilitation at Home for Adult Intensive Care Unit Survivors and Their Family Caregivers

Background: Recovery after home discharge is a particularly challenging transition for intensive care unit (ICU) survivors and their family caregivers. Professional resources after home discharge are fragmented and insufficient to meet complex, long-term rehabilitation needs, shifting increasing burden onto family caregivers.

Our long-term goal is to develop a full-scale, randomized controlled trial (RCT) to test a new intervention: **Post-Intensive Care Unit Versatile and Integrated System for TeleRehabilitation** (Post-ICU VISYTER). Post-ICU VISYTER is an in-home physical rehabilitation program for ICU survivors and their family caregivers that will be initiated by a nurse researcher and delivered via a telerehabilitation (TR) system. This TR system will feature components of (1) a web-based platform to deliver interactive physical exercise sessions and (2) a mobile health system (i.e., smartphone application and clinician portal) to assist daily exercise and symptom monitoring. Before embarking on the RCT, we must first pilot test the mobile health system component among ICU survivors and their family caregivers.

Purpose

1. To modify an existing mobile health system (*iM-HERE*) to add an application of assisting daily physical exercise and symptom monitoring and make it suitable for use by ICU survivors and their family caregivers in home settings (Phase 1);
2. To evaluate the usability of this modified mobile health system (*i-CU Well*) by ICU survivors and family caregivers in home settings (Phase 2).

Methods

Design: A single group, prospective cross-sectional design will be used.

Phase 1: *iM-HERE* will be modified—by adding a new application for exercise and symptom monitoring—to allow participants to (1) receive scheduled text message reminders to participate in daily exercise and symptom monitoring, (2) record and automatically send exercise and symptom data to the clinician portal, and (3) receive individualized education from the clinician portal. A focus group, comprising five multidisciplinary health care professionals, will review this modified system (*i-CU Well*) and provide feedback to further develop its design and usability.

Phase 2: The usability of *i-CU Well* will be tested among five dyads of ICU survivors and family caregivers who are enrolled in our ongoing project evaluating the feasibility of delivering in-home interactive physical exercise sessions. Dyads will (1) receive instructions regarding the use of *i-CU Well*, (2) use *i-CU Well* for one week, and then (3) participate in a usability evaluation.

Analysis: Data will be analyzed using descriptive statistics and qualitative content analysis.

Relevance to Nursing: Few studies have tested strategies to engage ICU survivors and families during rehabilitation after home discharge. In conjunction with our ongoing project, the proposed project will provide preliminary data crucial to support a later RCT of Post-ICU VISYTER, which promises to facilitate family-centered, self-management programs, a growing field in which nursing leadership is highly important.

Abstract

Principal Investigator: Theresa Davis, PhD, RN, NE-BC

Research Title: The Effects of Healing Touch on the Vital Signs of Critical Care Patients

Purpose: The goal of this project is to determine the effects of a Healing Touch (HT) intervention on physiological parameters in adult patients in the Intensive Care Unit (ICU). The specific aims are as follows: 1) to assess the feasibility of delivering HT in the ICU; 2) to determine, using Tele-ICU, the effects of HT on hemodynamic status (temperature, heart rate, blood pressure, respiratory rate, O₂ saturation), pain scores and levels of agitation/sedation; and 3) to assess the effects of HT by patient demographics and diagnoses. Hypotheses include the following: 1) delivery of HT in the ICU will be feasible; and 2) hemodynamic status, pain and levels of agitation will improve following HT.

Background/significance: ICU care often involves high-tech treatments and life-saving mechanical measures that may affect a patient's mental and physical capabilities, as well as the ability to recover. HT is a holistic biofield therapy that fosters an intentionally caring nurse-to-patient relationship as outlined in Watson's Theory of Human Caring, and may positively affect patient recovery and functioning. Currently, there are few validated studies examining the delivery of HT in the ICU or that monitor physiological measures during the delivery of HT.

Methods

Design: Quasi-experimental design

Setting/Sample: Inclusion criteria are patients ≥ 18 years of age admitted to the ICU. Exclusion criteria include patients with unstable hypotension or bradycardia; who require emergent medical or psychiatric care; who have been pronounced brain dead; who are on continuous dialysis; or for whom consent cannot be obtained. The proposed sample size is 86.

Procedures: Once daily during 2 days of stay, HT-trained nurses will administer a 7-10 minute HT intervention using a modified Chakra Connection. Physiological measures will be recorded at the bedside and by Tele-ICU immediately before, every 5 minutes during, and immediately after and 5 minutes following HT.

Instruments/Measures: Measures will include the following: patient demographics (age, sex, ethnicity/race, ICU admission diagnosis); baseline sedation medication; Richmond Agitation Sedation Scale; Critical Care Pain Observation Tool; and physiological measures (blood pressure, heart rate, respiratory rate, temperature, oxygen saturation).

Analysis Plan: Descriptive statistics will be calculated to describe the sample, as well as to assess aspects of feasibility including recruitment and study completion. Mixed linear models will be used to assess the effects of HT on measures of hemodynamic response, pain, agitation/sedation and patient diagnoses.

Nursing relevance/implications: This study will evaluate the use of the biofield therapy HT in the ICU, as well as continue to illuminate the physiological mechanisms involved in HT. The idea that comforting interventions such as HT are efficacious for critically ill patients challenges today's healthcare mind-set, where most therapies are mechanically driven. HT may represent an untapped resource for improving symptom burden, safety and cost-effectiveness, thereby complementing conventional care.

Abstract

Principal Investigator: Colleen Delaney, PhD, RN, AHN-BC

Research Title: Testing a Statewide Initiative to Enhance Depression Care in Older Home Care Patients

Purpose: The purpose of this multi-agency quasi-experimental study is to examine the effects of a statewide initiative to enhance depression care among older home care patients. The proposed study uses a novel enriched Train-the-Trainer (TTT) model to educate a team of at least two trainers from 20 home care agencies for dissemination to 1000 home care professionals including nurses, social workers and therapists in Connecticut.. **Specific Aims** are to determine the effectiveness of the depression screening and intervention program in (1) improving home care trainers and trainee's knowledge and self-efficacy related to geriatric depression screening and care and (2) increasing identification of patient depression, increasing referral and access to culturally appropriate services of older home care patients who screen positive for depression, and decreasing all cause hospitalization.

Background/Significance: The prevalence of geriatric depression is exceptionally high in home health care with 15% of older patients meeting the diagnostic criteria for major depression. When milder forms of depression are included this number increases to one-third of home care patients. Depression in older adults is associated with reduced quality of life, increased hospitalizations, greater functional impairment, and increased risk of suicide.

Methods: A quasi-experimental pre-test, post-test design will be used to evaluate the effects of the depression screening and intervention program. Pre-test versus post-test comparisons occur at three levels: home care agencies, trainers, and trainee For trainers, a 22-item survey used in previous studies will be distributed to home care trainers before and after the educational program. For trainees, the same outcome measures will be collected immediately prior to, and again immediately following, the training program for the first 10 home care group trainees. Home care groups 11-20 (wait list, control group) will complete the survey at baseline prior to any training and then before and after their individual training following groups 1-10. Home care agencies will provide the research team with de-identified aggregate data on number of depression screenings, patient referrals for depression, type of referral, and all cause hospitalization data 60 days before and after the training program.

Data Analysis: Descriptive statistics will be calculated for the pre- and post-training administrations of the survey to the first 10 home care groups (Cycle 1) and for the baseline, pre-training, and post-training administrations to the second set of 10 home care groups (Cycle 2). Mixed-effects linear modeling will be used to compare summary scores between conditions established via the study design.

Nursing Relevance/Implication: Study findings are expected to increase home care professionals knowledge and self-efficacy in providing depression screening and care and will identify patient's preferences for mental health care and shed light on whether there is a relationship between educating home care professionals in depression care and decreasing patient hospitalization rates.

Abstract

Principal Investigator: Nancy Dias, RN, MSN, CNE

Research Title: Trajectories of Parental Bereavement Challenges and their Health Risks; A case-based mixed methods study

Significance: Despite technological advances, over 30,000 children died in 2009 alone. Most childhood deaths occur in ages 0 to 5 years, typically in acute care settings. Parents who experience their child's death have higher morbidity and mortality rates than other bereaved individuals. To assist bereaved parents, acute care settings have developed bereavement care programs. Despite these programs, bereaved parents continue to have poor health outcomes. Current, hospital-based bereavement programs lack theoretical foundations and are based on expert opinion and parent's perceived satisfaction with the clinical interventions rather than evaluating parental health outcomes. Grief theories fall short in translating our understandings of parental grief during bereavement, to tailored interventions that address the individualized nature of parental bereavement and which can be implemented in bereavement programs. The Adaptive Leadership Framework will be used as the theoretical lens as it is a useful approach to understand the challenges faced by parents across the bereavement trajectory as well the adaptive work done by them to address these challenges. These insights can lay a foundation to develop theoretically based bereavement program that accentuates parent's adaptive capacities to address individual bereavement challenges with the ultimate goal to improving parental health outcomes.

Purpose: To describe parental bereavement trajectory, beginning just prior to the death of a chronically ill child (0-<5 years) through 6 months post-death of their child, and to identify the co-occurrence of the challenges, work, and physical, psychological, and social health risk indicators.

Methods: In this case-based longitudinal study, 10 cases will be examined. Each case will consist of a parent, their significant other and the characteristics of the child. Parents will be recruited from a tertiary hospital and data will be collected at 4 time-points; 1 pre-death (T1) and 3 post-death (1 [T2], 3 [T3], and 6 [T4] months).

Instruments: Narrative interviews will assess bereavement challenges and related work. Health risks indicators include body mass Index, the short form health outcome survey measure [SF-12], the Brief Symptom Inventory [BSI-18], and the Patient-Reported Outcomes Measurement Information System measures [PROMIS: sleep scale and social roles scale].

Analysis: Textual data will be analyzed using qualitative content analysis and descriptive statistics will be used for the quantitative measures. Data visualization techniques will be used to examine co-occurrences of trajectory lines of challenges, work and health risk indicators.

Nursing Relevance: An understanding of bereavement challenges, related work and its co-occurrence with the health risk indicators will shed light on the adaptive work that can be translated in to tailored interventions that can be integrated during the child's illness trajectory by nursing and health care team and continued post child's death to impact positive parental health outcomes.

Abstract

Principal Investigator: Kari A. Firestone, MS, RN, CNS

Research Title: Yoga for Youth with Juvenile Fibromyalgia: A RCT

Purpose The aim of this study is to determine the efficacy of yoga in improving functional disability, pain and quality of life in adolescents with juvenile fibromyalgia (FM).

Background Juvenile FM is a costly and debilitating condition conservatively affecting ~6% of adolescents in the United States. The adolescent with juvenile FM reports experiencing diffuse musculoskeletal pain with serious consequences like poor academic performance, social limitations and significantly impaired physical function. Current pharmacological interventions provide only modest improvements leading to several consensus statements calling for a multi-modal treatment approach including the use of education and exercise. However, education alone doesn't improve physical outcomes and thus far, studies using traditional moderate to high intensity aerobic exercise have produced mixed efficacy results. Yoga, an increasingly popular form of low-moderate intensity exercise, is versatile and adaptable to both physical ability and developmental levels, with promising results in adult FM populations. To date, there have been no studies conducted in a juvenile FM population.

Methods This proposed study is a 2 (arm) x 3 (time point) single-blinded, prospective parallel 8-week RCT to test the efficacy of yoga (active treatment) compared to standard education (control). 48 adolescents between the ages of 12 and 18 with juvenile FM will be recruited from pediatric pain and rheumatology specialty clinics at an academic health center in the Pacific Northwest and randomly divided into two groups: yoga and education. For 8-weeks the yoga group will participate in a weekly 90-minute yoga session, and the education group will participate in a weekly 90-minute education session. Information about FM symptoms and functioning will be collected from both groups at baseline, 4-weeks (mid-study) and at the end of the study using the Functional Disability Inventory (FDI), Pediatric Quality of Life Inventory (PedsQL) and Visual Analog Scale (VAS) for pain. Objective measures of muscle strength, endurance and flexibility will be collected at baseline and at study end using the back scratch test and 30-second chair rise. Data analysis will be conducted using a mixed (between/within) analysis of variance. The primary effect of interest for each of the dependent variables will be the between/within interaction, which will test for differential change between groups across time. In the presence of a significant interaction, follow up contrast tests and effect sizes will be used to describe the differences between the groups.

Implications When results from the two groups are compared, we expect adolescents in both groups to demonstrate improvements with the yoga group to having greater gains in physical function (decreased functional disability), improved pain and quality of life. If this study shows yoga to be effective in improving juvenile FM symptoms, yoga may be recommended as a key component in the comprehensive management of Juvenile FM.

Abstract

Principal Investigator: Margo A. Halm, PhD, RN, ACNS-BC, FAHA

Research Title: Evaluation of the Impact of EBP Education: Development of a Modified Fresno Test for Acute Care Nursing

Background: Over a decade ago, the Institute of Medicine (IOM, 2001) recognized evidence-based practice (EBP) as a key solution to ensure care delivered has the highest clinical effectiveness known to science. The IOM (2003) then emphasized the need to overhaul education to prepare health professionals to deliver evidence-based care and ensure ongoing proficiency. To reach the IOM's 2020 goal that '90% of clinical decisions will be supported by accurate, timely and up-to-date clinical information that reflects the best available evidence' (IOM, 2011), nurses need EBP competencies to guarantee applicable research findings are integrated into clinical situations when congruent with patient preferences and values. Few valid and reliable tools are available to assist educators in assessing the effectiveness of educational programs on EBP domains (*attitudes, knowledge, skills, practices or behaviors*), or the EBP competency of individual nurses. Such evaluation is critical to determine current competency and thus, target additional educational interventions to enhance ongoing proficiency as patient outcomes are at stake. The Fresno test is one valid and reliable objective method to evaluate EBP knowledge and skills. However, the original test was validated with family medicine physicians, and the Modified Fresno Test was validated for physical therapy.

Purpose/Objective: The aim of this cross-sectional cohort study is to adapt the Modified Fresno Test for acute care nursing and develop a psychometrically sound tool for EBP educational purposes in both practice and academic settings.

Methods: In *Phase 1*, the elements of the modified Fresno test (Tilson, 2010) that require adaptation for acute care nursing will be identified; all essential components of any modified elements will be recorded on a template. In *Phase 2*, content validity of the test will be established with a panel of five EBP experts. Panelists will evaluate each individual item for clarity, importance, difficulty, and comprehensiveness, in addition to whether the items as a whole adequately measure EBP knowledge and skills. Content validity indices for each item and the whole scale will be calculated.

Sample: A cross-sectional convenience sample of acute care nurses in three cohorts will then be invited to complete the 'Modified Fresno Test-Acute Care Nursing' (EBP novice, EBP trained, EBP experts) administered via a Survey Monkey, with a sample size goal of 30-35 per cohort.

Data-Analysis: Analyses will follow Tilson's (2010) calculations: 1) inter and intra-rater reliability using intraclass correlation coefficients (ICC) for total score and individual item analysis; 2) Cronbach's alpha coefficient to determine internal consistency; 3) item discrimination index (IDI) for each item; 4) correlation between item and total score and corrected item-total correlation (ITC) using Pearson correlation coefficients; and 5) item difficulty (proportion of nurses who achieved passing score for each item) and individual item pass rates by group using Chi-square analysis.

Abstract

Principal Investigator: Linda A. Hatfield, PhD, NNP-BC; Yvette Conley, PhD; Rosemary C. Polomano, PhD, RN, FAAN

Research Title: Epigenetic Modifications Following Noxious Stimuli in Infants

Purpose: To recruit infants into genetic pain research and determine the effectiveness of a noninvasive DNA sampling technique for comparing epigenetic modifications.

Background/Significance: The transition from acute to chronic pain is a significant problem for children. Noxious stimuli during a vulnerable period of neuronal plasticity may trigger unpredicted long-term epigenetic changes such as gene methylation, which affect neurodevelopment, pain modulation and pain reactivity into adulthood. Recognizing valid epigenetic pain findings in infants is a problem because parents are reluctant to enroll their infants into genetic research due to parental attitudes and beliefs about genetics. Identifying the epigenetic processes in infants that underlie the transition to chronicity is a neglected topic of investigation.

Methods:

Design: Proof of concept candidate gene association study.

Setting/Sample: Urban teaching hospital's neonatal intensive care unit (NICU) and newborn nursery. Convenience sample of 12 participants healthy full term infants (>37 weeks gestation) (n=6) and preterm (<37 weeks gestation) and term infants admitted to the NICU (n=6).

Procedure: Buccal saliva extracted DNA will be collected using CS-1 Collection Sponges and the ORG-250 Oragene Discovery DISC. Each infant will have two collection periods, one upon admission to the newborn nursery of NICU and one at discharge from the newborn nursery or NICU. In the newborn nursery, the first collection will occur after admission to the newborn nursery and prior to the Hepatitis B injection and the Newborn/Bilirubin screening heel lance. In the NICU, the first collection will occur as soon as the infant is in a stable condition after admission to the NICU. For both cohorts, the second collection period will be at discharge. Following isolation of genomic DNA, the methylation pattern at the 5' end of the gene will be examined. A portion of DNA will be treated with bisulphite for conversion of all cytosines to uracil residues, leaving the methylated cytosines unchanged. Primers will be designed to the 5' upstream region of the gene and sequencing of the untreated and bisulfite-converted DNA will be carried out.

Analysis: The sequence of unconverted and bisulfite converted DNA will be analyzed using MethTools software. The sequences will be aligned with ClustalW, fidelity of the PCR and the sequencing reaction evaluated with EvalLog program, and the methylation pattern identified.

Relevance: Epigenetic studies exploring gene methylation represent a promising new area of research for understanding the transition from acute to chronic pain. Chronic childhood pain predisposes the child for the continuation of pain and the development of new forms of chronic pain lasting into adulthood. The proposed work is expected to establish the feasibility of enrolling newborn infants into minimal risk genetic research and determining the effectiveness of a noninvasive DNA sampling methodology for comparing epigenetic modification in infants.

Abstract

Principal Investigator: Diane E. Holland, PhD, RN

Research Title: Nurse-led Patient-centered Advance Care Planning: A Pilot Study

Purpose: Determine the feasibility and acceptability of study procedures when comparing the effectiveness of four Advance Care Planning (ACP) decision aids (one of three web-based programs or an educational brochure) when used by Nurse Care Coordinators (NCCs) with their patients in primary care.

Background/Significance: ACP is necessary for aligning patients' treatment preferences with healthcare they receive when they are unable to speak for themselves. Despite the fact that ACP continues to be a growing national imperative and after 20 years of legislative support, ACP participation rates remain low.

Methods

Design: Guided by the Individual and Family Self-Management Theory, a four-arm, prospective, comparative design will be used.

Setting/Sample: Forty patients from Mayo Clinic's primary care setting in Rochester, MN who do not have an advance directive (AD) on file will be recruited from 4 NCC caseloads. If a Surrogate Decision-Maker/Health Care Agent (SDM/HCA) is identified by the patient, the SDM/HCA will also be recruited for a total of 80 participants.

Procedures: Following IRB approval, NCCs will be trained in the ACP process and use of the decision aids. Patients will be recruited by the NCCs. After providing consent, patients will be randomized to one of the four intervention arms. Outcomes will be measured after ACP intervention sessions are completed.

ACP Intervention. The intervention involves discussions between patients and NCCs using 1 of the 4 decision aids to clarify values, goals, and preferences and to promote goal-sharing with family, SDM/HCA, and providers. The intervention is designed to occur over at least 3 NCC/patient visits over approximately 4 weeks.

Instruments: Acceptability and feasibility of study methods will be measured - including an ACP satisfaction instrument and augmented by interviews. The effects of the ACP decision aids will be evaluated by the ACP Engagement Survey, formal identification of a SDM/HCA, and completion of AD documented in the health record. SDM/HCA perceived knowledge of the patient's wishes will be explored.

Analysis: Feasibility and acceptability measures will be summarized by counts and proportions. A Patient Satisfaction with ACP Survey average score will be calculated. Interview data will be content analyzed. Patient ACP Engagement Survey scores, proportions of formally identified SDM/HCA and ADs, and SDM/HCA scores (Perceived Knowledge of the Patient's Wishes) will be compared among the four groups using analysis of variance, Kruskal-Wallis, chi-square, and Fisher exact tests as appropriate.

Nursing Relevance/Implications: Utilizing nurses to facilitate ACP is a significant opportunity to improve health care and patient outcomes. This study supports full-scope nursing practice in the transformation of health care, it supports patient-centeredness in primary care settings, and it is innovative in that it leverages the NCC role to refocus on ACP from mere document completion to a meaningful process.

Abstract

Principal Investigator: Karen E. Johnson, PhD, RN

Research Title: Exploring the Role of the School Nurse in Addressing Health-risk Behaviors During and After Sports Physicals: A mixed methods approach

Purpose: To explore the role of the school nurse in addressing health-risk behaviors among high school athletes during and after the pre-participation exam (*PPE*; also known as a sports physical).

Background/Significance: Health-risk behaviors account for most morbidity and mortality during adolescence.¹ In 2011, 60% of high school students in the United States participated in school sports.⁶ PPEs are mandated in all 50 states before adolescents can play interscholastic sports and have traditionally focused on identifying the 1% of youth who have risk factors for sudden cardiac death that would preclude participation in sports.^{7, 8} *The PPE may be the only time an adolescent visits a health care provider during the year.*⁸ Most providers agree that PPEs are a good opportunity to address health-risk behaviors, but many do not capitalize on this opportunity. As part of the primary care team, school nurses are in an ideal position to bridge these practice gaps.

Methods: We will use a *mixed methods exploratory sequential design*, beginning with key informant interviews and progressing to a statewide quantitative survey of school nurses. Purposive, maximum-variation sampling will be used to recruit approximately 20 (depending on saturation) school nurses from urban, suburban, and rural schools in Central Texas for *key informant interviews*. We will use a semi-structured interview guide that will be organized according to key topic/question areas (e.g., collaboration between school nurses and clinicians providing PPEs). The PI and Co-I will independently code data using thematic content analysis,⁴³ compare and refine codes,⁴⁴ and perform member-checking to improve credibility of findings. Our *quantitative cross-sectional survey* will be developed based on our qualitative findings and will follow a similar topic outline as key informant interviews. We will conduct 5-8 cognitive interviews prior to large-scale administration and modify our survey and procedures accordingly. Next, we will use a convenience sample of school nurses recruited through the Texas School Nurses Organization's (TSNO) membership list (n = 2,000) to administer our survey. Descriptive statistics will be calculated to describe each variable. We will assess differences by respondent demographics and setting characteristics using chi-square analyses for categorical variables and t-tests for continuous variables.

Nursing Relevance/Implications: Our study will identify potential gaps between what adolescents *receive* during their PPE and what most youth *need* in order to be healthy (i.e., preventing health-risk behaviors) and opportunities for collaboration between school nurses and primary care providers in addressing health-risk behaviors, thus answering the National School Nurses Association's (NASN) call to address health disparities and develop innovative models of school nursing practice. Using findings from this pilot study, we plan to apply for funding to expand our work nationally to encourage a paradigm shift in the delivery of the PPE, with school nurses playing an integral role.

Abstract

Principal Investigator: Karen A. Kalmakis, PhD, MPH, FNP-BC; Genevieve E. Chandler, PhD, RN; Susan Roberts, DNSc

Research Title: Nurse Practitioner Screening for Adverse Childhood Experiences among Adult Primary Care Patients: A mixed-method study

Purpose: The purpose of the proposed study is to examine nurse practitioner practices, skills, attitudes, and perceived barriers associated with screening adult patients for adverse childhood experiences.

Background/Significance: Approximately 60% of adults report histories of adverse childhood experiences. Individuals with a history of adverse childhood experiences have a greater risk of physical and psychological illness later in life and are more likely to engage in several health-risk behaviors. Despite the evidence, most primary care physicians did not routinely screen for histories of childhood adversity such as physical or sexual abuse. Since most NPs in the U.S. practice in primary care settings, it is important to examine the screening practices of this professional group of providers as well.

Methods: A mixed-method design using electronic surveys and online synchronous focus groups will be used to examine nurse practitioner practice, skills, and perceived barriers to ACE screening. Nurse practitioners (NPs) across one New England state will be recruited to complete a web-based survey and to volunteer for online focus groups. Data from the surveys will be analyzed using univariate statistics to describe NP demographics and bivariate statistics to examine relationship between screening variables and NP practice type, gender, experience, and personal history of abuse. Focus group data will be analyzed using a qualitative content analysis consistent with a descriptive process.

Nursing Relevance/Implications: When obtaining health histories from patients, nurses should be aware of and inquire about adverse childhood experiences. Through this research we will contribute to nursing knowledge by identifying perceived barriers for screening childhood adversity and effective methods used by primary care NPs to ask patients about their childhood experiences. This knowledge will guide the development of useful screening strategies in clinical practice and improve patient care. The findings from the proposed study will be used to establish an intervention to address histories of adverse childhood experiences in primary care.

Abstract

Principal Investigator: Arlene W. Keeling, PhD, RN, FAAN

Research Title: Addressing Health Disparities: Nursing in Migrant Camps, 1935-1945

ABSTRACT: The purpose of this historical research (part of a larger study whose outcome will be a book) is to identify, describe and analyze the role of nurses caring for migrant workers and farm families in California and Texas during the Great Depression. The nurses' role will be analyzed within the social, political and economic context of the period. Research questions include: (1) What was the role of nurses in migrant camps on the Pacific coast and along the east coast of the United States, (2) How much autonomy did the nurses have in their work in the camps? (3) To what degree did place, culture, class, and race shape the nurses' work? (4) How did the social, economic, and political realities of the time influence access to care? (5) How did their roles as women and as nurses shape the services they provided? (6) What lessons can be learned from this history to inform health policy related to migrant workers today? Today, five million migrant and seasonal farm workers and their families provide essential services to the nation, yet they are invisible in the health care system, often lacking insurance, identification, and citizenship and rely on nurses from free mobile clinics to provide them access to care. These issues are not new. This project, examining how time and place, as well as ethnicity, race, class and gender were factors influencing access to care is significant in that it shows how nurses shaped health policy during the Great Depression and may have lessons for today. The study will use traditional historical methods with a social history framework. Primary sources are identified and include data from Regional archives in San Bruno California and the State Archives of Texas. Much preliminary work has been done. The outcome of this project will be scholarly presentations of the work, manuscripts of two chapters to be included in the final project, and a book proposal for Johns Hopkins University Press. The PI, a well-established nurse historian and author of award winning books, is uniquely qualified to undertake this research. She also has resources from the Eleanor Crowder Bjoring Center for Nursing Historical Inquiry, a major nursing history center, to support her work.

Abstract

Principal Investigator: Tracy A. Klein, PhD, FNP, ARNP, FAANP, FAAN

Research Title: Nurse Practitioner Assessment and Management of Adolescent Concussion (PRACTICE)

Each year, nearly 200,000 children and adolescents visit the emergency department for sports- and recreation-related traumatic brain injuries, many of which are concussions. Concussions are significant injuries, resulting in long-term financial, physical, cognitive, and psychological impacts. Up to one third of healthcare providers report not routinely using published guidelines for concussion management. Published research suggests that provider's recommendations for concussion evaluation and management may vary according to patient attributes.

Nurse practitioners (NPs) are licensed independent practitioners and function as primary providers in Oregon and Washington, where they hold statutory authority to assess and release a concussed adolescent to resume sports activity. The **PRACTICE study** (Provider Recommendations for Adolescent Concussions: The Impact of patient Characteristics) will examine variation in adolescent sports-related concussion assessment and management recommendations among NPs. Specifically, we seek to evaluate how, and to what degree, recommendations vary according to patient characteristics, such as sex or sport type.

We will administer a web-based survey to all certified family practice, psychiatry or pediatric NPs licensed to practice in Washington and Oregon. The survey is innovative in that it will include a randomly assigned, standardized patient scenario video mapped to CDC criteria for concussion assessment. Four videos will be produced, wherein patient characteristics (sex or sport type) will vary but all other factors (symptoms, physical signs, and history) will remain the same. A questionnaire, administered after the video, will ascertain provider assessment of the patient's symptoms, management plan, prescription recommendations, concussion knowledge, experience, and demographics. Results will be collected and analyzed using multivariable statistical models to assess the influence of patient characteristics on concussion evaluation and management. Study findings will be used to formulate an action plan for the creation and implementation of an educational module on adolescent concussion assessment and management for NPs.

Abstract

Principal Investigator: Pamela A. Martyn-Nemeth, PhD, RN

Research Title: Hypoglycemic Fear: Influence on Glucose Variability in Type 1 Diabetes

Purpose: The purpose of this study is to increase healthy patient outcomes by examining how fear of hypoglycemia (low blood glucose) influences glycemic variability in young adults with type 1 diabetes (T1DM) so that methods can be developed to prevent or reduce it.

Background/Significance: Fear of hypoglycemia (FOH) is a major barrier to attaining optimal glucose control among persons with T1DM. As blood glucose approaches near-normal levels, the risk for hypoglycemia increases. Hypoglycemia is life-threatening and can lead to serious physical and psychological sequelae that in turn leads to profound fear of future reactions and avoidance behaviors. Compensatory behaviors (e.g., excessive food intake, restriction of insulin and physical activity) can result in greater glycemic variability. Glycemic variability (GV) is the minute-to-minute fluctuation in blood glucose that has been linked to oxidative stress and the development of diabetes complications. The relationship of FOH to GV has not been studied. A better understanding of the relationship of FOH to GV is needed. Understanding factors associated with FOH is also important to further nursing knowledge and to develop interventions that can be applied in clinical nursing practice.

Methods: Using a prospective, repeated measures design, we will monitor daily events, continuous glucose, and continuous activity over six days in 30 young adults aged 18-40 years with T1DM who use an insulin pump. We will examine the temporal associations of FOH with (1) GV, (2) other factors that influence FOH: prior hypoglycemic experiences and symptoms, and psychological states (anxiety [State/Trait Anxiety Inventory], stress [Perceived Stress Scale], depression [Center for Epidemiology Studies-Depression Scale], coping [Coping Inventory for Stressful Situations]), and (3) health behaviors (food intake, insulin dosing, physical activity). The data will be collected using questionnaires, a daily diary (for episodes of hypoglycemia and FOH), pump downloads of daily carbohydrate intake and insulin dosing patterns, continuous glucose monitoring (for GV) and actigraphy (for physical activity). Statistical analysis will include examination of bivariate associations using correlation techniques. A mixed effects model will be used to examine the daily measures of FOH and GV and measures of associated factors; and temporal relationships between FOH and GV.

Nursing Implications: This study will further nursing knowledge by determining which factors are associated with the greatest variation in FOH and GV. Findings will translate to clinical nursing practice by identifying targets for education and treatment to prevent FOH from negatively affecting glucose control.

Abstract

Principal Investigator: Valerie L. McCarthy, PhD, RN

Research Title: Facilitating Self-transcendence: A Transcendence-Based Intervention to Enhance Well-Being in Late Life

Background: Why do some older adults reach a state of being in late life that reflects a palpable sense of fulfillment and meaning in life, regardless of frailty, dependence, pain, or poverty? Why do others, often with better health and greater economic and social advantages, end life in misery, fear, and despair? Self-transcendence, based on lifespan development theory, may account for this difference. Self-transcendence is an inherent late life developmental process resulting in a broadened worldview, beyond everyday realities and limitations, involving transformation of one's perspective on self, relationships with others, spirituality, and meaning of life. Self-transcendence has consistently been associated with indicators of well-being, such as life satisfaction, acceptance of life situation, proactive coping, successful aging, and depression.

Problem: No study has investigated methods to promote development of self-transcendence in community-dwelling older adults or to examine the effect of increased self-transcendence on overall well-being.

Purpose: This mixed methods randomized controlled pilot study will evaluate and further refine a psychoeducational intervention to enhance self-transcendence.

Theoretical basis: Reed's self-transcendence theory, a new conceptual model of selftranscendence, and principles of community health nursing (empowerment, respect, choice, and autonomy) provided theoretical support for the intervention.

Preliminary studies: An ongoing feasibility study explored an early iteration of a psychoeducational intervention using eight weekly group meetings and daily at-home activities to increase self-transcendence among older adults attending a senior community center (N = 10). Activities expected hypothesized to promote development of self-transcendence included creating and experiencing art, poetry, and music; reminiscence; journaling; discussion; selected readings; and meditation. Process notes and weekly team meetings after each session were used to modify plans for subsequent sessions. Qualitative and quantitative data will be analyzed to further develop and refine the intervention prior to completion in June 2014.

Methods: A convenience sample of older adults at a senior community center (N = 20), randomly assigned to either an intervention group or a wait-listed intervention group, will each participate in an 8-week intervention. Observations and modifications identified in the first group will be incorporated in the second iteration. Using grounded theory, qualitative data (process notes, audiovisual recordings, and focus groups) will be interpreted to gain insight into participants' experiences and used to develop and further refine the intervention. Quantitative data on self-transcendence, well-being, life satisfaction, acceptance of life situation, proactive coping, and depression will be collected at baseline and 1-week post-intervention using validated instruments. Descriptive statistics and repeated measures ANOVA will be used to look for trends in self-transcendence and indicators of well-being, and to obtain effect size for future power analysis. **Relevance:** Ultimately this affordable and practical intervention may be conducted by trained facilitators at senior community centers, retirement communities, churches, nursing homes, and other places where older adults gather.

Abstract

Principal Investigator: Matthew D. McHugh, PhD, JD, MPH, RN, FAAN; Michael R. Richards, MD, PhD, MPH

Research Title: Understanding Adoption and Diffusion of the ANCC Magnet Recognition Program as an Organizational Innovation for Hospital Quality

Purpose. The American Nurses Credentialing Center's (ANCC) Magnet Recognition program is attractive because credentialing can be encouraged as a means of transforming hospital nurse work environments and improving outcomes. Truly understanding the causal relationship between Magnet status and outcomes is challenging because the credential both signals pre-Magnet status hospital quality and reflects the many institutional changes and shifts that likely occurred while attaining the credential. A more detailed understanding of the drivers and dynamics in Magnet Recognition can improve researchers' ability to realistically attribute better outcomes to Magnet hospitals. Our study has two aims: first, we will describe and map the diffusion of Magnet Recognition over time. Second, we will examine the geospatial, hospital, and market factors that contribute to Magnet recognition as an organizational innovation.

Background/Significance. Studies have shown that care environments in Magnet-recognized hospitals are better than in non-Magnet hospitals and those differences are associated with better nurse and patient outcomes. Choosing to take the Magnet journey, however, is not a random process. This presents difficulties for researchers trying to understand the relationship between Magnet status and outcomes, but also for administrators trying to determine whether Magnet recognition would be a worthwhile pursuit for their institution. In order to move toward research that can give us a meaningful understanding of causal relationships between Magnet Recognition and outcomes, we must understand the factors that contribute to a hospital pursuing and ultimately achieving Magnet status in the first place — our research fills this gap.

Methods. This is a longitudinal and spatial analysis of 20 years (1994-2013) of linked secondary national data from multiple sources for all non-federal acute care hospitals (nearly 4,000 hospitals). We will describe the characteristics of Magnet compared with non-Magnet hospitals, but also describe trends in Magnet hospitals over time. We will also carry out exploratory spatial data analyses to describe geographic distributions, identify spatial outliers, and discover spatial associations (i.e., clustering) of Magnet hospitals. We will produce a series of maps showing the diffusion of Magnets over time relative to local population and hospital market characteristics. Finally, we will use a series of regression-based approaches with longitudinal data that will allow us to model Magnet recognition changes over time as a function of local market dynamics.

Implications. Gaining an understanding of who and importantly, who does not, pursue Magnet status is necessary for building knowledge about the causal relationship between Magnet status and outcomes. Understanding barriers to participation could open up opportunities for the Magnet program to reach out to hospitals that would otherwise not participate in the program and facilitate their application and success so that a wider audience of nurses and patients can benefit from Magnet status.

Abstract

Principal Investigator: Michelle G. Nichols, MSN, RN

Research Title: Exploring Factors that Influence Non-participation and Non-adoption of Weight Management Behaviors and Participation within a VA MOVE! Weight Management Program

Purpose:

The specific aims of this study are:

- 1) Identify barriers and facilitators in the physical and psychosocial environment that affect Veteran participation in a weight management program and the adoption of weight-based health behaviors.
- 2) Engage Veterans in a community-based assessment to evaluate the MOVE! program referral and activities, health behaviors, and their influences to identify areas for change
- 3) Assess feasibility of Photovoice as an approach to better understand Veteran health perspectives of the MOVE weight management program and potential areas for intervention.

Background/Significance:

Obesity has reached epidemic rates in the United States. Veterans exceed obesity prevalence rates found within the general population. The Institute of Medicine recommends a more global approach to obesity that includes environmental influences, such as families, neighborhoods, communities, and public policy. Community-based Participatory Research (CBPR) is a method that engages community members and researchers to partner together to identify and solve health care needs specific to individual communities.

Methods:

This descriptive study will explore the factors that influence decisions of Veterans referred to the MOVE! weight management program regarding participation. As a sample, 30-45 obese Veterans who were referred to the MOVE! program and either chose not to participate, discontinued after initial enrollment, or participated for at least six months will be recruited to participate in this CBPR study, which will use Photovoice as an approach. Within the Photovoice method, participants will be provided cameras and asked to take pictures that they feel best document the issues that make participation in a weight management program, and adoption of healthy behaviors such as being physically active and eating nutritious foods either easier or more difficult. Participant photographs, along with transcription of interviews and focus group sessions, will be used to explore barriers and facilitators to participation in a weight management program and in maintaining healthy weight for Veterans who receive care at the McGuire VA Medical Center in Richmond, Virginia.

Nursing Relevance/Implications:

By engaging Veterans who are obese as experts in their lives and communities, they will help identify strengths within the community and areas for improvement to reduce barriers toward participation by addressing factors that influence obesity and adoption of a healthy lifestyle. Based on this information, nurse scientists can better understand how to develop interventions to help decrease barriers. According to the Institute of Medicine, nurses should be afforded the opportunity to lead collaborative efforts to improve health outcomes through research and clinical practices changes^[68]. This initial clinical research study is the first step in developing a partnership to address Veteran community health needs related to obesity and health promotion.

Abstract

Principal Investigator: Jinhee Park, PhD, MSN, RN

Research Title: Sleep-Wake State and Feeding Competency in Very Preterm Infants

Purpose: This study will examine the relationships between sleep-wake states prior to, during, and after feeding and feeding regulation in very preterm infants (VP, ≤ 30 weeks gestational age) while the infants are transitioning from half to full oral feeding.

Background/Significance:

In VP infants, development of a well-timed, coordinated suck-swallow-breathe sequence during feeding is constrained by the infants' immature neurological functioning. Sleep-wake state, an indicator of an infant's neurological functioning, is among the factors affecting the infant's capacity to regulate feeding. However, the relationship between sleep-wake state and feeding regulation has not been well explored in VP infants.

Method:

Design: Using a descriptive exploratory design, this secondary analysis will use data from a study of the effects of a co-regulated feeding intervention for VP infants (R21 NR012507; PI: Dr. Suzanne Thoyre).

Setting/Sample: Thirty VP infants studied at two time points (half oral feeding and full oral feeding) at the Newborn Critical Care Center at NC Children's Hospital in Chapel Hill will be evaluated.

Procedure: In the parent study, feeding observations were from approximately 30 minutes prior to feeding to 30 minutes after feeding videotaped; simultaneous with the videotaping, breathing and sucking waveforms were collected. Using these videotapes and breathing waveforms, sleep-wake states will be coded every 10 seconds prior to, during, and after feeding. Feeding regulation of the infant will be assessed based on breathing patterns during sucking bursts and sucking pauses.

Measures/Instrument: Sleep-wake state will be assessed using a 7-state scoring system: quiet sleep, active sleep, sleep-wake transition, drowse/daze, active waking, alert and cry/fuss. A coding system of suck-breathe coordination will be used to measure patterns of breathing during sucking bursts and pauses. Sucking bursts will be coded as three types of breathing: (1) complex: integration of breathing into sucking bursts, (2) emergent: attempts to integrate breathing into sucking bursts, and (3) simple: uncoupling of breathing from sucking bursts. Sucking pauses will be coded as (1) immediate or delayed breath initiation following sucking burst, and (2) regular or irregular breathing. The percentages of time in each sleep-wake state during pre-feeding, feeding, and post-feeding periods and the percentages of time in each breathing pattern that occurs during sucking bursts and pauses will be calculated.

Analysis Plan: Random coefficients regression models will be used to describe the patterns of change in outcome variables prior, during, and after feeding while transitioning from half to full oral feeding and to estimate effect sizes to plan a larger study.

Nursing Relevance/Implications: Greater understanding of the relationship between VP infants' sleep-wake state and their feeding regulation will help nurses identify infants' behavioral readiness for oral feeding, and develop new interventions to promote feeding success.

Abstract

Principal Investigator: Christine Pintz, PhD, FNP-BC; Cathie E. Guzzetta, PhD, RN, FAAN; Pearl Zhou, PhD, RN; M. Maureen McLaughlin, PhD, RN, NEA-BC; Karen Gabel G. Speroni, BSN, MHSA, PhD, RN; Linda A. Briggs, DNP, ANP-BC, ACNP-BC, RN; Mary Ann Friesen, PhD, RN

Research Title: Hospital-Based Nursing Research Characteristics, Care Delivery Outcomes, and Economic Impact (HNRCOE) Survey

Purpose/Aims: We will administer an online Hospital-Based Nursing Research Characteristics, Care Delivery Outcomes, and Economic Impact (HNRCOE) Survey to measure nursing research practices and outcomes of Magnet® hospitals. Our specific aims are to:

1. Assess the extent by which Magnet® hospitals, which conduct Institutional Review Board (IRB) approved nursing research, embody the 3 foundational categories and associated characteristics of the *Expanded Prototype for Hospital-Based Nursing Research Program*© (McLaughlin et al., 2013; Kelly et al., 2013)
2. Identify the methods used for *implementing (translating)* the findings from nursing research into clinical practice
3. Identify the methods used for *evaluating* the effectiveness of changes in nursing practice after implementing the findings of nursing research into clinical practice
4. Describe the *improvements in care delivery and patient outcomes* after implementing (translating) the findings of nursing research into clinical practice
5. Describe factors that *facilitate the implementation* of findings from nursing research into clinical practice
6. Explore the *economic impact* on selected *healthcare outcomes* after implementing findings from nursing research into clinical practice.

Background/Significance: Research about the effectiveness of nursing interventions in hospital-based nursing research programs has been increasing, but little is known collectively about how this research is being translated into practice. Hospital-based nurses are increasingly conducting research at the point of care – especially in Magnet® hospitals. No studies have delineated the essential characteristics of productive hospital-based nursing research programs nationally or explored additional elements that promote the implementation (translation) of findings from hospital-based nursing research. The findings from our study will catalog the spectrum and extent of current characteristics, practices, and outcomes of Magnet® nursing research programs.

Methods: Our descriptive-exploratory, mixed methods design will employ survey methods using Dillman’s tailored design. All nursing research leaders responsible for nursing research from the 392 Magnet® recognized hospitals will be invited to participate in our online HNRCOE Survey using PsychData™, a web-based product for survey administration. Based on our Phase I study from Magnet® hospitals (McLaughlin et al., 2013; Kelly et al., 2013), we anticipate a 50% response rate from potential participants, yielding about 196 respondents. Survey development was based on findings from our Phase 1 study and literature review. The psychometric properties of the survey will be estimated. Mean scores will be calculated for the Likert scaled survey items. Qualitative survey responses will be analyzed using content analysis.

Nursing Relevance/Implications: From our study findings, we anticipate that we will be able to create an augmented/comprehensive model of hospital-based nursing research programs for hospitals nationwide to develop, monitor, and benchmark their nursing research for best practices. Perhaps most important, this study has the potential to improve nursing quality and patient outcomes in US hospitals by establishing best practices for nursing research.

Abstract

Principal Investigator: Marjorie G. Webb, PhD candidate, DNP, RN, ACNP-BC, AACC

Research Title: The Relationship of Resting Cardiopulmonary Function to Maximal and Submaximal Cardiopulmonary Exercise Testing in Older patients with Heart Failure

Purpose: The purpose of this study is to explore the potential of a model that incorporates resting measures, N-terminal prohormone brain natriuretic peptide (NT-Pro BNP), New York Heart Association (NYHA) classification, and inspiratory capacity for the evaluation of therapeutic efficacy of symptom management and prescribed treatments for older patients with heart failure (HF).

Significance: Heart failure is a challenging disease that affects more than five million people, half of whom are at least 75 years old. Peak oxygen consumption (VO_2 peak), the minute ventilation/carbon dioxide production (VE/VCO_2) slope, and the 6MWT are powerful prognostic indicators of all-cause mortality and cardiovascular-related mortality. VO_2 peak and the VE/VCO_2 slope, obtained during exercise testing (GXT), have been shown to be useful for monitoring the efficacy of symptom and therapeutic management. However, despite the body of evidence supporting these measures, GXT and the 6MWT are not routinely performed on an outpatient basis as a part of HF symptom assessment and management. In order for nurses to maximize quality of life for patients with HF and affect morbidity and mortality, usable methods for the evaluation of therapeutic efficacy of symptom management and prescribed treatments must be available.

Methods: 55 older patients (≥ 65 year old) with HF will be recruited and will undergo venipuncture, inspiratory capacity measurement, and perform the 6MWT and GXT per protocol, during which time both VO_2 peak and the VE/VCO_2 slope measurements will be recorded. NYHA classification will be obtained from chart review.

Analysis Plan: Multivariate stepwise linear regression will be performed to evaluate the relationships between VO_2 peak, the VE/VCO_2 slope, and 6MWT distance from NT-pro BNP, NYHA classification, and inspiratory capacity and to determine whether a useful model for correlation can be constructed.

Nursing Implications: Peak VO_2 , the VE/VCO_2 slope, and the 6MWT are powerful prognostic indicators and are useful for monitoring the efficacy of symptom and therapeutic management. However, despite the body of evidence supporting these measures, GXT and the 6MWT are not routinely performed as a part of HF symptom assessment and management. NT-pro BNP, NYHA classification, and inspiratory capacity, are all obtainable while the patient is at rest in an office visit and may correlate well with peak VO_2 , the VE/VCO_2 slope, 6MWT distance, or all three measurements. If a model can be built that explains enough of the variance in peak VO_2 , the VE/VCO_2 slope, or 6MWT distance, then these measurements will be useful for nurses for symptom management and determination of therapeutic efficacy.

In addition to the usefulness of resting measurements that can be performed easily in the outpatient setting, inspiratory capacity has the potential to be useful to patients and caregivers as a measurement that can be performed at home.

Abstract

Principal Investigator: Karen E. Wickersham, PhD, RN

Research Title: Transcriptional Expression Profiles of Patients with Non-Small Cell Lung Cancer Taking Epidermal Growth Factor Receptor Tyrosine Kinase Inhibitors

Purpose: To investigate genetic, clinical, and biomarker correlates of epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor (TKI)-related rash.

Background/Significance: Lung cancer is the leading cause of cancer deaths in the US. EGFR TKI therapy (e.g., erlotinib, afatinib) improves survival for non-small cell lung cancer (NSCLC) patients, but this comes at a cost. Findings from my dissertation and the literature suggest the most debilitating side effect of erlotinib is a painful papulopustular rash, which has been linked with improved patient outcomes but also decreased quality of life, increased healthcare-related costs, and results in dose reductions or discontinuation of therapy. Biological mechanism(s) underlying development and severity of EGFR TKI-related rash are not well understood, creating a critical barrier to development of interventions to reduce/eliminate side effects related to EGFR inhibition.

Methods: We will use a prospective, descriptive, longitudinal research design. Participants (N = 30-40) < 21 years of age with NSCLC (any type/stage) will be recruited from an NCI-designated cancer center.

Aim 1: To test whether circulating soluble EGFR (sEGFR) levels are associated with development/severity of EGFR TKI-related rash. We will examine serum sEGFR levels prior to therapy initiation and at eight time points during the first four months of treatment. Normative sEGFR levels will be established in control participants (N = 10) without cancer matched on age, race, and gender. Demographic (e.g., age, race) and clinical (e.g., EGFR mutational status, symptoms) information will be used to examine other factors that may contribute to rash development. Symptom measurement will include pain (BPI Short Form, Promis Pain Intensity), anxiety (Promis Emotional Distress-Anxiety), EGFR TKI-related rash (NCI CTCAE criteria [provider], FACT-EGFR-18 [patient]), and depressive symptoms (BDI-II). We will use survival analysis and linear mixed modeling to examine potential correlates of rash development/severity.

Aim 2: To test whether there is a unique transcriptional signature in fibroblasts from patients who develop rash that distinguished them at a molecular level from those who do not develop rash. Fibroblasts from skin biopsies collected from the same NSCLC patients and control participants in Aim 1 at baseline, and from select NSCLC patients after three – six weeks of therapy will be cultured. Data will be analyzed using a linear model for microarray and pathway analysis; Chi square test and logistic regression analyses will be used to assess differences of transcriptive signature in participants with NSCLC who develop an EGFR TKI-related rash with those who do not develop a rash.

Nursing Relevance: Findings will advance symptom science by providing direction for development of tailored interventions to improve/eliminate symptoms related to EGFR TKI use. This may reduce patient and/or caregiver burden and improve quality of life and adherence with TKIs. As such, nurses are uniquely positioned for application of interventions developed as a result of this research.

Abstract

Principal Investigator: Carolyn E. Ziminski Pickering, PhD, RN; Lawrence Schiamberg, PhD

Research Title: Influence of Workplace Violence on the Older Adult Resident/Certified Nurse Aide Caregiving Relationship

Purpose: The purpose of this grounded theory study is to explore, from the perspective of the certified nurse aide, how workplace violence affects their ability to provide quality care, including poor quality and unsafe care such as elder abuse and neglect, in skilled nursing facilities.

Background: The ecological perspective of elder abuse suggests abuse and neglect is best understood in a bifocal perspective, with a focus on the older adult resident and CNA dyad, and the multiple contexts in which their interactions take place. One of the primary missing links in our understanding of abuse and neglect in SNFs is the absence of variables relating to the CNA-abuser (Schiamberg). Successful interventions to improve care quality and decrease abuse and neglect require attention be given to the CNA as well as the multiple and more distal contexts of the older adult/CNA bi-focal relationship which contribute to elder abuse and neglect.

Design: Grounded theory will be used to achieve the study purpose.

Setting/Sample: The study population consists of licensed CNAs providing care in New York SNFs. The study sample will include licensed CNAs who provided a valid email address on their registry application, who are currently working in a SNF, have been in the same SNF for a minimum of 6 months and have had at least one encounter of workplace violence committed by a co-worker.

Procedures: Data will be collected through telephone interviews which are anticipated to last 1-2 hours and be audio-recorded and transcribed. In grounded theory, data elicitation is done with open ended questions that become more focused as the simultaneous data collection and analysis progresses. The interview will examine how the distal context of workplace violence affects the interactions which occur in the older adult/CNA dyadic relationship. Participants will be compensated with a \$40 gift card for their time.

Analysis: In grounded theory, theoretical saturation is reached when no new information about the emerging theory is identified from the data, indicating the end of data collection. Data analysis will be completed using constant comparative analysis, the analysis technique of grounded theory methodology. Grounded theory emphasizes the systematic generation of theory from the data itself, and therefore encourages data collection, analysis and theory development simultaneously.

Nursing Relevance/Implications: Findings from this study will contribute to the enhancing the role development of the forensic nurse. Findings will shed light on interventions to decrease elder abuse and neglect, as well as occupational health interventions to decrease workplace violence. Lastly, this study will inform development of sensitive measures of elder abuse and neglect in skilled nursing facilities from the data provided by the abusers themselves.