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Educating Nurses How to Critique Research Reports

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Walden University

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Jacqueline Pinkowski

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Walden University
2017

Abstract

Educating Nurses How to Critique Research Reports

by

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MS, California State University Long Beach, 2003

BS, California State University Fullerton, 1988

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2017

Abstract

When bedside acute care nurses support their clinical practice with current best evidence, patient outcomes improve. Most bedside acute care nurses base their clinical decision-making on tradition and not the application of evidence based practice (EBP). The ability to appraise research is a critical component in the application of EBP and best care practices. The purpose of the DNP project was to obtain 5 content experts' evaluations of an education module for bedside nurses on how to analyze a research report, complete a literature review, and create a table of evidence (TOE). The theoretical framework guiding the project was the Advancing Research and Clinical Practice through Close Collaboration (ARCC) Model, which supports the integration of research in clinical practice. The content experts provided qualitative, summative evaluations to strengthen the content. Recommendations included adding information to the content of the module that would identify the differences in analyzing quantitative and qualitative research, providing more information related to the 51 criteria of the RAC used to guide nurses when analyzing a research article, and providing a script and talking points to assist other facilitators when implementing the module. A final suggestion by the experts included presenting the EBP module in two parts: part 1, how to analyze an article and part 2, how to pool the data. The project has the potential to improve nurses' knowledge and the application of evidence based practice to enhance social change through improved clinical outcomes for patients.

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Dedication

The project is dedicated to two very special members of my family, my husband, Cas, and our granddaughter, Chloe. This project would not have been possible without “the wind beneath my wings,” my kind, encouraging, and always patient husband of 52 years, Cas. Without his support from the very first chemistry class 41 years ago until now, I would not have been able to complete this project with the resilience and dedication required. Our beautiful granddaughter, Chloe, entered UCLA 3 years ago with a major in biochemistry. Last year I received a text, “Grammie, guess who wants to be a nurse?” She will make an outstanding leader in the profession of nursing. That is just who she is, an exceptionally intelligent, caring individual with a high level of integrity in every area of her life. To Chloe Noel, our granddaughter, it is with great joy and admiration I dedicate this project to you. Your questions and inquiry have prompted me to new levels of query I might not have pursued if it were not for you.

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Section 1: Nature of the Project

Patient outcomes improve with the utilization of evidence-based practice (EBP) (Hoffman, Bennett, & Del Mar, 2010). Most nurses agree EBP improves patient outcomes, increasing the safe and predictable care of patients (Mollon et al., 2012). However, nurses' attitudes and beliefs related to using EBP in their personal practice are greater than their knowledge and skills related to implementing EBP (Mollon et al., 2012; Yoder, et al., 2014). Nurses need to be able to appraise research findings that support EBP to improve patient outcomes (Stevens, 2013).

The project included five EBP content experts to examine an educational module designed to inform nurses how to critique a research report using the Research Assessment Checklist (RAC) (Appendix A), how to complete a literature review, and how to construct a table of evidence (TOE). Little is known about which forms of instruction have proven effective in improving nurses' knowledge and skills in reading and understanding research reports to support their clinical practice with current best evidence (Melnyk, Fineout-Overholt, Gallagher-Ford, & Kaplan, 2012b). It is important for nurses to adopt current best evidence in the form of EBP in the acute care setting to serve as foundational knowledge upon which to center the core precepts of their clinical practice (Fineout-Overholt, Melnyk, & Schultz 2005b; Mollon et al., 2012). Patient outcomes are at least 28% better when clinical care is based on current best evidence (Fineout-Overholt, et al. 2005b). Section 1 includes the research problem and background of the project addressing nurses' lack of knowledge and skills in reading and translating research reports to provide patient care based on current best evidence.

Background and Content

A commonly accepted description of EBP emerged from a definition coined by Sackett (as cited in Hoffman et al., 2010) when referring to the need for evidence-based medicine to be established on the most credible research evidence available to make the safest decisions for patients. Presently, an accepted definition of EBP is the utilization of current best scientific research, clinical expertise, and consideration of patients' preferences to support clinical decision-making. EBP is foundational when translating research findings into clinical practice (Melnyk et al. 2012b; Stevens, 2013).

The Institute of Medicine (2011) proposed that health care workers maintain skills and competencies for continuous improvement of the quality and safety of health care systems. Evidence-based practice is one of the recommendations posited by the (IOM, 2011). A restructuring of present health care delivery systems is recommended by national experts and includes the utilization of EBP to address the disparity between how health care is currently administered and how it needs to be managed (Stevens, 2013). Health care professionals and national authorities argue that this gap must be narrowed with the utilization of evidence-based practice (Stevens, 2013). Although awareness regarding the benefits to patient safety has increased, minimal research connecting improved outcomes to society has been conducted. Demonstrating and measuring the benefits of current research in support of improved patient outcomes is a significant issue impacting health care and populations globally, as well as the nursing profession (Melnyk et al., 2012b; Yoder et al., 2013).

Contemporary issues related to EBP are often traced to Cochrane, a British Medical researcher for whom the Cochrane Database of Systematic Reviews was named. Cochrane did not advocate for more research, but instead promoted utilization of systematic reviews of evidence from randomized controlled trials (RCTs) as a dependable source of information.

When nurses provide care based on best evidence, patient outcomes improve (Fineout-Overholt et al., 2005b). However, studies indicate most nurses do not have the knowledge and skills to appraise literature that supports their clinical practice (Johnson et al., 2010; Pravikoff, Tanner, & Pierce, 2005). Nurses need to know how to read and understand research reports to support practice with current best evidence (Fineout-Overholt et al., 2005b).

Establishing nursing practice on current research findings is not a new concept. Stevens (2013) observed that nursing education moved forward in the 1960s identifying itself “as an applied science” (p. 1). In the 1990s, new knowledge was being produced; however, the knowledge needed to be applied to improve patient outcomes (Stevens, 2013). In 1999, the IOM conducted a study based on data from medical records of patients in New York hospitals. The IOM estimated that approximately 98,000 Americans die each year from preventable medical errors. EBP improves patient outcomes, quality of health care, and cost effectiveness (IOM, 1999; Majid et al., 2011). Investigative findings confirm that patient outcomes are at least 28% better when clinical care is based on rigorous studies (Fineout-Overholt et al., 2005b).

Nurses comprise the largest segment of the health care workforce (IOM, 2011). The nursing workforce is in a pivotal position to transform health care (Stevens, 2013). The IOM (2001) recommended initiatives involving nurses utilizing EBP to support nursing interventions, maintain best practices, and improve outcomes for patients. According to Stevens (2013), the advancement of EBP is supported by professional and public demand for accountability and safety in patient care.

Barriers cited by staff nurses include a heavy workload, lack of time, and lack of EBP knowledge and skills (Conner, Kelechi, Nemeth, Edlund, & Krein, 2013; Mollon et al., 2012; White-Williams et al., 2013; Yoder et al., 2013). The origins of EBP center on better outcomes for patients. There are now specific criteria such as the Research Assessment Checklist (RAC) for appraising evidence and enabling the reader to evaluate weak or strong evidence findings. The ability to assess evidence as valid or invalid enhances the process of integrating research into practice. Principles based on EBP enable nurses to have the tools to improve practice and clarify best practices for improved health care outcomes (Fineout-Overholt et al., 2005b; Levin, Fineout-Overholt, Melnyk, Barnes, & Vetter, 2011).

Problem Statement

The inability of nurses to adequately appraise research and apply findings to clinical practice in the context of EBP is well documented (Mallion & Brooke, 2016; Melnyk et al., 2012b; Stevens, 2013). Curricula in undergraduate nursing education has historically emphasized methods of research rather than the ability to translate current findings into practice. Many nurses are unable to critique a research article to incorporate

the best evidence into bedside nursing care. The ability to appraise research is a critical component in the application of EBP. Research findings indicate that nurses working in acute care facilities have different levels of knowledge and skill related to EBP (Bonner & Sando, 2008; Heiwe et al., 2011; Melnyk & Fineout-Overholt, 2005).

Research has confirmed the implementation of EBP in clinical care improves patient outcomes, leads to a higher level of care, and decreases the cost of health care (Melnyk, et al., 2012b). Multiple studies indicate nurses believe EBP improves patient outcomes (Bonner & Sando, 2008; Fineout-Overholt, Melnyk & Schultz, 2005b; Melnyk, et al., 2012b). The inconsistency and variation of clinical decision-making and health care provided by nurses at the bedside create a gap between best practices (Mollon et al., 2012; Stevens, 2013; White-Williams et al., 2013; Yoder et al., 2014). Nursing has been challenged by the IOM to convert current research findings into evidence supporting clinical decision-making at the bedside. According to the IOM (2001), “patients should receive care based on the best available scientific knowledge and treatment should not vary illogically from clinician to clinician or from place to place” (p. 8).

Purpose Statement

The purpose of the DNP project was to obtain analytical assistance from five content experts to evaluate an educational module that could be used to instruct bedside nurses in an acute care setting how to critique a research report, complete a literature review, and create a table of evidence. After the content experts evaluated the educational module using the modified version of the Standards for Quality Improvement Reporting Excellence 2.0 (SQUIRE 2.0) Checklist (Appendix B), I analyzed their findings to

discover new concepts that would enrich the module. The intent was to ensure the educational module would provide bedside acute care nurses with the knowledge and skills needed to support their practice with current best evidence.

Investigators agree that an increase in attention to evidence is needed to support how current research is disseminated across varying contexts of care (Hoffman et al., 2010; Leeman & Sandelowski, 2012). The IOM (2003) argued that educational programs and health care settings must integrate competencies focused on current evidence. Recent findings indicated substantial gaps in clinical decision-making between current best evidence and tradition, convention, and opinion (Heiwe et al., 2011; Johansson, Fogelberg-Dahm, & Wadenstein, 2010). Nursing education is being encouraged to routinely include research modules that support nurses in evaluating evidence from research papers and analyzing data from reputable sources (Johnson et al., 2010).

One of the ways health care organizations can integrate best practices to sustain patient care is through the education of bedside nursing staff regarding how to read scholarly literature (Heiwe et al., 2011). The DNP project was conducted to evaluate an EBP educational module to educate acute care bedside nurses to critique research reports, conduct a literature review, and create a table of evidence (TOE) with the purpose of applying new EBP knowledge to their clinical practice. The ability to read and understand research reports will improve patient care and deliver better patient outcomes (Melnyk et al., 2012b). Nurses will be well equipped with the knowledge of how to support the redesign of policies and procedures.

Project Objectives

The primary objective of the DNP project was to create an educational module informing bedside acute care nurses how to critique a research report using the RAC, how to complete a literature review, and how to craft a TOE. The educational module is a PowerPoint presentation designed by me (Appendix C). The second objective was to ask five EBP content experts to assess the educational module and provide feedback to ensure the content will assist bedside acute care nurses in learning how to read and understand research reports.

Project Question

Will the use of content experts further strengthen an educational module constructed to provide instruction for staff nurses on how to critique a research article, complete a literature review, and develop a TOE?

Significance of the Project

The nursing profession has been challenged by the IOM (2011) to convert current research findings into evidence that supports clinical decision-making at the bedside. The IOM (2009) has recommended that 90% of clinical decisions be based on current best research by 2020. Currently many bedside nurses lack the ability to appraise literature critically. Clinical interventions are based on policies and procedures developed in individual facilities. The DNP project provided bedside nurses with an educational module designed to promote their skills in critiquing the literature using the RAC, completing a literature review, and creating a TOE to support the development of policies and procedures. Bedside nurses who have the ability to recognize strengths and

weaknesses in investigative findings will have the skills to support their clinical practice with current best evidence and will be able to develop policies and procedures founded on rigorous research findings.

Reduction in Gaps

Many nurses are unprepared to critique the literature and apply findings to clinical practice because nursing curricula are primarily focused on foundational learning in anatomy/physiology, pharmacology, and clinical skills. Bedside nurses prepared at a Licensed Vocational Nurse (LVN) or Associate Degree Nurse (ADN) level may be unprepared to translate research, while those in a baccalaureate program are primarily instructed in professional leadership, health promotion, community health, and ethics. Traditional nursing education emphasizes how to do research rather than how to implement findings in clinical practice (Burns & Foley, 2005). The assessment of the DNP educational module by content experts provided additional approaches to facilitate bedside nurses' ability to read and understand research reports. Practice based on current evidence may close the gap between the IOM's recommendation and care based on tradition or convention that is presently provided by most bedside acute care nurses.

Most current practice is based on outdated policies and procedures rather than current best evidence (Melnyk et al., 2012b). The lack of current best evidence to sustain policies and procedures in health care institutions may be linked to the bedside nurses' lack of knowledge and skills in reading and understanding research reports. Educating bedside acute care nurses in how to critique a research report, complete a literature review, and craft a TOE will provide them with enhanced knowledge, skills, and

capabilities related to using current best evidence to support bedside care. The content experts' review of the educational module provided clinical and academic expertise combined with current best evidence to enrich the educational module. When nurses are able to read and understand research reports and complete literature reviews, policies and procedures will be developed by using data from current best evidence reports to support the improvement of patient outcomes (Melnyk, 2012b).

Implications for Social Change

The IOM (2003) recommended that educational programs and health care settings should integrate competencies focused on current investigative findings. Nurses' lack of knowledge and skills in how to read and appraise research is cited as a primary barrier to implementation of EBP in health care organizations. Evidence-based practice is a problem-solving approach to patient care that includes best evidence from well-designed studies, patient preferences, and the skilled expertise of a clinician. Clinical outcomes have been shown to be at least 28% better when clinical care is based on current best evidence (Fineout-Overholt, et al., 2005b).

The project provided the potential to effect change in nursing practice by assisting bedside acute care nurses in understanding how to translate research findings into practice. When nurses value research and how it can be utilized to improve clinical practice, patient outcomes will improve (Fineout-Overholt & Johnston, 2006). A negative view of research has the potential to curtail a nurse's ability to correctly appraise research with the intent to support clinical practice. Nurses' lack of knowledge and skills in reading and understanding research reports is directly related to patient care that is not

supported by EBP (Pravikoff, et al., 2005). The educational module was designed to increase bedside acute care nurses' ability to read and understand research reports.

Nursing educators and leaders are in pivotal positions to build and support a culture for the advancement of EBP. Advancement of EBP can be accomplished by providing educational skills-building sessions and EBP resources for bedside acute care nurses to implement when caring for patients. As part of the Magnet recognition program, hospitals must develop programs related to EBP, as well as resources available for staff to support the advancement of EBP (American Nurse's Credentialing Center [ANCC], 2011). The content experts' assessment of the educational module provided evidence-based information that augmented the methods of instruction.

Definition of Terms

The following terms are defined for the purposes of this DNP project.

Clinical expertise: The quality of a professional, usually with an advanced level of education, who, with meticulous utilization of clinical skills and experience, is able to rapidly identify a patient's health state and risks (Fineout-Overholt et al., 2005b).

Clinical guidelines: Protocols guiding the care of patients within a health care organization (Terry, 2012).

Clinical practice: The promotion and maintenance of health and the prevention or resolution of disease, illness, or disability by a licensed nurse (American Nurses' Association [ANA], 2010).

Current research: The best investigative findings adding to the knowledge base of nursing within the last 5 years (Grove, Burns, & Gray, 2013).

Convention: An accepted practice for procedures utilized in caring for patients at the bedside (Melnyk & Fineout-Overholt, 2002a).

Evidence-based practice (EBP): Current best evidence from research findings, combined with clinical expertise and merged with the unique values and preferences of the patient (Melnyk & Fineout-Overholt, 2002b).

Assumptions and Limitations

The DNP project included the assumption that the content experts would have the capacity to critically appraise the educational program and provide additional insights to enhance the EBP content of the module. One limitation was that the findings were from content experts who resided in one area of the United States, and therefore generalizability was limited. Another limitation was that bedside acute care nurses in one area of the United States may not be representative of bedside nurses nationwide. Methodological limitations of the modified SQUIRE 2.0 Checklist may have limited the generalizability of the findings. A final limitation was that findings received from the content experts was one time rather than collating the experts' findings and returning it to them for concurrence again.

Summary

This section included the background, purpose, and significance of the DNP project. Current best evidence found in research studies is a key component of EBP. Studies indicate that patient outcomes improve when patient care is supported by EBP (Fineout-Overholt, et al., 2005b; Melnyk, et al., 2012b; Stevens, 2013). However, the integration of EBP in daily clinical practice remains inconsistent, creating a gap between

patient care maintained by tradition and patient care sustained by current best evidence (Wallen et al, 2010). Most nurses working at the bedside possess a wide variety of knowledge and skills related to EBP and the ability to read and understand research reports. According to Johnson et al. (2010), new approaches are needed to involve nurses in appropriate training to read and understand research reports that support their clinical practice. The DNP project offered a method to improve the knowledge and skills of bedside nurses by providing an educational module that informed them how to critique a research report, conduct a literature review, and complete a table of evidence. The use of content experts presented an opportunity for enrichment of the current content and framework of the educational module.

Section 2: Review of Literature and Theoretical Framework

Section 2 includes the literature review and search strategy followed to validate the need for the DNP project, including the scope of literature from general to specific. The framework chosen to guide the DNP project was the advancing research and clinical practice through close collaboration (ARCC) model. The model was introduced in 1999 by Melnyk as part of a strategic planning initiative at the University of Rochester School of Nursing and School of Medicine to integrate research into clinical practice. The model has been reworked and is presently used as a guide to implementing and sustaining EBP within an organization (Melnyk & Fineout-Overholt, 2010a).

General Literature Search

A systematic literature review was conducted using the Cochrane Database of Systemic Reviews, PubMed, ProQuest Nursing and Allied Health, Ovid Nursing

Journals, Nsq.sagepub.com, Science Digest, the Cumulative Index of Nursing and Allied Health (CINAHL), and Medline. Key search terms and combinations of search terms used for the search included *EBP origins, studies, instruments, barriers to practice* and *practice implementation*, as well as *nursing beliefs* and *behavior related to EBP*. After identifying journal articles, websites, and books significant to this project, I selected relevant studies published between 1999 and 2015. A total of 90 journal articles, books, and websites were reviewed and found to contain information relevant to the project. Information from 68 sources was used in this study. The following sections include a review of specific literature, general literature, and the conceptual framework.

Specific Literature

This section is divided into subsections related to the gap between nursing care founded upon current best evidence and nursing care sustained by tradition and convention.

The Gap

When care is based on current best evidence, patient outcomes improve (Grimshaw et al., 2006; IOM, 2001; Mollon et al., 2012; Stevens, 2013; Yoder et al., 2013). However, current research findings indicate a substantial gap between practice based on EBP and patient care provided in most acute care facilities (Bonner & Sando, 2008; Heiwe et al., 2011; Johansson et al., 2010). Policies and procedures within a health care organization have the potential to drive a culture of safety by supporting clinical interventions based on current best evidence. Today's nurses have varying levels of knowledge and skills related to EBP, depending on their level of training and education

(Bonner & Sando, 2008). Health care professionals and organizations will continue to be called upon to use educational methods to improve the quality of health care delivery in order for the primary outcome, patient health, to be fully realized (White & Dudley-Brown, 2012).

Bridging the Gap

Policies and procedures founded on current best evidence have the potential for providing bedside acute care nurses with the tools and skills they need for implementing clinical interventions based on EBP. Patient care sustained by EBP has been shown to improve patient outcomes and improve cost effectiveness (Agency for Health Care Research and Quality [AHRQ], 2014; Fineout-Overholt, Levin, & Melnyk, 2005a; Stevens, 2013). Until recently, health care organizations have been slow to implement patient interventions corroborated by current best evidence. Of late, due to the requirements of accreditation agencies such as the Joint Commission (TJC) and the American Nurses Credentialing Center (ANCC), health care organizations are beginning to include EBP in institutional policies and procedures. Health care organizations' desire for the Magnet designation is projected to increase the use of EBP to maintain formally established policies and procedures sustained by current best evidence. Nursing care guided by current best evidence will improve patient outcomes (Fineout-Overholt et al., 2005b).

Nursing Education

Nursing educators are being called on to provide EBP learning opportunities in undergraduate nursing programs. Recommendations from the IOM (2001) include

initiatives directly involving nurses and the necessity for utilizing EBP to support the best nursing practice. According to the ANCC (2014), research findings within the context of EBP must be provided to support patient care guidelines and improve patient outcomes. Most undergraduate nursing curricula in the United States are designed to instruct students in how to conduct research rather than how to translate investigative findings into practice. As a result, graduates often develop negative attitudes, as nurses, toward utilizing findings from research; as a result, patient care is often based on outdated policies and procedures rather than current best evidence (Melnyk et al., 2012b). The DNP project focused on the ability of bedside acute care nurses to read and understand research reports to guide the development of policies and procedures that support patient care based on current best evidence.

General Literature

The following section is divided into three subsections addressing the significance of clinical care supported by EBP to maintain best patient outcomes and the barriers that impact care.

Improved Patient Outcomes

Health care professionals, specifically nurses, have been called on to make changes in clinical practice and nursing education to improve the quality of care patients receive (IOM, 2011; Stevens & Staley, 2006). Patient outcomes are at least 28% better when care is supported by current research reports, as opposed to care provided by convention or tradition (Fineout-Overholt et al., 2005b). According to the AHRQ (2014), increased inquiry is needed to provide reliable guidelines for clinical practice and

decision-making. Nurses who have the ability to read and understand research reports will be able to establish and maintain patient care founded on current best evidence rather than convention or tradition. The DNP educational module provided EBP information designed to instruct bedside acute care nurses how to appraise research reports, conduct a literature review, and design a TOE.

Care Supported by Evidence-Based Practice

According to Stevens (2013), the advancement of EBP is being generated by professional and public demand for accountability and safety in patient care. Initiatives set forth by the IOM (2011) indicate that nurses are pivotal in leading the transformation with new competencies that are evidence based. Health care leaders are encouraging staff to adopt evidence-based practices using the most recent research to improve clinical care and clinical decision-making (Stevens, 2013). The IOM's (2009) goal recommends 90% of clinical decisions be based on current evidence by 2020. Since the IOM recommendations, agencies monitoring the quality and delivery of health care are placing increased importance on providing safe and improved patient care. The DNP project included three methods to inform bedside acute care nurses in how to support their clinical practice with current best evidence. The three methods were (a) how to critique a research report using the Research Assessment Checklist (RAC), (b) how to complete a literature review, and (c) how to create a table of evidence (TOE) to discover the weaknesses and strengths of research reports. As leader of this project and faculty member at a local university, I taught nursing students for several years at an acute care facility. While working with pre-licensure students in acute care facilities, I observed the

hesitation demonstrated by bedside acute care nurses to read and critique current research reports to support their clinical practice.

Barriers to Implementing EBP

Although research findings indicate that implementation of EBP in clinical care leads to a higher quality of care and improved patient outcomes, most bedside acute care nurses are not supporting clinical practice with current best evidence (Pravikoff et al., 2005). There are three commonly cited reasons for not incorporating EBP into clinical practice. First, nurses lack knowledge and skills in how to read and understand research reports. Second, nurses often verbalize negative attitudes regarding the time it takes to appraise and utilize research. Third, nurses believe that research is beyond their ability to understand. Results from several studies revealed a deficit in nurses' knowledge, skills, and utilization of EBP and a lack of willingness to seek current research to support clinical care of patients in acute care settings (Melnyk 2012a; Mollon et al., 2012; Stevens, 2013; White-Williams et al., 2013; Yoder et al., 2013).

In a recent cross-sectional descriptive study, Yoder et al. (2013) explored to what extent nurses in a large acute care facility utilized research findings to support their practice. Most of the 794 nurses surveyed reported that research evidence was beyond their immediate commitments and expected their educator or advanced practice nurse to search and synthesize findings relevant to clinical care. This DNP project addressed bedside acute care nurses lack of EBP knowledge and skills. The project module provided an educational intervention that informed bedside acute care nurses how to appraise research reports, complete a literature review, and design a TOE.

Conceptual Framework

The ARCC model was the conceptual framework used to guide the DNP project (Melnyk & Fineout-Overholt, 2010a). The ARCC model provides individuals and health care institutions with an organized framework that guides implementation and sustainability of EBP. An underlying framework within the ARCC model is the cognitive-behavioral theory (CBT), which is used to guide clinicians' behavioral change toward EBP (Melnyk & Fineout-Overholt, 2011). According to the CBT, an individual's behavior and emotions are a reflection of his or her beliefs. These thoughts and beliefs are influenced by environmental, social, and individual factors, often referred to as the triad of thinking-feeling-behaving (McLeod, 2008). A tenet of the ARCC model is that when a clinician's belief about EBP improves, his or her EBP knowledge and skills will increase. An improvement in knowledge and skills related to EBP is demonstrated by an increased capability in implementing EBP (Melnyk & Fineout-Overholt, 2011).

The primary goal of the ARCC model is to increase integration of research in clinical practice in acute care settings (Melnyk & Fineout-Overholt, 2010a). Other objectives of the ARCC model include promotion of EBP among advanced practice and staff nurses. The model supports current research as a basis of support for nursing interventions. The effectiveness of the ARCC model is validated through ongoing studies (Melnyk & Fineout-Overholt, 2010a). In the ARCC model, strategies such as educational workshops help nurses identify strengths and barriers to the implementation of EBP.

Melnyk, Fineout-Overholt, Giggelman, & Cruz (2010b) used the ARCC model when examining staff nurses' beliefs and organizational readiness for EBP in a small

community hospital. Perceived organizational EBP culture by staff nurses within the facility was strongly related to the implementation of EBP in clinical care. Results from this study also revealed that an EBP organizational culture increases group cohesion and job satisfaction. The premise that patient outcomes improve when nursing care is based on EBP has been accepted for more than 20 years (Mollon et al., 2012; White-Williams et al., 2013; Yoder et al., 2013). The ARCC model has been applied in the SUNY Upstate Medical Center in New York State, Pace University, and the University of Rochester to guide EBP education in support of clinical practice (Fineout-Overholt, Levin, & Melnyk, 2005a). A pilot study to test the ARCC model took place at two pediatric units in a 700-bed tertiary care center and four adult units in a specialty surgery hospital. The randomized controlled pilot study was designed to determine whether using the ARCC model would lead to better outcomes for nurses and patients in an acute care setting (Fineout-Overholt et al., 2005a). Outcomes from this study included the emergence of factors that assisted in the removal of barriers for implementation of EBP, as well as the importance of scholarship in nurses' care at the bedside. When EBP education was offered to nurses and their participation was rewarded, their belief in the worth of EBP increased. Nurses who gave credence to EBP were more apt to support their clinical practice with current research findings (Fineout-Overholt et al., 2005b).

Melnyk and Fineout-Overholt (2011) predicted that within the ARCC model, implementation of EBP would improve patient outcomes. The ARCC model addresses the barriers to implementing EBP in individual and organizational practice, as well as how to remove these barriers to sustain nursing practice and an organizational culture

based on EBP. For practice change to be established and sustained, beliefs related to the value of EBP within a culture need to be strengthened (Melnyk & Fineout-Overholt, 2010).

Reading and understanding research is often cited as a barrier to research application in clinical practice. The ability to gain insight into best evidence that can be used in nursing practice is critical to improve patient outcomes (Northam & Lakomy, 2008). The DNP project addressed this objective by providing an educational module to instruct bedside acute care nurses how to critically appraise a research report, perform a literature review, and design a table of evidence (TOE).

Summary

Effective methods to train nurses in EBP proficiency are relatively unknown and require further research (Fineout-Overholt et al., 2005b; Majid et al., 2011). The integration of EBP into daily clinical care remains inconsistent. According to Wallen et al. (2010), the gap between research and clinical practice is substantial. The need for improving patient safety and outcomes is one of the primary concerns of health care delivery today. Educating nursing staff in the implementation and sustainability of EBP within acute care facilities has the potential to improve patient outcomes, as well as promote a culture of inquiry guided by the ARCC model (Melnyk & Fineout-Overholt, 2010).

Section 3: Project Design and Methodology

The purpose of the DNP project was to receive an objective review of the educational module from five content experts using the modified Standards for Quality Reporting Excellence 2.0 Checklist (SQUIRE 2.0). The SQUIRE 2.0 Checklist is designed for reviewing reports that provide new knowledge to improve the quality, safety, and value of health care provided. The authors of the SQUIRE 2.0 Checklist encourage users to consider every SQUIRE item, but concede that “it may be inappropriate or unnecessary to include every SQUIRE element when using the guidelines” (SQUIRE 2.0 Checklist, 2016, para. I). I utilized 10 of the 18 guidelines in the SQUIRE 2.0 checklist to guide the experts’ review of the educational module (Appendix B). The SQUIRE 2.0 Checklist was modified to exclude guidelines that were not deemed valuable in directing the experts’ review of the educational module. The experts’ responses provided EBP data to enhance the value of the educational module. Guidelines provided in the SQUIRE 2.0 Checklist but not included in the modified version of the checklist included directives that are specifically designed to guide the reader when assessing the quality of research reports. The guidelines that were not relevant to experts when reviewing the educational module were not included in the evaluation. For example, the educational module does not contain an abstract, therefore, this guideline was omitted. Another guideline that was not used in the modified version of the checklist was the appraisal of the measures used for studying the outcomes of interventions utilized in a research report. Qualitative and quantitative measures were not discussed in the educational module; therefore, these items were not included in the

modified version of the checklist. Other guidelines that were not pertinent when reviewing the EBP educational module included the ethical considerations utilized when conducting a research study, the results and the summary of key findings of a research study, and the interpretation of those findings. The final three guidelines not applicable to guide the review of the educational module by content experts included an evaluation of the limitations found in a research report, conclusions and implications of the research report for practice or for further study, and information regarding how the study was funded.

The methods used in the educational module to inform nurses how to read and understand research reports included how to critique a research report utilizing the RAC, how to complete a literature review, and how to craft a TOE. Section 3 focuses on the methods, project design, data collection, and data analysis. The protection of human subjects and IRB approval are also discussed, as well as the plan to evaluate the project.

Project Design and Method

The consensus project included evaluations from five content experts who completed a scholarly evaluation of the DNP project educational module. Each expert assessed the educational module using a modified version of the Standards for Quality Improvement Reporting Excellence 2.0 Checklist (SQUIRE 2.0). Each expert reviewed the module once and provided critique of the content designed to inform bedside acute care nurses how to read and understand a research report. Data from each expert's review of the module were collected and analyzed by me. The expert panel's feedback provided

information to clarify and enrich the instructional methods used in the educational module.

Population and Sampling

The evidence-based practice project involved asking five content experts with academic and clinical expertise to individually assess the educational module. Confidentiality among content experts was maintained. Each expert interacted with me and not with other members of the panel. I believed maintaining confidentiality in this manner would encourage frank, written dialogue with me after the experts' assessment of the module. I sent an invitational recruitment letter to faculty members of two graduate nursing programs and to doctoral staff at two acute care facilities (Appendix D). I identified individuals with terminal degrees in their areas of expertise and at least 5 years of experience in a specific clinical practice area or academic setting. If the experts agreed to participate in the DNP project, I sent them a consent form explaining the aim and objectives of the project. After viewing and agreeing to information presented in the consent form, each expert responded through e-mail communication with the statement, "I consent."

Data Collection

Institutional Review Board approval (IRB) 2017.02.0 6 18: 23:33-06 '00' was obtained from Walden University prior to requesting the review of the educational module by the content experts. The Walden University consent form was used to inform the content experts of the purpose and goals of the DNP project. The experts were ensured that no private information would be required and confidentiality would be

maintained. I explained the content of the Walden University consent form to each expert via telephone. I then sent a copy of the consent form to each expert via e-mail. Each expert was asked to sign, scan, and return the consent form to the project leader via e-mail, indicating voluntary agreement to participate as a content expert in the review of the educational module. The signed consent forms were kept in my locked home safe.

Data collection took place using the following four-step procedure. The first step was to forward to the experts via e-mail an invitational recruitment letter inviting them to participate in the review of the module. The invitational recruitment letter was used to confirm their qualifications as content experts (Appendix D). Selection criteria included a minimum of 5 years full-time employment in their area of expertise and a doctoral degree. The second step was to forward a consent form via e-mail to each expert who indicated interest in participating in the review of the module. The third step was to forward the PowerPoint educational module (Appendix C) to each expert, along with the modified SQUIRE 2.0 Checklist via e-mail (Appendix B). Directions for use of the checklist as a guide for evaluating the module accompanied the checklist. The fourth step of the data collection process was to collect via e-mail the completed SQUIRE 2.0 Checklists along with constructive critique from the content experts. The experts were asked to return the checklist with their comments within 7 days of receiving the module and checklist. I sent two friendly reminders to three of the experts to ensure the return of the module and checklist within 7 days.

Instruments

Three different instruments were used to collect information in the project.

Invitation and Recruiting Questionnaire

I e-mailed the invitation and recruiting questionnaire to professionals in academia and clinical practice to inform them of the opportunity to participate in the review of the module. The invitation and recruiting questionnaire included the qualifying criteria to participate in the project as a content expert. Criteria included a terminal degree and at least 5 years of experience in a specified clinical field or academic area. An assigned number was linked to each participant's name.

Modified SQUIRE 2.0 Checklist

The SQUIRE 2.0 Checklist was developed by a team of medical, clinical, and academic scholars from around the globe to provide a published guideline to advance the science of health care improvement. The creators of the SQUIRE 2.0 Checklist encourage the consideration of all the guidelines in the checklist; however, creators acknowledge it may be inappropriate or unnecessary to include every SQUIRE element in a particular project (SQUIRE 2.0 Checklist, 2016, (para I). For the purpose of this project, I modified the checklist to answer the project question (Appendix B); Will the use of content experts further strengthen an educational module constructed to provide instruction for staff nurses on how to critique a research article, complete a literature review, and develop a TOE? I modified the SQUIRE 2.0 Checklist by utilizing 10 of the 18 categories set forth as a framework for reporting new knowledge from research reports that may improve the delivery of health care. The categories utilized in the modified SQUIRE 2.0 Checklist included a review of the title's clarity and appropriate identification of the content of the educational module, the purpose and intent for the development of the module, the

contribution of the educational module to improved health care outcomes, and the rationale for the development of this particular educational module instructing bedside acute care nurses how to read and understand research reports. The contextual methods of the module were also included in the modified version of the SQUIRE 2.0 Checklist. The experts were asked to review the RAC, completion of a literature review, and the design of a TOE as methods that would increase bedside acute care nurses' ability to read and understand a research report.

Content Analysis Narrative

The completed modified SQUIRE 2.0 Checklists were collected by e-mail from the experts no more than 7 days after they received them. I analyzed the information provided from the experts' answers and comments to identify similarities. The information from the content experts offered additional data to enhance the methods utilized in the module. Information gathered from the expert's review was presented in a narrative format, as recommended by Polit (2010).

Protection of Human Subjects

I requested consent from the Walden University IRB before engaging the content experts. The content experts were informed regarding the purpose of the project. The experts were assured that all information provided by them would be kept confidential. The information was kept secured in the locked home safe.

Data Analysis

Data from the results of the experts' review of the educational module

were analyzed to identify similar themes. I analyzed the data to determine whether the experts agreed with each of the methods used in the module and whether the methods were appropriate for bedside acute care nurses' level of understanding.

Project Evaluation

After collecting and analyzing the data, I conducted a summative evaluation by answering the project question: Will the use of content experts further strengthen an educational module constructed to provide instruction for staff nurses on how to critique a research article, complete a literature review, and develop a TOE?

A summative evaluation was used to evaluate the DNP project to determine whether the goals of the project had been met (Carnegie Mellon, 2015). The summative evaluation provided information from the experts that enhanced the educational methods used in the module to increase bedside acute care nurses' ability to read and understand research reports. The experts suggested that more information related to the Research Assessment Checklist be provided for the learner. They also suggested that an EBP rating scale for research reports be included in the table of evidence. When nurses utilize current best evidence to support clinical practice, patient outcomes improve (Fineout-Overholt et al., 2005b); Stevens, 2013). The evaluation process assisted in evaluating the need for augmenting the methods used to educate bedside acute care nurses how to read and understand a research report. Findings from a summative evaluation can be used to decide whether a project should be utilized or modified and improved (Carnegie Mellon, 2015).

Summary

The project included five content experts to evaluate an educational module using a modified version of the Standards for Quality Improvement in Reporting Excellence (SQUIRE 2.0) Checklist (Appendix B). I analyzed the information provided by the experts to determine whether the feedback suggested evidence-based methods to enrich the content of the educational module. Data were collected using three different instruments: (a) the invitational and recruiting questionnaire (Appendix D), (b) the project leader modified SQUIRE 2.0 Checklist (Appendix B), and (c) the content data analysis narrative. Content data received from the experts were presented in a narrative format.

Section 4: Findings, Discussion and Implications

The purpose of the DNP project was to receive judicious analytical assistance from five content experts to evaluate and provide academic and professional insight related to an educational module designed to inform bedside acute care nurses how to critique a research report, complete a literature review, and create a table of evidence. The project question was : Will the use of content experts further strengthen an educational module constructed to provide instruction for staff nurses in how to critique a research article, complete a literature review and develop a table of evidence? To answer the project question, I modified the Standards for Quality Improvement Reporting Excellence 2.0 (SQUIRE 2.0) Checklist (Appendix B). The five content experts completed the modified SQUIRE 2.0 Checklist consisting of 10 questions in a Likert Scale of 1(totally disagree) to 3(totally agree). Section 4 includes the findings from the content experts' review of the project module. The outcomes from these findings are discussed with consideration of how they may impact clinical practice, the design of policies and procedures in the acute care setting, and social change. I also conducted a self-analysis as a scholar, a practitioner, and as a project developer in Section 4.

Summary of Findings

There were two objectives designed to answer the project question, will the use of content experts further strengthen an educational module constructed to provide instruction for staff nurses on how to critique a research article, complete a literature review, and develop a TOE?.

The primary objective of the DNP project was to create an educational module informing bedside acute care nurses how to critique a research report using the Research Assessment Checklist, how to complete a literature review, and how to craft a table of evidence. The educational module was a 30-slide PowerPoint presentation (Appendix C).

The purpose of the educational module was to inform bedside acute care nurses how to identify research reports that would provide evidence-based support for their clinical practice and for crafting policies and procedures in acute care facilities. The module teaches nurses how to locate, identify, and categorize data in a way bedside acute care nurses can understand. The RAC provides a checklist to guide nurses when looking for research reports that relate to specific issues regarding patient concerns. The table of evidence provides a side-by-side comparison of research reports. The ability to view research reports in this manner offers nurses a means to identify strong versus weak research reports. One of the outcomes in the development of the EBP module included informing bedside acute care nurses how to read and understand research reports. When nurses are able to read and understand research reports and use them judiciously to support clinical care and policies directing the care of patients, patient outcomes improve (Fineout-Overholt et al., 2005b). Another outcome related to the educational module is the provision of tools that assist nurses how to locate, identify and categorize research reports specific and applicable to their clinical practice. Care provided by current best evidence improves patient outcomes. When patient outcomes improve, the health care of communities improves. Society will be changed for the better. Hospitals are being

required to describe and demonstrate programs related to EBP to support the advancement of EBP and provide better patient outcomes (ANCC, 2014).

The second objective was to ask five content experts to assess the content used in the educational module and provide evidence-based information that may be beneficial to assist bedside acute care nurses to better read and understand research reports. The review of the module by the content experts provided enhancement to the content of the educational module. Two common themes were related to Statement 6 of the survey, which states “a description of the methods used to inform bedside nurses how to read and understand research reports is presented in sufficient detail that others could reproduce it.” One expert suggested that more detail of the Research Assessment Checklist (RAC) would be helpful, including “perhaps one slide listing all 51 criteria utilized by the RAC and placed in bullet format on one slide would be helpful. Having the 51 criteria of the RAC on one slide would assist the viewer when following the content in the module.” The expert concluded her review by stating “overall this is a great introduction to the process of analyzing research reports.” Another expert suggested a 1-page handout of the RAC would be helpful for the learner when the module is being implemented. The same expert suggested that if the educational module was a standard that would be repeated by a variety of people “then it needs a script so that any future teacher would have the details as talking points while showing the PowerPoint.” The expert concluded her review by stating “This does serve as an introduction to critiquing articles.”

A second and final theme expressed in the comments provided by the content experts focused on expanding the content of the module to inform viewers of the

differences between quantitative and qualitative research. Suggestions included providing “key points of how to critique quantitative and qualitative research reports.” One expert suggested the module would work well as a two-part series for in-service staff. Part 1 could be titled “How to Critique the Article,” and Part 2 could include “How to Organize and Pool Data.” Another expert suggested the table of evidence (TOE) would benefit from including an extra column with a grading scale to identify the strength of research reports. The extra column at the end of the TOE would include the use of a scoring measure such as the John Hopkins Nursing Evidence-Based Practice Model (JHNEBP). This expert included the statement “great job in introducing hierarchy of evidence levels, very beneficial for nursing staff, especially those without a BSN since they would not have taken a research or statistics class.”

One of the final statements by the experts offered possibilities for the future influence of the module to assist bedside acute care nurses learn to assess research reports to support their clinical practice and provide current evidence when crafting policies and procedures. The expert stated “the module is well written, straightforward, easy to understand, and offers the reader legitimate tools to use when reviewing a research article. I am impressed! Thank you for sharing this with me and I look forward to seeing this work published in article form. It should be required for all nursing students at the pre-licensure level.”

The findings from the content experts provided feedback that will be used to enhance the content of the educational module prior to being implemented in a clinical or academic setting. The second objective was met through the scholarly advice provided by

the content experts. The feedback provided by the content experts served to affirmatively answer the project question, will the use of content experts further strengthen an educational module constructed to provide instruction for staff nurses on how to critique a research article, complete a literature review and develop a TOC?

The five content experts who reviewed the project module included two nurses with a Ph.D. in nursing who have been working in academic administrative positions in a nursing program for the past 27 and 22 years, respectfully. The other content experts included three nurses, each with a DNP. One of the three DNP prepared nurses has been teaching research in a BSN nursing program for the past 7.5 years. The remaining two DNP prepared nurses have each been working for 18 years in clinical settings at acute care facilities.

Discussion of Findings in the Context of Literature

Studies indicated most nurses do not have the knowledge and skills to appraise the literature that supports their clinical practice (Johnson et al., 2010; Pravikoff et al., 2005). The inability of most nurses to adequately appraise research and apply these findings to clinical practice has been well documented (Mallion & Brooke, 2016; Melnyk et al., 2012b; Stevens, 2013). Investigative findings indicated that nurses working in acute care facilities have different levels of knowledge and skill related to their ability to read and understand research reports (Stevens, 2013; White-Williams et al., 2013; Yoder et al., 2014). The IOM's (2001) policy maintains that "patients should receive care based on the best available scientific knowledge and treatment should not vary illogically from clinician to clinician or from place to place" (p. 8).

The educational module in the DNP project informs bedside acute care nurses how to critique research reports using the Research Assessment Checklist (RAC) (Appendix A). The RAC provides bedside acute care nurses with a guide to assist them in identifying weaknesses and strengths in research reports. Prior to utilizing the module in a clinical or academic setting after completion of the DNP project, I plan to add an additional two slides that will include the 51 criteria of the RAC. The suggestions by the content experts will assist me in identifying and clarifying principles presented in the module. As staff nurses increase their knowledge and skills in how to read and understand research reports, they will be able to support clinical practice and policies and procedures directing patient care. In addition, the inconsistency and variation of clinical decision-making by nurses at the bedside may be corrected. Nurses who are able to identify strong research reports that are relevant to their practice will also be able to categorize data in a TOE that includes an EBP rating scale such as the JHNEBP model, as suggested by one of the content experts. The assessment of the DNP educational module by five content experts provided several considerations to enrich the EBP content of the educational module. Nursing has been challenged by the IOM to convert current research findings into evidence supporting clinical decision-making at the bedside. When patient care is supported by current best evidence, patient outcomes improve and the cost of health care decreases (Melnyk et al., 2012b).

Implications

Policy

Organizational and national policymakers often determine whether policies are justified by current best evidence (Brownson, Chriqui, & Stamatakis, 2009). Health care policymakers must make decisions based on evidence to allocate funds and purchase or manage resources (Liverani, Hawkins, & Parkhurst, 2013). Nurses with the knowledge and skills in how to read and understand research reports are in a pivotal position to provide current best evidence that may support local, national, and global health care policies. The translation of current best evidence into policy and practice may decrease the variation of clinical decision-making by nurses at the bedside (Stevens, 2013). The EBP educational module in the DNP project informs nurses how to critique research reports. One of the content experts suggested including information in the module that will inform nurses how to recognize and utilize quantitative and qualitative research reports to enhance their ability to recognize best evidence. When nurses can read, identify, and understand research reports, policies and procedures will be supported by current best evidence. The gap between patient care currently provided by bedside nurses and care based on current best evidence can be bridged if nurses are able to read and interpret investigative findings (Melnyk et al., 2012b).

Practice

Evidence-based practice founded on current research findings serves to inform best practices at the bedside. Nurses with the capability to read and understand research reports are pivotally placed to provide improved patient care at the bedside and to

improve patient outcomes through the design of organizational policies based on current best evidence (Melnyk et al., 2012b; Stevens, 2013). With competency in appraising research reports, bedside acute care nurses are positioned to become leaders in their field of expertise. As leaders, bedside nurses may be positioned to teach and collaborate with colleagues in providing and maintaining an EBP culture of improved patient outcomes within their organization. Knowledge and competency related to EBP provide nursing leaders with the ability to translate research findings into practice (Melnyk & Fineout-Overholt, 2002a).

Tools and training set forth in the DNP project provide staff nurses with the ability to critically appraise research reports. When nurses are able to read and understand research reports, research can then be translated and integrated into clinical practice. When clinical practice is supported by current best practice, patient outcomes improve (Melnyk et al., 2012b). Results from the content experts' review of the educational module may enhance the ability of bedside acute care nurses to read and understand research reports. One of the content experts recommended presenting the module in a two-part series consisting of how to critique an article and how to organize and pool data. I am considering this suggestion for future modification of the module.

Research

The findings from this project may serve to direct further inquiry into methods best suited to expand the ability of bedside acute care nurses to read and understand research reports. Future research needs to address the effectiveness of different methods and activities that will strengthen nurses' knowledge and skills in understanding current

best evidence (Melnyk & Fineout-Overholt, 2002a). When best methods for educating bedside nurses in how to read and understand research reports are identified, evidence will be generated to support the best strategies to support improved patient outcomes (Melnyk & Fineout-Overholt, 2011). Future research needs to take place to evaluate the reliability and generalizability of the methods identified that inform nurses how to appraise research to support their clinical practice and policymaking. When regulatory bodies require standards for patient care that reflect practice and policymaking based on scientific evidence, health care organizations will be provided with the means to reinforce a culture of inquiry and EBP within their organizations (Stevens & Staley, 2006; Stevens, 2013). Nurses with EBP knowledge and skills will support their clinical practice and policymaking with current best evidence (Melnyk 2012a).

Social Change

The necessity for social change is often recognized when the current needs of a group of people are not being met. According, to the IOM (2011), in order for patient outcomes to improve, healthcare professionals must be held accountable for providing care based on empirical evidence. Change in health care systems, health and social policies are multi-dimensional. Strategies from social and health care models are being utilized to improve community health. Health care programs that are founded on theoretical theory are more effective than those lacking a theoretical foundation. A theoretical foundation combined with one or more social and health care theories has been found to be more effective for the promotion of health care for multiple groups of people than the utilization of a single theoretical model (e Source, Behavioral and Social

Sciences Research, 2017). For example, the Transtheoretical Model (TTM) of behavior change suggests that people are at various stages of willingness to accept changes that apply to their health. Some people are ready to implement a healthier lifestyle while others are not. A comprehensive plan for health promotion that will have an impact on social change will include social determinants, such as are promoted in the Cognitive Belief Theory along with the stages of willingness to change which are suggested in the TTM (Bandura, 2007; e Source, Behavioral and Social Sciences Research, 2017). Health promotion has transitioned from promoting a change in individual health behaviors to changing the practices of communities and social systems (Liverani et al., 2013; Mallion & Brooke, 2016). Greater emphasis is currently being placed on prevention and risk reduction rather than treating illness and disease (IOM, 2016). The manner in which people view health promotion and their beliefs related to a change in healthcare behavior can serve to promote the advancement of better health and social change (Bandura, 2007). Nurses who are able to translate scientific evidence into practice, design policies and procedures based on current best evidence and contribute to the planning and implementation of community health care programs will answer the recommendation of the IOM (2011) for improved patient outcomes. The project has the potential to improve nurses' knowledge and the application of evidence based practice to enhance social change through improved clinical outcomes for patients.

Project Strengths

The project provided a unique opportunity to bring to the attention of nursing professionals in academia and in clinical settings the need for bedside acute care nurses to

be able to read and understand research reports. Studies indicate most care provided by bedside acute care nurses is founded upon tradition and convention rather than current best evidence (Mollon et al., 2013; Stevens, 2013). Patient care needs to be based on the best available scientific knowledge available (IOM, 2001; IOM, 2003). The educational module informing nurses how to read and understand research reports, provides bedside acute care nurses with the methods needed to evaluate current best evidence. With the provision of a script or talking points to accompany the presentation of the module, as suggested by one of the experts, the module can be used by different facilitators. When nurses have the ability to read and understand research reports, their competence and confidence in supporting their practice with current best evidence, will increase (Melnyk et al., 2004).

Another strength of the project was my established, collaborative relationship with the participants. Being a faculty member in a reputable nursing program for more than eight years provided the opportunity for collegial relationships in both academia and in the clinical setting. Collaboration is a joint effort in problem solving and requires mutual respect, as well as open and honest communication among decision-making powers (Marquis & Huston, 2012). All the content experts volunteered, as participants in the project, to contribute in the appraisal of the EBP educational module. The voluntary participation by the content experts, as well as their offering of honest communication and valid suggestions served to strengthen the project. The capability of the module to inform nurses how to read and understand research reports was enhanced by the participants' honest review and suggestions related to the content and methods used in

the module. Another strength of the project was the use of the modified SQUIRE 2.0 Checklist which was uncomplicated and trouble-free to use. Guidelines for evaluating evidence have the ability to provide the reviewer with the ability to translate findings and other evidence into recommendation for healthcare action (Siering, Eikermann, Hausner, Hoffman-Eber, & Neugebaur, 2013). The modified SQUIRE 2.0 Checklist was developed by the project leader as a simple, time-effective method for the content experts to evaluate the educational module.

Project Limitations

The primary limitation of the project was the small sample size of five content experts. The larger the sample size the more accurately it is predicted to reflect the general population (Grove, Burns & Gray, 2013). A second limitation was the utilization of the project leader-modified SQUIRE 2.0 Checklist, which did not have proven reliability and validity. The SQUIRE 2.0 Checklist was modified to a shorter version because eight of the eighteen questions were not applicable as a guide for appraising the educational module. Methodological limitations of the modified SQUIRE 2.0 Checklist may restrict the generalizability of the findings. Also, the utilization of feedback from five content experts in one area of the country may not be generalizable to larger populations nationwide. The use of a small sample limits the ability to generalize the findings to the overall population (Grove, Burns & Gray, 2013). However, the academic qualifications of the sample was similar to what one might find nationally in professional nurses with doctorate degrees in nursing. Another limitation identified was that

information was received from the content experts one time rather than collating the experts' findings and returning it to them for concurrence again.

Recommendations for Remediation of Limitations in Future Work

In the future, using a larger sample size of content experts from different geographical locations will provide information that is beneficial to a more diverse population (Grove, Burns & Gray, 2013). A larger number of content experts from different national or global locations would serve to increase the generalizability of the project. Completion of the project in which information received from the content experts is collated and then returned to them to synchronize their findings will provide a stronger contribution to support the existing body of nursing knowledge. In the future, the educational module informing bedside acute care nurses how to read and understand research reports could be beneficial for nurses working in outpatient clinical settings, in addition to acute care settings. Providing the content of the module in an online continuing education format would allow for exposure to a greater number of nurses. A larger number of content experts from different national or global locations would serve to increase the generalizability of the project. If more time was available, the educational module could be disseminated in clinical settings as part of new employee orientations. To evaluate nurses' ability to support their practice with evidence-based practice, the module could be implemented as part of the annual competency assessments required in most health care organizations.

Analysis of Self

Scholar

Interdisciplinary leaders in the Institute of Medicine (IOM) assert that there is a chasm between best healthcare and healthcare that is currently provided for most patients (IOM, 2001). In several of the IOM reports, the profession of nursing is identified as central to the solution of this problem (IOM, 2001; IOM, 2003). Nurses are identified as part of the collaborative health care team responsible for improving patient outcomes. Many of the recommendations of the IOM target the application of evidence-based practice in clinical settings. Evidence-based practice is essential to improved quality in healthcare (IOM, 2001; IOM, 2011). In the Essentials of Doctoral Education for Advanced Practice Nursing, research is identified as the primary component of scholarly endeavor. The application of research includes the translation of current best evidence into practice. These elements are identified as the primary pursuit of DNP graduates (AACN, 2006). Through working on this project, I have learned to look for evidence supported by rigorous studies to test and problem-solve queries that would provide the most significant translation of knowledge into practice. My concern for bedside acute care nurses to substantiate their clinical practice with current best evidence to improve patient outcomes has been the driving force in the DNP inquiry and has provided a solid basis for my investigation as a scholar. As a DNP scholar, I have come to realize the positive impact that the effective translation of current best evidence has on improving patient outcomes.

Practitioner

As a practitioner, my objective has been to improve patient outcomes. The IOM (2011), in the Future of Nursing report, suggests that to improve health care, nurses need to be prepared to lead inter-professional healthcare delivery teams. The IOM (2003) also suggests that academic and clinical settings need to focus on improvement processes based on current best evidence. As a nursing educator, I am able to prepare nursing students with skills founded on current best evidence. When students can embrace the EBP model, their proficiency in integrating patient-centered care with best evidence provides optimum care for patients (IOM, 2003). The EBP educational module, as part of the DNP project provides a means to update the skills of nurses who are already practicing, as well as student nurses. The leadership skills gained through the design and implementation of the DNP Project have contributed to the competence and confidence required to be a nursing leader and practitioner. As a DNP graduate, I am fully qualified and believe I am competent to participate in the avenues of dissemination of a scholarly process, such as the creation of a poster-board presentation of the DNP project that can be presented at professional conferences (Zaccagnini & White, 2011).

Project Developer

Nurses are encouraged to practice to the optimal level of their education. The DNP prepared nurse is required to search for and critique current best evidence to support patient outcomes and maintain policies and procedures (IOM, 2003; Zaccagnini & White, 2011). Nurse leaders and educators need to provide EBP learning opportunities for nurses to support continuous improvement in the quality and safety of healthcare delivery (IOM,

2011; Melnyk et al., 2012b). The primary objective of the DNP project was to create an educational module informing bedside acute care nurses how to critique a research reports. Nurses who can read and understand research reports, will be positioned to support clinical practice and crafting of policies and procedures with current best evidence (Melnyk et al., 2012b). The DNP educational module was designed to provide bedside acute care nurses with the skills needed to read and understand research reports. To enrich the content and methods used in the module to inform nurses, five content experts were asked to review the module and to provide judicious opinion to enhance the EBP content of the module. Receiving valuable feedback from qualified scholars served to enrich my role in leadership and collaborative teamwork. Leadership and collaborative teamwork with content experts served to augment my ability as a project developer.

Future Professional Development

Working with the changes that occurred during the development of the DNP project provided ample opportunity for personal and professional growth. For the project to be successfully completed, several changes occurred. These changes caused the expected date of completion to be 12-18 months longer than anticipated. As an individual, who considers myself very flexible in all circumstances, I was provided with the opportunity to expand my ability to be flexible further than I would have ever expected I would be required to do. The DNP prepared nurse is required to be adaptable to change, while providing directives and solutions to meet the challenges, as well as developing and offering solutions based on current best evidence (IOM, 2011). Being able to not only craft an EBP educational module informing nurses how to read and

understand research reports, but also being provided with the opportunity to work with content experts who reviewed the module, provided me with a greater understanding of the importance of collaborative leadership. As a DNP prepared nurse and leader, I am better informed about how to contribute to the knowledge base of the nursing profession.

Summary and Conclusions

The objective of the DNP project was to design an EBP module informing bedside acute care nurses how to appraise research reports. It is believed that with increased knowledge and skills in reading and understanding research reports, nurses will be able to sustain clinical practice and policies and procedures with current best evidence. Findings from research confirm that implementing EBP leads to a higher quality of care, improved patient outcomes and decreased healthcare costs (Melnyk et al., 2012b).

The effectiveness of the educational module was enhanced after receiving the thoughtful critique from the content experts. The experts' comments and suggestions served to enhance the effectiveness of the module to better inform nurses how to recognize and utilize current best evidence for clinical practice and crafting healthcare policies. The module could be used in new hire orientations or in affirming annual competency skills for all nurses. The module could also be considered as continuing education for clinical organizations and agencies.

Section 5: Scholarly Product

The conclusion of the DNP project requires consideration of how outcomes of the project will be disseminated. The sharing of new knowledge gathered during investigative research is a planned procedure targeting audiences or settings in which the

findings are to be presented. The dispersion of new knowledge may be accomplished through publication in professional journals, media engagement, an oral presentation, or a poster presentation (White & Dudley-Brown, 2012). Dissemination of findings is important to professionals in academic and clinical settings to improve patient outcomes and provide current evidence and tools to improve the state of U.S. health care (Zaccagnini & White, 2011). The PowerPoint educational module includes evidence-based information to inform bedside acute care nurses how to locate, critique, and categorize research reports. Currently two educators, one in a clinical setting and one in an academic setting, have asked to use parts the project module in their curricula. Findings from the DNP project will be presented in a poster presentation at the Association of California Nurse Leaders Annual Conference in Spring 2018.

Project Summary and Evaluation

A summative evaluation was used to evaluate the DNP project to determine whether the goals had been met (Carnegie Mellon, 2015). I conducted a summative evaluation to answer the project question: will the use of content experts further strengthen an educational module constructed to provide instruction for staff nurses on how to critique a research article, complete a literature review, and develop a TOE? I was able to respond affirmatively to the project question. The content experts' evaluation of the educational module yielded evidence-based information that will be used to enrich the content and methodology of the module. Responses from the content experts indicated that the project module was "well written, straight forward, easy to understand, and offers the reader legitimate tools to use when reviewing a research article."

In summary, I developed an EBP module to inform bedside acute care nurses how to critique a research article, complete a literature review, and craft a table of evidence to categorize data collected during the literature review. Research has indicated the implementation of EBP in clinical care improves patient outcomes, leads to a higher level of care, and decreases the cost of health care (Melnyk et al., 2012b; Yoder et al., 2014). Nursing has been challenged by the IOM to convert current research findings into evidence supporting clinical decision-making at the bedside. The IOM's (2001) policy maintains that "patients should receive care based on the best available scientific knowledge and treatment should not vary illogically from clinician to clinician or from place to place" (p. 8). The primary purpose of the DNP project was to receive a judicious analytical review from five content experts to evaluate and provide academic and professional insight related to the concepts set forth in the project's teaching module. Thoughtful review by the content experts provided valuable insight to enhance the EBP content of the module. The DNP project has provided a means to inform bedside acute care nurses how to read and understand research reports. When nurses are able to read and understand research reports, clinical practice will be based on current best evidence as opposed to tradition or convention (Fineout-Overholt et al., 2005b). Practice based on current evidence supports the IOM's recommendation that patients should receive care based on current best evidence rather than tradition or convention, which is presently provided by most bedside acute care nurses (IOM, 2011).

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Appendix A: Research Appraisal Checklist (RAC)

Criteria	Appraisal Rating						Comments
I. Title							
1. Title is readily understood	1 2 3 4 5 6 N/A						
2. Title is clear	1 2 3 4 5 6 N/A						
3. Title is clearly related to content	1 2 3 4 5 6 N/A						
II. Abstract	Category Score						
4. Abstract states problem and where appropriate, hypothesizes clearly and concisely	1 2 3 4 5 6 N/A						
5. Methodology is identified and described briefly	1 2 3 4 5 6 N/A						
6. Results are summarized	1 2 3 4 5 6 N/A						
7. Findings and/or conclusions are stated	1 2 3 4 5 6 N/A						
III. Problem	Category Score						
8. The general problem of the study is introduced early in the report	1 2 3 4 5 6 N/A						
9. Questions to be answered are stated precisely	1 2 3 4 5 6 N/A						
10. Problem statement is clear	1 2 3 4 5 6 N/A						

Criteria	Appraisal Rating	Comments
11. Hypotheses to be tested are stated precisely in a form that permits them to be tested	1 2 3 4 5 6 N/A	
12. Limits of the study can be identified	1 2 3 4 5 6 N/A	
13. Assumptions of the study can be operationally defined	1 2 3 4 5 6 N/A	
14. Pertinent terms are/can be operationally defined	1 2 3 4 5 6 N/A	
15. Significance of the problem is discussed	1 2 3 4 5 6 N/A	
16. Research is justified	1 2 3 4 5 6 N/A	
IV. Review of Literature	Category Score	
17. Cited literature is pertinent to research problem	1 2 3 4 5 6 N/A	
18. Cited literature provides rationale for the research	1 2 3 4 5 6 N/A	
19. Studies are critically examined	1 2 3 4 5 6 N/A	
20. Relationship of problem to previous research is made clear	1 2 3 4 5 6 N/A	
21. A conceptual framework/theoretical rationale is clearly stated	1 2 3 4 5 6 N/A	

Criteria	Appraisal Rating						Comments	
	1	2	3	4	5	6	N/A	
22. Review concludes with a brief summary of relevant literature and its implications to the research problem under study	1	2	3	4	5	6	N/A	
V. Methodology	Category Score							
A. Subjects								
23. Subject population (sampling frame) is described	1	2	3	4	5	6	N/A	
24. Sampling method is described	1	2	3	4	5	6	N/A	
25. Sampling method is justified (especially for non-probability sampling)	1	2	3	4	5	6	N/A	
26. Sample size is sufficient to reduce Type II error	1	2	3	4	5	6	N/A	
27. Possible sources of sampling error can be identified	1	2	3	4	5	6	N/A	
28. Standards for protection of subjects are discussed	1	2	3	4	5	6	N/A	
B. Instruments	Category Score							
29. Relevant reliability data from previous research are presented	1	2	3	4	5	6	N/A	
30. Reliability data pertinent to the present study are reported	1	2	3	4	5	6	N/A	
31. Relevant previous validity data from previous research are presented	1	2	3	4	5	6	N/A	

Criteria	Appraisal Rating	Comments
32. Validity data pertinent to present study are reported	1 2 3 4 5 6 N/A	
33. Methods of data collection are sufficiently described to permit judgment of their appropriateness to the present study	1 2 3 4 5 6 N/A	
C. Design	Category Score	
34. Design is appropriate to study questions and/or hypotheses	1 2 3 4 5 6 N/A	
35. Proper controls are included where appropriate	1 2 3 4 5 6 N/A	
36. Confounding/moderating variables are/can be identified	1 2 3 4 5 6 N/A	
37. Description of design is explicit enough to permit replication	1 2 3 4 5 6 N/A	
VI. Data Analysis	Category Score	
38. Information presented is sufficient to answer research questions	1 2 3 4 5 6 N/A	
39. Statistical tests used are identified and obtained values are reported	1 2 3 4 5 6 N/A	
40. Reported statistics are appropriate for hypotheses/research questions	1 2 3 4 5 6 N/A	
41. Tables and figures are presented in an easy to	1 2 3 4 5 6 N/A	

Criteria	Appraisal Rating						Comments
understand, informative way							
VII. Discussion	Category Score						
42. Conclusions are clearly stated	1 2 3 4 5 6				N/A		
43. Conclusions are substantiated by the evidence presented	1 2 3 4 5 6				N/A		
44. Methodological problems in study are identified and discussed	1 2 3 4 5 6				N/A		
45. Findings of study are specifically related to conceptual/theoretical basis of the study	1 2 3 4 5 6				N/A		
46. Implications of the findings are discussed	1 2 3 4 5 6				N/A		
47. Results are generalized only to population on which study is based	1 2 3 4 5 6				N/A		
48. Recommendations are made for further research	1 2 3 4 5 6				N/A		
VIII. Form & Style	Category Score						
49. Report is clearly written	1 2 3 4 5 6				N/A		
50. Report is logically organized	1 2 3 4 5 6				N/A		

Criteria	Appraisal Rating		Comments
51. Tone report displays an unbiased impartial, scientific attitude	1 2 3 4 5 6 N/A		
	Category Score		
	Grand Total		

FINAL SUMMARY OF MAJOR STRENGTHS AND LIMITATIONS

STRENGTHS **LIMITATIONS**

(Ratings of 3- 6) **(Ratings of 1-2)**

ENTER GRAND TOTAL SCORE IN THE APPROPRIATE CATEGORY

 SUPERIOR (205-306 POINTS)

 AVERAGE (103-204 POINTS)

 BELOW AVERAGE (0-102 POINTS)

Appendix B: Project Leader Modified SQUIRE 2.0 Checklist

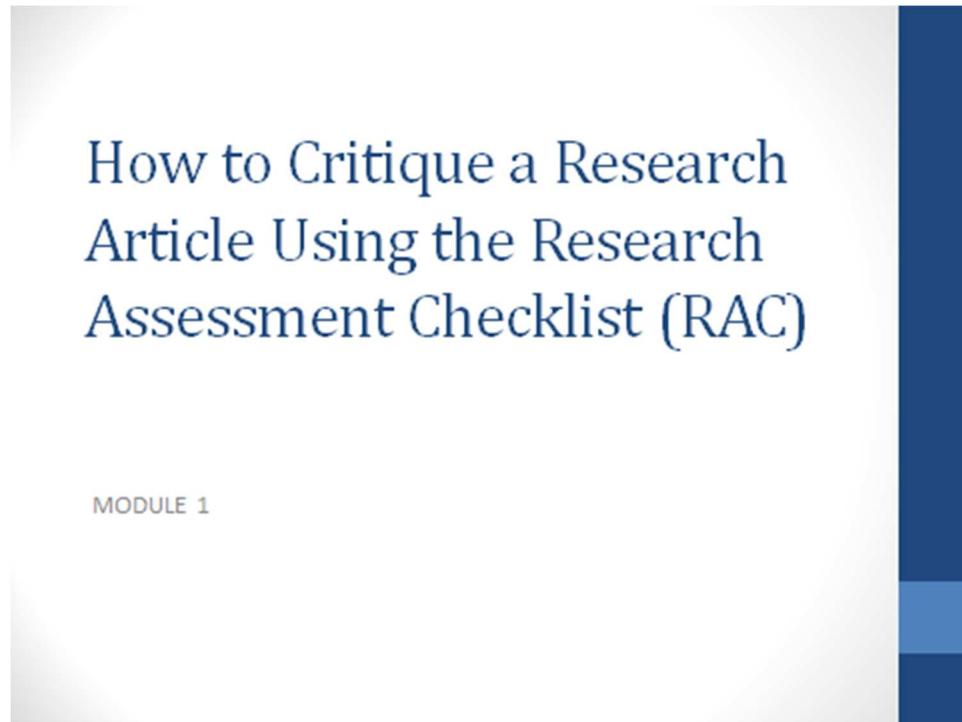
	1=Totally Disagree	2=Neutral	3=Totally Agree
1. The Title Clearly Reflects the Intent of the Educational Module			
2. The Purpose and Intent of the Educational Module is Clearly Stated in the Objectives			
3. The Contribution of the Educational Module to Improved Health Care Outcomes is Evident			
4. The Rationale For the Development Of the Educational Module is Evident			
5. The Methods Used to Inform Bedside Nurses How to Read and Understand Research Reports are			

Introduced In the Objectives of the Educational Module			
6. A Description of the Methods used to Inform Bedside Nurses How to Read and Understand Research Reports is Presented in Sufficient Detail that Others Could Reproduce It			
7. The Research Assessment Checklist (RAC) is a Method That Will Inform Bedside Nurses How To Identify Weaknesses and Strengths of Research Reports			
8. Instructing Bedside Acute Care Nurses How to Complete a Literature Review Will Increase Their Ability to Read and Understand Research Reports			
9. Informing Bedside Acute Care			

Nurses How to Create a Table of Evidence Will Improve Their Knowledge and Skills of Evidence-Based Practice			
10. The Educational Module Will Strengthen Bedside Acute Care Nurses' Ability to Support Their Practice with Current Best Evidence.			
For Answers 1=Totally Disagree and 2=Neutral, please place comments below.			

Appendix C: Educational Module

A Power Point Slide Presentation on How to Critique a Research Report,
Complete a Literature Review and Design a Table of Evidence (TOE)



Objectives

- Increase medical-surgical nurses' knowledge, skills and understanding of the research process by learning how to effectively appraise research reports, in order to support policies and procedures with the highest level of scientific evidence
- Recognize levels of evidence, substantiating credible sources of research using the Research Assessment Checklist (RAC)
- Support clinical effectiveness and critical thinking through the conduction of a literature review on patient falls, thus improving patient outcomes
- Conduct a literature review and create a table of evidence (TOE) related to current research reports on patient falls on a medical-surgical unit

Why Critique a Research Article?

- Reliable empirical evidence is needed to improve health care outcomes and provide evidence to support policies and procedures
- Health care interventions supported by rigorous studies improve patient outcomes
- Scientific evidence to support clinical policies and procedures is required by healthcare experts, credentialing agencies and policy makers
- High quality and credible evidence is required in order to improve patient outcomes; nursing job satisfaction increases when patient outcomes improve



Why Is a Checklist Needed to Appraise a Research Article?

- Allowing a checklist to guide research appraisal provides the following;
 - Focuses on features of research in a step by step procedure
 - Prompts the reader to evaluate strengths and limitations of findings
 - Provides knowledge of the research process
 - Instructs readers to constructively critique research in order to guide nursing practice and add to the body of knowledge

Duffy, M.E. (1995)

Background

- The critical appraisal of research is part of the research process
- High quality investigative findings are best appraised for use in practice through a constructive, step by step procedure
- Readers are prompted by use of a checklist to evaluate the important elements of research
- General guidelines focus on how to identify weak and strong characteristics in the literature
- The Research Assessment Checklist (RAC) assists readers in understanding and learning from research findings and applying them to specific nursing practice

Duffy, M.A. (1993)

Categories of the Research Appraisal Checklist

- Eight categories
 - Title
 - Abstract
 - Problem
 - Review of literature
 - Methodology
 - Instruments
 - Design
 - Data analysis
 - Discussion

Categories of the Research Appraisal Checklist (RAC)	
Eight Categories	51 Criteria
1. Title	1. Criteria are appraised on a rating scale from "1" (Not Met) to "6" (completely met)
2. Abstract	2. If the reader identifies an area of the article that is partially or not met, a brief comment is encouraged
3. Problem	3. After completing the criteria, a brief summary citing strengths and limitations is requested
4. Review of literature	
5. Methodology	
6. Data analysis	
7. Discussion	
8. Form and style	

Title and Abstract	
Title	
	➤ Needs to be clearly understood and related to content of research report
Abstract	
	➤ Clearly and concisely states problem and hypotheses
	➤ Methodology is identified and results are summarized
	➤ Description of exactly what was done and how it was implemented
	➤ Are findings able to be generalized to a larger population?
	➤ Conclusions are stated

Problem

- The problem and significance of the problem is stated and understood early in the report
- The research questions are precisely stated and answered
- The hypotheses are stated in a form that permits them to be tested
- Limitations of the study can be identified
- Assumptions of the study can be identified
- Terms can be operationally defined
 - > Variables are defined and how they will be measured is clearly stated
 - > Instruments to be used can be identified
- The reader is able to identify the justification for the research

Review of the Literature

- The cited research within the report is relevant to the research problem and provides a solid rationale for the research
- The studies cited within the research report are critically examined by the authors
- The relationship of previous research to the problem under study is clearly identifiable
- A conceptual and/or theoretical framework used in the research report is stated
- A summary of literature and its implications related to the research problem under study is included in the research report

Methodology

Subjects

- The subject population under study is described
- The sampling method is described
 - ✓ How the participants in study were selected, is easily identifiable
 - ✓ Are the participants in the study representative of the population being studied?
- The sampling method is justified
 - ✓ Probability sampling - is the gold standard for ensuring generalizability. It uses a random process to guarantee that each unit of the population has a specified chance of being included in the sample
 - ✓ Non-probability sampling – is a nonrandom sampling method in which not every element of the population has an opportunity for selecting the sample, such as convenience sampling

(Duffy, 1985; Grove, Burns & Gray, 2013; Hulley, Cummings, Browner, Grady & Newman, 2007)

Methodology (continued)

- Sample size is sufficient to reduce Type II error
 - ✓ Type I error, a false-positive occurs if an investigator rejects a null hypothesis that is actually true in the population
 - ✓ Type II error, a false negative, occurs if the investigator fails to reject a null hypothesis that is actually not true in the population
- Standards for protection of research subjects is discussed

Instruments

- ✓ Reliability data from previous research data and data pertinent to present research report are stated
- ✓ Validity from previous research and present study are reported
- ✓ Methods of data collection are sufficiently described and appropriate to present study

(Duffy, 1985; Hulley, Cummings, Browner, Grady & Newman, 2007)

Methodology (continued)

Design

- Design is appropriate to study questions and/or hypotheses
- Confounding/moderating variables are/can be identified
- Proper controls are stated
- The description of the design is clearly stated, so as to be replicated

Data Analysis

- The information presented is sufficient to answer research questions
- Statistical tests are identified, answer research questions and values are reported
- Tables and figures are presented in an easy-to-understand, informative way

Dutrey, 1985

Discussion

- The conclusions of the study are clearly stated and substantiated by the evidence presented
- The methodological problems in the study are identified and discussed
- The findings of the study are specifically related to the conceptual/theoretical basis of the study
- The implications of the findings are discussed and results are generalized only to the population on which the study is based
- Recommendations are made for further research

Dutrey, 1985

Form and Style

- The research report is clearly written
- The report is logically organized
- The tone of the report displays an unbiased, impartial, scientific attitude

How to Complete a Literature Review

MODULE 2

Completing a Literature Review?



- What is a literature review?
- A literature review is an account of what has been published on a topic by credible scholars and researchers, usually within a period of time; for example, within the last 5 years (current evidence)
- The literature consists of all written sources relevant to the topic; in this case, patient falls on the medical-surgical unit
- Relevant literature may be found in scientific and clinical journals, websites and reports developed by professional organizations and governmental agencies, such as the American Nurses' Association (ANA) or the Centers for Disease Control (CDC)
- Primary, peer-reviewed empirical evidence provides credible evidence when seeking an answer to a clinical question, such as how to prevent falls on a medical-surgical unit

Grove, Burns and Gray, 2013

Four Things a Literature Review Must Do

1. A literature review must be directly related to a research question, such as "Why did patient falls increase 46% on the medical-surgical unit in the first quarter of 2015?"
2. A literature review synthesizes into a summary what is known and what is unknown
3. A literature review identifies areas of controversy in the literature
4. A literature review helps formulate questions that need further research

Fink, 2014

Steps in Completing a Literature Review

- Choose a topic such as "patient falls"
 - ✓ Define a research question "Why did patient falls increase 46% on a medical-surgical unit in the first quarter of 2015"
 - ✓ Literature on this topic is specifically related to this research question, then interpreted, analyzed and synthesized by the clinician
 - ✓ Write down terms that are related to this question, such as "hospital-based falls, patient safety, adverse patient events, and hospital populations at risk for falls"

Fink, 2014; UNC, 2015

- Select the databases and publications to be used to conduct the search, such as the Cochrane Database and professional nursing and research journals
 - ✓ Write down the searches used in each database to avoid duplication
 - ✓ Keep track of searches
- Select the type of literature review, such as quantitative or qualitative studies, or will the research question best be answered by issues of theory or policy?
 - ✓ Review the abstracts of studies carefully (saves time)
 - ✓ Use bibliographies and references of research studies to locate other research reports

Steps in Completing a Literature Review (cont'd)

- Critically analyze the literature
 - ✓ Organize the literature into sections that represent themes or trends guided by the concept of the research question
 - ✓ Analyze concepts of patient falls, identifying themes and examining variables
 - ✓ Classify the findings into categories, using a literature summary table or table of evidence (TOE), assisting the researcher to become familiar with key concepts
 - ✓ Using the TOE, make comparisons among the studies
 - ✓ What is known about the subject?
 - ✓ Identify the most critical gaps in the literature related to the subject of preventing patient falls on the medical-surgical unit

Grove, Burns & Gray, 2013

How to Create a Table of Evidence

Module 3

Table of Evidence (TOE)

- Purpose of organizing literature into a TOE
 - ✓ Organizing the studies will provide current knowledge about the research question ““Why did patient falls increase 46% on a medical-surgical unit in the first quarter of 2015?””
 - ✓ Literature can be summarized and compared
 - ✓ Enables the reader to grasp results, making sense of the data
 - ✓ Content from strong studies can formulate a claim and support causes for the continuing problem of patient falls on a medical-surgical unit
 - ✓ A TOE provides connections between ideas, theories and experience, allowing a personal overall view of the problem

Garrard, 2011; Hart, 2009

Steps to Creating a TOE

1. From literature, hand select articles on patient falls that contain the highest level of evidence (see slide 4)
 - How well was research conducted?
 - How useful to practice are the selected articles?
2. Divide articles into two categories
 - “Keepers” – articles immediately recognized as valuable in answering the question related to patient falls on a medical-surgical unit
 - “Questionables” – articles that do not immediately demonstrate value at this time to answering the clinical question
3. Using the RACAs as a guide, decide on essential elements from each article that need to be answered; aim of the study, sample size, treatment/intervention and results

See the following three examples of tables of evidence (TOE)

Fineout-Overholt, Melnyk, Stillwell & Williamson, 2010

Steps to Creating a TOE (continued)

4. As each element of a study is entered into the corresponding column, the team will try to determine if essential elements related to the clinical question are included in the research report
5. Enter each citation in a separate reference list at the time elements of the study are entered into the TOE. This list may be shared with colleagues and submitted at the end of a policy that results from the literature review and TOE.
6. Review the studies collected for the creation of the TOE, evaluating if the elements captured in the table are essential to answering the clinical question "Why did patient falls increase 46% on a medical-surgical unit in the first quarter of 2015?"

Fineout-Overholt, Melnyk, Stillwell & Williamson, 2010

Table of Evidence (TOE)

Article Citation	Purpose	Framework	Sample and Sample Size	Treatment	Results	Limitations
Cameron, L.D., Gillespie, L.D., Robertson, M.C., Murray, G.R., Hill, K.D., Cumming, R.G., Kerse, N. (2012). Intervention for preventing falls in older people in care facilities and hospitals (Review). The Cochrane Collaboration.	To assess the effectiveness of interventions designed to reduce falls by older people in care facilities and hospitals	RCTs	60 trials 60,345 participants	Multifactorial interventions to reduce patient falls	Multifactorial interventions reduced the rate of falls by 27% in hospitals	None documented

Table of Evidence (TOE)

Article Citation	Purpose	Framework	Sample and Sample Size	Treatment	Results	Limitations
Choi, Y., Lawler, K., Boenigk, C. A., Poniatowski, E. R., & Zimmerman, C. M. (2011). Developing a multisystem fall prevention model, incorporating the physical environment, the care process and technology: A systematic review (2011). <i>Journal of Advanced Nursing</i> , 67 (12), 2501-2504.	Systematic review that assessed the effectiveness and characteristics of fall prevention interventions implemented in hospitals	Lit review of Medline, CINAHL, PsycInfo and Web of Science databases from Jan 1990-June 2009	34 studies	1) 12-14 multifactorial fall interventions were	1) multifactorial fall interventions resulted in sizable reduction in falls or fall related injuries 2) review of the studies revealed 3 common venabilities in the prevention of falls and fall related injuries: (a) the physical environment (b) the care process & culture and (c) use of technology 3) a multi-system fall prevention model was developed	No studies were excluded after the appraisal process Two independent reviewers were not involved in the processes of the study selection, quality appraisal and data extraction

Article Citation	Purpose	Framework	Sample and Sample Size	Treatment	Results	Limitations
Spoelstra, S. L., Given, B. A., & Given, C. W. (2012). Fall prevention in hospitals: An integrative review. <i>Clinical Nursing Research</i> , 21(1), 92-122.	The purpose of the integrative review was to draw conclusions from the body of literature on fall prevention interventions in order to provide nurses, administrators, and others with a basis for developing evidence-based fall prevention programs in the hospital setting	The review was conducted in two focused on steps: (a) search of CINAHL, Cochrane, and PubMed databases for articles published between 2000 to 2011 and (b) search of reference lists for additional relevant studies	13 studies	Interventions selected were grouped into the following categories: (a) environment/equipment placement (b) arm bands, (c) room/door signs, (d) bed, bedside chair (e) communication or white and education, (f) transforming: 10% safety rounds, (g) 20% occur in the staff assignment and (h) visitors, patient aids and medical referrals	1) factors contributing to falls in hospitals are multifactorial, complex and interconnected 2) 50% of falls occur around the room/door signs, bed, bedside chair (c) communication or white and education, (d) transforming: 10% safety rounds, (e) 20% occur in the staff assignment and (f) visitors, patient aids and medical referrals 3) two categories of patients that fall in the hospital are (a) those with transient confusion, hypotension or are medicated (b) those who are frail, wobbly, have risky behavior and/or have a history of falls 4) finding a tool that predicts who will be more likely to fall in the hospital is needed to meet current standards	None documented

Conclusion of Table of Evidence (TOE)

□ Conclusion of Spoelstra, et. al.(2012) study

➤ Results

5) Hospitals can reduce falls by using multifactorial fall prevention programs and utilizing evidence-based interventions to reduce falls

6) Studies that were successful in reducing fall rates included: (a) developing a culture of safety, (b) fall-risk assessments with follow-up evidence-based interventions based on assessment, (c) multifactorial interventions, (d) post-fall follow-up and quality improvement and (e) integration of EMR

7) consistent reporting of falls per 1,000 patient bed days and fall injuries per 10,000 bed days will provide consistent measurement, allowing clearer interpretation of occurrences of falls or fall injuries.

8) Interventions found to be effective include (a) universal fall precautions for all patients, (b) assessment of all patients for risk of falling, (c) a culture of safety, (d) protocol for those at risk for falling, (e) enhanced communication of risk of injury from a fall and (f) customized interventions for those at risk of injury from a fall

9) Proven reduction in fall rates in hospitals occur with modification of the environment(a) larger doorways (b) hand-rail grips in bathrooms, (c) floor lighting (d) bed height at lowest level with floor mats and hip protectors

⋮

References

- Duffy, M. E. (1985). A research appraisal checklist for evaluating Nursing research reports. *Nursing and Health Care* 6 (10) 539-547.
- Fink, A. (2014). *Conducting research literature reviews; From the internet to paper* (4th ed.). Los Angeles, CA: Sage Publishing Inc.
- Fineout-Overholt, E., Melnyk, B.M., Stillwell, S. B., & Williamson, K. M. (2010). Critical appraisal of the evidence: Part I, An introduction to gathering, evaluating and recording the evidence. *American Journal of Nursing* 110 (7), 47-52.
- Garrard, J. (2011). *Health sciences literature review made easy: The matrix method* (3rd ed.). Sudbury, MA: Jones & Bartlett.
- Grove, S. K., Burns, N., & Gray, J. R. (2013). *The practice of nursing research* (7th ed.). St. Louis, MO: Elsevier/Saunders.
- Hart, C. (2009). *Doing a literature review: Releasing the social science imagination*. Los Angeles, CA: Sage.
- Stevens, K. (2013). The impact of evidence-based practice in nursing and the next big ideas. *The Online Journal of Issues in Nursing* 18 (2), Manuscript 4.
- Tunis, S. R., Stryer, D. B., & Clancy, C. M. Practical clinical trials: Increasing the value of clinical research for decision making in clinical and health policy. *JAMA* 290 (12) 1624-1632.

Appendix D: Invitation and Recruitment Letter to Participate in DNP Project

Greetings,

As part of my doctoral program, I am completing a project that includes an educational module to instruct bedside acute care nurses how to read and understand research reports. Patient outcomes improve when care is based on current best evidence. The educational module “How to Critique a Research Article Using the Research Assessment Checklist (RAC)”, is a 30 slide power point presentation.

The purpose of this communication is to invite you to participate in this project. Your role would be to (a) complete a Walden University consent form and to (b) provide your assessment of the methods used in the module by completing the project leader modified Standards for **Quality Improvement Reporting Excellence 2.0 (SQUIRE 2.0)** Checklist to guide your appraisal of the educational module. The project leader Modified SQUIRE 2.0 Checklist is a 10 question Likert survey 1(totally disagree) to 3 (totally agree).

Communication will take place through one phone call with the project leader, at which time guidelines for completion of the Informed Consent will be discussed. The remainder of interaction between you and the project leader will be via e-mail. The total time investment for participation in this project is estimated to be approximately 60 minutes.

Thank you, in advance, for your time to read this e-mail and consider participation in this project. If you would like to partake as a content expert in this project, please answer the following four questions and return this letter in Microsoft Word format to my e-mail address

1. What is your current level of education? Ph.D. DNP .
2. What is your level of expertise? Academia Clinical Practice
3. How many years have you been practicing in this area?

With Warm Regards and Gratitude,

Jacquie Pinkowski DNP©, MSN, FNP, RN

Jacqueline.pinkowski@waldenu.edu

Walden University Doctorate of Nursing Practice student

Curriculum Vitae

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EXPERIENCE

August 2016 Interim Assistant Director of Nursing
Present

June 2013 Part-Time Faculty, Nursing Instructor
Present RN-BSN Health Assessment and Physical
Examination
RN-MSN Advanced Health Assessment
and Physical Examination
Mentoring new faculty into the instructor role
Leadership Management Clinical Practicum
Designed MSN modules for new RN-MSN
online course, Advanced Health and Physical
Examination
Concordia University, Irvine
Irvine, California

August 2008 - Full Time Resident Faculty, Nursing
June 2013 Instructor
Concordia University, Irvine
Irvine, California
Adult Medical/Surgical Nursing
First Semester - Accelerated, Second Degree
BSN Students

August 2006 – Full Time Temporary Nursing Instructor
August 2008 Golden West College
Huntington Beach, California
Medical/Surgical, Gerontology
First Semester ADN Students

August 2005- Long Term Substitute Clinical Instructor
July 2006 Santa Ana College, Santa Ana, California
Medical/Surgical, Gerontology

First Semester ADN Students

June 2005 - Clinical Nursing Instructor
July 2007 California State University Long Beach
Long Beach, California
Gerontology- Second Semester BSN Students

June-July Clinical Nursing Instructor
2006 Bridge Program LVN – RN
Cypress College, Cypress, California

August 2004- Zander Medical Group, Laguna Hills, California
February 2006 Temporary, part time Family Nurse Practitioner
(FNP) Assessment and treatment, of acute
and chronic conditions of pediatric, adult and
older adult clients. Education to clients and
their families.

June 2004- Part-Time Nurse Practitioner (NP) Position in
June 2005 General Internist's Practice -
Saddleback Medical Group – Laguna Hills, Calif.
Assessment of older adults. Recommendation of
treatment, prescribing medication, making
referrals and providing clients and their
families with needed health education.

June 2004- Part-Time NP Position- Gastroenterology
June 2005 Saddleback Medical Group- Laguna Hills, Calif.
Physical assessment of patients prior to
scheduling of anticipated colonoscopy.
Responsible for patient education.

May 1999- Hospice of Saddleback Valley, Laguna Hills, CA.
October 2003 RN Case Manager, Admissions Nurse
Case Manager – Coordination of care for 12
terminally ill patients residing in homes,
residential care and SNFs
Admission Nurse – Evaluation of patient in home

or hospital for eligibility of hospice services.
Explanation of benefit to clients and their
families

August 2003- Part-time FNP rounding at SNFs, Board & Care
January 2004 Facilities and Residential Care Facilities

Advantage Neuropsychiatric Association
Westminster, California
Evaluations, assessments and medical management
of geropsychiatric mentally challenged clients

1993-1996 Quality Continuum Hospice-formerly FHP Hospice
1996-1999 Hospice Preferred Choice, Westminster, California

1990-1993 Director of Professional Services
Olsten Home Health Care, Orange California

Director of Nursing Services, Newport Villa West
Assisted Living for the Elderly, Newport Beach, Ca.

1979- Per diem Nursing Staff on Medical Surgical floor,
1990 Outpatient Surgery, ICU, CCU at Mission
Community Hospital, Mission Viejo, California;
Hoag Hospital, Newport Beach, California;
Saddleback Memorial Medical Center
Laguna Hills, California
Behavioral Health at South Coast Medical Center,
Laguna Beach, California

EDUCATION

1975-1979 Associate Degree in Nursing, Mt. San Antonio
College, Walnut, California

1985-1988 Bachelor of Science Degree in Nursing with
Certificate in Public Health
California State University, Fullerton, California

2001-2003 Master of Science Degree in Nursing with
Certification as a Family Nurse Practitioner
California State University, Long Beach, California

2013- Doctorate of Nursing Practice- Walden University
Present

2004 National Certification- FNP. American Academy of
Nurse Practitioners.

PROFESSIONAL ORGANIZATIONS

2012-Present Association of California Nurse Leaders (ACNL)
Active participation in Member Experience
Committee; member retention, sub-committee.

2005-2008 California Association of Nurse Practitioners
(CANP)

2003-2005 Sigma Theta Tau International Honor Society of
Nursing