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Editorial

Health Communication Research for Nursing Science and Practice

Section Editor(s): Henly, Susan J.

Communication is at the heart of any human relationship. We use communication to construct messages and meaning about our experiences, from the mundane thoughts and activities of our everyday lives to the profound events of our lifetimes. Health and illness affect quality of life, making health communication critical because the stakes are high. Yet, the intimate and sometimes overwhelming nature of health concerns can make communicating with nurses and other healthcare providers very challenging.

The belief that patient-centered communication is fundamental to ensuring optimal health outcomes reflects long-held values in nursing for individualizing care and being responsive to patient health concerns. Today, as communication increasingly involves device-mediated encounters as well as face-to-face interactions, research that explores and clarifies the who, the whats, the wheres, the whens, the whys, the hows, and the how wells of interactions with individuals, families, and communities receiving care and health services is essential. Across all priority areas of nursing science—symptom science, wellness, self-management for improving quality of life in individuals with chronic illness, and end-of-life and palliative care ([National Institute of Nursing Research \[NINR\], 2011](#))—the need for health communication research is great. Nursing scientists should incorporate communication-related questions into their research programs to facilitate relevance of their work to practice, to leverage the impact of their work, and to contribute to the advancement of health communication research.

In this issue of *Nursing Research*, a detailed analysis of the conversation sequences generated during the health history-taking portion of consultations at an ambulatory health center was reported ([Vickers, Lindfelt, & Dodd-Butera, 2016](#)). Transcripts of dialogue between monolingual Spanish-speaking patients with chronic health concerns interacting with bilingual nurses and nurse practitioners were studied. Information obtained at intake by the clinic nurse was sometimes repeated later during consultation with the nurse practitioner. This observed redundancy was sometimes shown to be inefficient, but the conversation analysis also revealed that repetition sometimes resulted in different co-constructions of meaning by different providers and could facilitate seamless teamwork. Reading the conversation excerpts is eye opening as the second-to-second communications unfold and punctuate the individualized nature of every nurse–patient interaction.

Other recent articles in *Nursing Research* also address aspects of health communication for nursing. Individualization of communication with youth seeking clinical care may be facilitated by actively engaging them in health assessment through completion of an event history calendar or completion of a questionnaire about adolescent health risks; in a secondary analysis of data

from a randomized clinical trial, communications outcomes improved from pretest to posttest after use of both methods for structuring interactions ([Martyn et al., 2013](#)). Conversation transcripts were also studied during clinic consultations with persons about self-management of type 2 diabetes; nurses' use of jargon and failure to close communication loops related to understanding of information were common ([Al Savah, Williams, Pederson, Majumdar, & Johnson, 2014](#)). The Communication Interaction Behavior Instrument ([Nilsen et al., 2014](#)) was developed to enable study of interactions between nurses and older adults whose communication abilities are diminished by mechanical ventilation during critical care. As a group, the articles point out the wide range of settings and situations in which communication between nurses and patients occurs, the benefits accruing from effective communication, and the negative aftereffects when communications go awry.

As its name implies, health communication is a hybrid area of research at the intersection of the health sciences and communication science. Within the field, challenges arise from tensions associated with scientific versus practical emphasis in research, differences in the traditions and scholarly cultures of the parent disciplines, and the need to extend the field from local to global, international, intercultural perspectives ([Hannawa et al., 2014](#)). The complementary foci of the health sciences and communication science create a natural setup for effective team science. At the intersection, a value for theory in health communication science ([Hannawa et al., 2014](#)) and nursing science alike creates a shared foundation for collaborative efforts. The individual-, interaction-, and relationship-focused theories used to study interpersonal communication ([Bylund, Peterson, & Cameron, 2012](#)) have similarities in structure and overlap in concepts with theory used in nursing. Likewise, the goal of understanding how communication effects positive changes in health and health behavior is shared ([Street, Makoul, Arora, & Epstein, 2009](#); cf. [Donaldson & Crowley, 1978](#): "... the processes by which positive changes in health status are effected..."). The vast practice experiences of nurses as the backbone of health services across the world bring credibility and trustworthiness of knowledge about provider–patient encounters as interpersonal health communication to the scientific table. Challenges linking theory and practice in health communications ([Ruben, 2016](#)) could be mitigated with increased engagement of nursing scientists in research endeavor.

Palliative care for children living with serious illness and their families is fraught with communications challenges. Conversation matters in this poignant situation ([NINR, 2016](#)), which highlights the pressing need for translation of findings from nursing communications research to practice. Because students find this aspect of practice to be difficult, a first step is to ensure that instructional programs at all levels are continuously updated with new findings from nursing and health communication research studies. A second step is to deliberately incorporate communications protocols into practice. Broad societal issues should be addressed using policy. The individuals, families, communities, and mass audiences communicating with health professionals need and deserve thoughtful, responsive, effective communication experiences

with health professionals. Health communication research for nursing science and nursing practice will help to ensure they receive it.

Feature Articles

Sleep Disturbance, Daytime Symptoms, and Functional Performance in Patients with Stable Heart Failure: A Mediation Analysis

Jeon, Sangchoon; Redeker, Nancy S.

Abstract

Background: Sleep disturbance is common among patients with heart failure (HF) who also experience symptom burden and poor functional performance.

Objective: We evaluated the extent to which sleep-related, daytime symptoms (fatigue, excessive daytime sleepiness, and depressive symptoms) mediate the relationship between sleep disturbance and functional performance among patients with stable HF.

Methods: We recruited patients with stable HF for this secondary analysis of data from a cross-sectional, observational study. Participants completed unattended ambulatory polysomnography from which the Respiratory Disturbance Index was calculated, along with a Six-Minute Walk Test, questionnaires to elicit sleep disturbance (Pittsburgh Sleep Quality Index, Insomnia Symptoms from the Sleep Habits Questionnaire), daytime symptoms (Center for Epidemiologic Studies Depression Scale, Global Fatigue Index, Epworth Sleepiness Scale), and self-reported functional performance (Medical Outcomes Study SF36 V2 Physical Function Scale). We used structural equation modeling with latent variables for the key analysis. Follow-up, exploratory regression analysis with bootstrapped samples was used to examine the extent to which individual daytime symptoms mediated effects of sleep disturbance on functional performance after controlling for clinical and demographic covariates.

Results: The sample included 173 New York Heart Association Class I–IV HF patients ($n = 60/34.7\%$ women; $M = 60.7$, $SD = 16.07$ years of age). Daytime symptoms mediated the relationship between sleep disturbance and functional performance. Fatigue and depression mediated the relationship between insomnia symptoms and self-reported functional performance, whereas fatigue and sleepiness mediated the relationship between sleep quality and functional performance. Sleepiness mediated the relationship between the respiratory index and self-reported functional performance only in people who did not report insomnia.

Conclusions: Daytime symptoms explain the relationships between sleep disturbance and functional performance in stable HF.

Symptom Trajectories After an Emergency Department Visit for Potential Acute Coronary Syndrome

Knight, Elizabeth P.; Shea, Kimberly; Rosenfeld, Anne G.; Schmiede, Sarah; Hsu, Chiu-Hsieh; DeVon, Holli A.

Abstract

Background: Many patients evaluated for acute coronary syndrome (ACS) in emergency departments (EDs) continue to experience troubling symptoms after discharge—regardless of their ultimate medical diagnosis. However, comprehensive understanding of common post-ED symptom trajectories is lacking.

Objectives: The aim of this study was to identify common trajectories of symptom severity in the 6 months after an ED visit for potential ACS.

Methods: This was a secondary analysis of data from a larger observational, prospective study conducted in five U.S. EDs. Patients ($N = 1005$) who had electrocardiogram and biomarker testing ordered, and were identified by the triage nurse as potentially having ACS, were enrolled. Symptom severity was assessed in the hospital after initial stabilization and by telephone at 30 days and 6 months using the validated 13-item ACS Symptom Checklist. Growth mixture modeling was used for the secondary analysis. The eight most commonly reported symptoms (chest discomfort, chest pain, chest pressure, light-headedness, shortness of breath, shoulder pain, unusual fatigue, and upper back pain) were modeled across the three study time points. Models with increasing numbers of classes were compared, and final model selection was based on a combination of interpretability, theoretical justification, and statistical fit indices.

Results: The sample was 62.6% male with a mean age of 60.2 years ($SD = 14.17$ years), and 57.1% ruled out for ACS. Between two and four distinct trajectory classes were identified for each symptom. The seven different types of trajectories identified across the eight symptoms were labeled “tapering off,” “mild/persistent,” “moderate/persistent,” “moderate/worsening,” “moderate/improving,” “late onset,” and “severe/improving.” Trajectories differed on age, gender, and diagnosis.

Discussion: Research on the individual nature of symptom trajectories can contribute to patient-centered, rather than disease-centered, care. Further research is needed to verify the existence of multiple symptoms trajectories in diverse populations and to assess the antecedents and consequences of individual symptom trajectories.

Psychometric Evaluation of the Patient-Reported Outcomes Measurement Information System Fatigue-Short Form Across Diverse Populations

Ameringer, Suzanne; Elswick, R. K. Jr.; Menzies, Victoria; Robins, Jo Lynne; Starkweather, Angela; Walter, Jeanne; Gentry, Amanda Elswick; Jallo, Nancy

Abstract

Background: The need for reliable, valid tools to measure patient-reported outcomes (PROs) is critical both for research and for evaluating treatment effects in practice. The Patient-Reported Outcomes Measurement Information System Fatigue-Short Form v1.0-Fatigue 7a (PROMIS F-SF) has had limited psychometric evaluation in various populations.

Objectives: The aim of the study is to examine psychometric properties of PROMIS F-SF item responses across various populations.

Methods: Data from five studies with common data elements were used in this secondary analysis. Samples from patients with fibromyalgia, sickle cell disease, cardiometabolic risk, pregnancy, and healthy controls were used. Reliability was estimated using Cronbach's alpha. Dimensionality was evaluated with confirmatory factor analysis. Concurrent validity was evaluated by examining Pearson's correlations between scores from the PROMIS F-SF, the Multidimensional Fatigue Symptom Inventory-Short Form, and the Brief Fatigue Inventory. Discriminant validity was evaluated by examining Pearson's correlations between scores on the PROMIS F-SF and measures of stress and depressive symptoms. Known groups validity was assessed by comparing PROMIS F-SF scores in the clinical samples to healthy controls.

Results: Reliability of PROMIS F-SF scores was adequate across samples, ranging from .72 in the pregnancy sample to .88 in healthy controls. Unidimensionality was supported in each sample. Concurrent validity was strong; across the groups, correlations with scores on the Multidimensional Fatigue Symptom Inventory-Short Form and Brief Fatigue Inventory ranged from .60 to .85. Correlations of the PROMIS F-SF with measures of stress and depressive mood were moderate to strong, ranging from .37 to .64. PROMIS F-SF scores were significantly higher in clinical samples compared to healthy controls.

Discussion: Reliability and validity of the PROMIS F-SF were acceptable. The PROMIS F-SF is a suitable measure of fatigue across the four diverse clinical populations included in the analysis.

Pain Intensity in Hospitalized Adults: A Multilevel Analysis of Barriers and Facilitators of Pain Management

Van Hecke, Ann; Van Lancker, Aurélie; De Clercq, Bart; De Meyere, Céline; Dequeker, Sara; Devulder, Jacques

Abstract

Background: Despite an enhanced interest and evolution in pain management, prevalence remains high. Interventions to optimize pain-related care can only be effective if barriers are identified and accounted for.

Aim: To assess pain intensity and examine its association with patient- (including health literacy defined in this study as “requiring help to read health information”), nurse-, and system-related (including social capital defined as “the importance of network and norms at work”) barriers/facilitators to pain management.

Methods: A two-center, cross-sectional study was performed between October 2012 and April 2013. The study included patients and nurses of 39 noncritical wards of two hospitals in Belgium. Patients who were 18 years of age or older and without impaired cognition or consciousness were eligible to take part. All nurses working in the included ward were invited to participate. Pain intensity and patient-related barriers were collected by a structured and standardized questionnaire, completed in dialogue with the patient. Nurses completed the questionnaire on the nurse- and system-related barriers and the social capital scale. Multilevel analysis was used to analyze the data because of the hierarchical structure of the data.

Results: The average pain of all patients across all wards on a 0–10 scale was 2.2 ($SD = 3.6$). The multilevel analysis indicates that pain intensity can be explained by variables at patient and ward levels. A significant independent association was found between higher pain intensity and younger age, receiving pain medication, the conviction of patients that pain medication does not improve pain, inadequate health literacy in patients, nurses without advanced education, and nurse’s concerns about side effects. Social capital did not emerge as predictor of pain intensity.

Discussion: Patient and nurse level factors should be taken into account in hospitals when setting up strategies to improve pain management.

Health Equity Research Series

Adolescent Experience of Menstruation in Rural Kenya

Secor-Turner, Molly; Schmitz, Kaitlin; Benson, Kristen

Abstract

Background: Although menstruation is a universal experience, girls in resource-poor areas face unique challenges related to menstruation management. In Kenya, girls miss nearly 3.5 million learning days per month because of limited access to sanitary products and lack of adequate

sanitation. Global priorities to address gender inequality—especially related to education—often do not consider the impact of poverty on gendered experiences, such as menstruation.

Objective: The aim of the study was to describe the experiences of menstruation from the perspective of adolescent girls living in rural Kenya.

Methods: Data for this qualitative study were collected through 29 individual interviews with adolescent girls and separate field observations. Descriptive content analysis was used to identify themes reflective of the data from the individual interviews and field notes.

Results: Four themes were developed to summarize the data: (a) receiving information about menstruation, (b) experiences of menstruation, (c) menstrual hygiene practices, and (d) social norms and the meaning of menstruation.

Conclusions: Findings from this study describe the impact of menstruation on the lives of adolescent girls in rural Kenya. Menstrual hygiene management and its associated challenges may impact girls' academic continuity. Experiences of menstruation also reinforce gender inequality and further marginalize girls in low-income, rural areas of Kenya. Consideration of menstruation is critical to promote health and academic continuity for girls in rural Kenya.

Point-of-Care Research Series

Repetition in the Health History Segment of Spanish Language Clinical Consultations: A Conversation Analysis

Vickers, Caroline H.; Lindfelt, Christopher; Dodd-Butera, Teresa

Abstract

Background: Patient history-taking sequences may be repeated across medical speech events with different healthcare providers and subsequently co-constructed differently, which can lead to disparate patient history information with implications for patient care outcomes. Encounters that include language discordance between patients with limited English language proficiency and healthcare workers can also impact patient outcomes.

Objectives: We examined the repetition of patient history-taking sequences in consultations in which healthcare providers used Spanish as a first and second language with monolingual Spanish-speaking patients. The aim was to understand how repetition affects patient care processes and outcomes.

Methods: Conversation analysis was used. The target population was bilingual healthcare providers and monolingual Spanish-speaking patients. The accessible population was composed of healthcare providers and patients from an urban, low-income, community health clinic in Southern California. In three exemplar cases from among 50 that were studied, instances of repetition in the history-taking segment of clinical consultations were located. We identified which aspects of patient reports were repeated across intake nurse–patient consultations and

nurse practitioner–patient consultations, as well as how patient reports were differently co-constructed across these events.

Results: Information elicited during the intake nurse–patient history event may be elicited again when a nurse practitioner repeats the elicitation of particular aspects of the patient’s complaints and health history. Repetition of patient history information was co-constructed differently by different healthcare providers, sometimes led to seamless teamwork, and sometimes led to time wasting. Healthcare provider second language use of Spanish did not substantially impact how patient history information was co-constructed.

Discussion: This analysis sheds light on the effects of repetition across medical events and assessed the effects of repetition on communication among members of a healthcare team and patient care outcomes. It also informs how medical provider second language use may affect how information is conveyed. Our study has implications for understandings of medical consultations that involve nurse triage prior to consultation time in multilingual settings.

Biology Review Series

Pharmacogenetics of Anesthesia: An Integrative Review

Aroke, Edwin N.; Dungan, Jennifer R.

Abstract

Background: Monitoring a patient’s response to drug therapy and early identification of an adverse reaction are important responsibilities of nurses. Despite the relative safety of anesthesia practice, 1 in 20 perioperative medication administrations includes a medication error and/or adverse drug reaction. Although several factors contribute to an individual’s response to medications, genetic predisposition accounts for over 50% of that response.

Objective: The purpose of this review is to explore the evidence of genetic variability associated with response to volatile and intravenous anesthetics.

Methods: A comprehensive search of published literature in PubMed, CINAHL, and Cochrane databases from 1960 to May 30, 2015, was performed. Iterative reading of the primary articles was performed to ensure congruence between the extracted data and the primary article and reduce the data to draw conclusions.

Results: The analysis revealed that most anesthetics are metabolized by enzymes in the *CYP2* and *UGT1* family. *CYP2B6* catalyzes propofol and ketamine metabolism. *CYP2B6**6 allele is associated with decreased propofol and ketamine metabolism and increased adverse effects. Genetic variants in the *UGT1A9* enzyme are associated with the need for higher induction dose and increased clearance of propofol.

Discussion: Despite the significant gaps in the literature, current evidence suggests that close monitoring is required when administering anesthetics to individuals with the *CYP2B6**6 allele.

Future research to address identified gaps in this review may have the potential to identify underlying genetic contribution to anesthetic response and prevent significant adverse events during anesthesia delivery and perioperative nursing care.

Brief Report

The Intergenerational Impact of Genetic and Psychological Factors on Blood Pressure Study (InterGEN): Design and Methods for Recruitment and Psychological Measures

Crusto, Cindy A.; Barcelona de Mendoza, Veronica; Connell, Christian M.; Sun, Yan V.; Taylor, Jacquelyn Y.

Abstract

Background: Although studies show that genomics and environmental stressors affect blood pressure, few studies have examined their combined effects, especially in African Americans.

Objective: We present the recruitment methods and psychological measures of the Intergenerational Impact of Genetic and Psychological Factors on Blood Pressure (InterGEN) study, which seeks to investigate the individual and combined effects of genetic (G) and environmental (E) (psychological) stressors on blood pressure in African American mother–child dyads. Genetic methods are presented elsewhere, but here we present the recruitment methods, psychological measures, and analysis plan for these environmental stressors.

Methods: This longitudinal study will enroll 250 mother–child dyads ($N = 500$). Study participation is restricted to women who (a) are ≤ 21 years of age, (b) self-identify as African American or Black, (c) speak English, (d) do not have an identified mental illness or cognitive impairment, and (e) have a biological child between 3 and 5 years old. The primary environmental stressors assessed are parenting stress, perceived racism and discrimination, and maternal mental health. Covariates include age, cigarette smoking (for mothers), and gender (for children). The study outcome variables are systolic and diastolic blood pressure.

Analysis: The main analytic outcome is genetic-by-environment interaction analyses ($G \times E$); however, main effects (G) and (E) will be individually assessed first. Genetic (G) and interaction analyses ($G \times E$) are described in a companion paper and will include laboratory procedures. Statistical modeling of environmental stressors on blood pressure will be done using descriptive statistics and generalized estimating equation models.

Implications: The methodology presented here includes the study rationale, community engagement and recruitment protocol, psychological variable measurement, and analysis plan for assessing the association of environmental stressors and blood pressure. This study may provide the foundation for other studies and development of interventions to reduce the risk for hypertension and to propose targeted health promotion programs for this high-risk population.