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Increasing Hospice Nurses' Knowledge and Improving Attitudes on Pain Assessment in Dementia Patients

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INCREASING HOSPICE NURSES' KNOWLEDGE AND IMPROVING ATTITUDES ON PAIN ASSESSMENT IN DEMENTIA PATIENTS

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Nursing Practice

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Ron and Kathy Assaf College of Nursing

Lyn M. Peugeot
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NOVA SOUTHEASTERN UNIVERSITY
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This project, written by Lyn M. Peugeot under direction of Dr. Kelly Henson-Evertz, Project Chair, and approved by members of the project committee, has been presented and accepted in partial fulfillment of requirements for the degree of

DOCTOR OF NURSING PRACTICE

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Certification

We hereby certify that this DNP project, submitted by Lyn M. Peugeot, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the project requirement for the Doctor of Nursing Practice degree.

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Abstract

Background: Patients with dementia have difficulty articulating pain due to cognitive deficits in communication, sensation, and overall physical decline due to the aging and disease process. Patients who have dementia are considered at-risk for uncontrolled pain due to under-assessment, under-treatment, or untreated pain. Current research notes gaps exist in pain assessment among nurses’ due to knowledge deficits and attitudes on pain assessment for dementia patients. Barriers regarding the utilization of evidence-based behavioral pain assessment tools are related to nurses’ knowledge deficit and skills competency.

Purpose: The purpose of this evidence-based practice (EBP) project was to increase hospice nurses’ knowledge and improve attitudes on pain assessment in dementia patients by implementing an EBP training program on utilizing the *Pain Assessment in Advanced Dementia Scale* (PAINAD).

Theoretical Framework: Knowledge to Action Model

Methods: A before and after project design with pre-test/post-test measurements was used to determine whether providing an EBP training on utilizing the PAINAD Scale for pain assessment increased hospice nurses’ knowledge and improved attitudes on pain assessment in dementia patients.

Results: Comparison of pre-test/post-training measures demonstrated a small increase in hospice nurses’ knowledge and a significant increase in attitudes on assessing pain in dementia patients.

Conclusion: EBP training programs utilizing the PAINAD Scale improves hospice nurses' attitudes on pain assessment in dementia patients. Positive changes in attitude should enhance hospice nurses' ability and willingness to assess and manage pain in patients with dementia.

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Finally, a special dedication to my Uncle Poo who inspired this project and cultivated within me a sense of moral and emotional support--no dementia patient should live the last days, hours or minutes in pain.

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Chapter One: Nature of Project and Problem Identification

In 1999, The Joint Commission described pain as the *fifth vital sign* and developed guidelines for treating pain to ensure patients receive appropriate pain assessment and management (Morone & Weiner, 2013). In 2004, the International Association for the Study of Pain (IASP), along with multiple international stakeholders, asserted every individual has the right to appropriate assessment of pain and effective pain management by trained healthcare professionals (Brennan, Carr, & Cousins, 2016). Furthermore, ISAP asserted that effective pain management is a global human rights issue and that the failure to recognize pain constitutes a breach of human rights (Brennan et al., 2016). In the United States (U.S.), pain affects over 100 million people. The consequences of pain are directly related to an increase in disability, morbidity, mortality, societal burden, and economic costs (Morone & Weiner, 2013). However, despite decades of exhaustive scientific research regarding pain assessment and pain management, numerous barriers to effective pain assessment and management still exist (Karamjeet, 2017). Effective pain management requires practicing clinicians who are competent and knowledgeable in pain management theories and utilize current evidence-based practice (EBP) clinical guidelines that promote patient-centeredness and optimal healthcare outcomes (Karamjeet, 2017). Pain assessment and management is an essential part of nursing, and therefore, nurses are responsible for competently assessing and managing pain (Karamjeet, 2017).

Knowledge and Attitude Gap in Pain Assessment

The Institute of Medicine's (IOM, 2011) landmark report *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research* states that approximately 116 million Americans suffer from chronic pain. Episodes of chronic pain can last weeks to years, and the financial burden is approximately $560 to $635 billion annually (Pizzo & Clark, 2012). The IOM's report cited barriers to effective pain management practices that include lack of access to providers who are knowledgeable in the assessment and management of acute and chronic pain. Furthermore, the IOM report suggests that providers have knowledge deficits and negative attitudes regarding pain assessment and management and mention that system failures are directly related to disseminating and translating current scientific evidence in pain assessment and management principles into practice. The IOM report emphasizes the need for additional training and education in pain management principles and calls for a transformation of U.S. healthcare delivery systems in the prevention, assessment, treatment, and knowledge of all types of pain and to address disparities in the experience of pain among at-risk populations. Further, "effective pain management is a moral imperative, professional responsibility and the duty of people in the healing profession" (Pizzo & Clark, 2012, p. 198).

Although pain is a sensitive nursing indicator, pain continues to be suboptimally managed across multiple healthcare delivery systems (Brant, Mohr, Coombs, Finn, & Wilmarth, 2017). The dissemination of current scientific EBP pain assessment and management guidelines are critical to improving nurses' knowledge and attitudes on pain assessment and management. Increasing nurses’ knowledge and improving attitudes on pain assessment and management can significantly enhance patient-outcomes, decrease healthcare utilization, and improve consumer satisfaction of services (Brant et al., 2017).

Phenomenon of Pain

The concept of pain is defined as a multidimensional phenomenon that includes sensory, cognitive, affective, and physiological qualities. Pain perception is a unique individual experience that is complex (Kumar & Elavarasi, 2016). IASPs Taxonomy Task Force describes pain as “an unpleasant subjective sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage” (Kumar & Elavarasi, 2016, p. 87). The North American Nursing Diagnosis Association defines pain as “a state in which an individual express and reports severe discomfort or an uncomfortable sensation; reporting pain by either direct verbal communication or by encoded descriptors” (Kumar & Elavarasi, 2016, p. 89). The experience of pain is multifactorial and includes age, gender, culture, ethnicity, spiritual beliefs, socioeconomic status and emotional responses to pain, systems of support, and prior life experiences with pain (Jamison & Edwards, 2012).

Following pain management principals can ensure that pain is assessed and documented regularly (Gregory, 2014). Assessment is a foundational principle of the nursing process and provides the basis for interventions and evaluation of patient outcomes (Gregory, 2014; Jamison & Edwards, 2012). Due to the complex nature of pain, the utilization of a standardized pain assessment tool provides the basis for clinical decision making that promotes a patient-centered care approach to pain interventions and facilitates culturally appropriate patient and family education (Gregory, 2014). Various pain assessment tools have demonstrated validity and reliability in assessing pain; however, most standardized pain assessment tools have been developed for patients who can self-report pain (Gregory, 2014). Patients with moderate to severe dementia have difficulty articulating pain due to cognitive deficits in communication, sensation, and overall physical decline due to the aging and disease processes (Burns & McIlfatrick, 2015). Cognitively impaired patients and patients who have dementia are identified by the IOM as vulnerable populations and are considered at-risk for uncontrolled pain due to under-assessment, under-treatment, or untreated pain (Pizzo & Clark, 2012).

Dementia and Pain

Van Kooten, Smalbrugge, van der Wouden, Stek, and Hertogh (2017) assert that older adults with dementia frequently experience pain due to age-related musculoskeletal conditions. Dementia is characterized by a progressive decline in cognitive function that ultimately leads to severe problems with communication. Individuals with dementia may not be able to articulate their pain experience. Furthermore, neurological changes that occur in dementia patients affects their experience and sensation of pain (Ngu et al., 2015). Although behavioral observations and proxy reports have been successfully utilized to assess pain in dementia patients, pain is a subjective experience that is difficult to measure and validate. This frustration results in a knowledge and attitude gap among hospice nurses on pain assessment in patients with dementia. Nurses are frontline clinicians who are responsible for assessing pain and using critical reasoning for decisions regarding pain management interventions. Nurses must have the necessary knowledge, skills, and attitudes to assess pain effectively in patients with dementia; however, research suggests that nurses are not consistent in using a valid standardized pain assessment tool to assess pain in dementia patients (Burns & McIlfatrick, 2015).

Ortiz, Carr, and Dikareva (2014) identified three clinical-related barriers to effective pain management: knowledge deficit among healthcare providers regarding pain assessment and management principles, healthcare provider bias and attitudes that contribute to inadequate pain management, as well as the non-use or inconsistent use of a valid pain assessment tool. Achieving high-quality healthcare is a priority for all healthcare organizations and implementing EBP training programs can improve pain assessment and management, particularly for at-risk populations.

Chandler and Bruneau (2014) asserts that gaps exist in pain assessment and suggests that nurses’ lack the knowledge of how to effectively assess dementia patients using standardized behavioral pain assessment tools. Jarrett, Andrews, Ridner, Wells, and Murphy (2012) found that existing tools for pain assessment in hospice settings are ineffective and incompatible with patient-identified needs and goals for pain management near the end-of-life (EOL). Quality indicators for pain in hospice settings address the spectrum of care through screening, assessment, treatment, and follow-up. The inconsistent use of pain assessment tools for patients diagnosed with dementia negatively impacts quality of life (QOL), as well as institutional metrics for quality, safety, and satisfaction of services (Dy & Seow, 2013).

Hospice Nurses’ Knowledge Gap on Pain Assessment in Dementia Patients

Hospice nurses’ knowledge and attitudes on pain assessment in hospice patients with dementia leads to suboptimal pain management and reduced QOL metrics. In 2015, over 1.5 million people in the U.S. utilized hospice services, and approximately 18% of enrollees had dementia as a primary or secondary diagnosis. Current research suggests an estimated 80-90% of people with dementia experience pain. In 2014, the Medicare Advisory Committee reported to Congress that the quality of care provided to dementia patients enrolled in hospice care was inadequate. Tarter, Demiris, Pike, Washington, and Oliver (2016) also mentioned significant inconsistencies of reported pain in dementia patients was associated with the subjectivity related to various pain assessment tools used by nurses. Albrecht et al. (2013) argued that hospice nurses’ knowledge and attitudes regarding pain assessment and management in dementia patients resulted in under-assessed, under-treated, or untreated pain. Accurate assessment and management of pain in dementia patients provides the basis for appropriate nursing interventions and evaluation. Pain management at the EOL improves QOL metrics and facilitates patient integrity (Oligario, Buch, & Piscotty, 2015). Nurses’ knowledge and attitudes regarding pain assessment tools and pain management principles negatively impact hospice quality measures and patient and family goals of care. Keen et al. (2017) argue nurses’ attitudes regarding the use of standardized behavioral pain tools are two-fold, citing nurses’ resistance to change due to the subjectivity and inaccuracy of behavioral pain assessment tools and knowledge deficits in the proper use of these tools. Nurses’ bias was also found to be due to a preference for the use of self-reported pain assessment tools and pain scores (e.g., 0-10 pain severity scores). Furthermore, nurses believed that physiological assessment data such as an increased heart rate and blood pressure, as well as the self-report and proxy reporting, were more useful for clinical decisions for pain interventions (Keen et al., 2017). Practitioner bias included desensitization regarding pain assessment and management in dementia patients (Keen et al., 2017).

Barriers regarding the utilization of evidence-based behavioral observation pain assessment tools such as the *Pain Assessment in Advanced Dementia Scale* (PAINAD) or the *Checklist of Non-Verbal Pain Indicators* (CNPI) were related to deficits in nurses' knowledge and competencies in using behavioral pain assessment tools (Keen et al., 2017). Nurses' lack of knowledge and poor attitudes about assessing and treating pain in dementia patients ultimately results in suboptimal pain management (Wysong, 2014). The adverse effects of unmanaged pain in patients with dementia results in depression, behavioral disturbances, social isolation, insomnia, caregiver distress and burnout, and reduced QOL for patients with dementia (Wysong, 2014).

Hospice nurses are uniquely positioned to improve the health status of populations-at-risk and provide comprehensive, holistic and culturally appropriate care related to pain assessment and management (Hospice and Palliative Nurses Association [HPNA], 2013). Unfortunately, many nurses are unprepared to assume the role of advocate for dementia patients because of knowledge deficits and attitudes regarding pain assessment (Ngu et al., 2015). A plethora of scientific evidence recommends educational programs for nurses on current EBP pain management theories and guidelines to improve pain assessment and management for all populations, especially populations at-risk

(Hadjistavropoulos et al., 2014; Keen et al., 2017; Machira, Kariuki, & Martindale, 2013; Newton, Reeves, West, & Schofield, 2014). An EBP training project can facilitate a patient-centered approach for assessing and managing pain, especially in populations at-risk for pain being under-assessed, under-treated, and/or untreated. Keen et al. (2017) suggest a comprehensive pain management program for nurses would improve: quality of care, nurses' pain assessment skills for patients with dementia, as well as the integration of EBP guidelines that include behavioral pain assessment scales such as PAINAD. Albrecht et al. (2013) argue quality of care for hospice patients with dementia is poor and note not all patients enrolled in hospice services are appropriately assessed for pain. Albrecht et al. contend that hospice nurses frequently documented dementia patients' pain as "not applicable/not assessed" or "do not know."

Dementia patients have fewer standing orders for pain medication than other hospice enrollees, as well as inconsistencies in the use of a standardized pain assessment tool (Albrecht et al., 2013). The Doctor of Nursing Practice (DNP) EBP training program aims to improve care coordination and increase hospice nurses' knowledge on pain assessment resulting in improved assessment skills utilizing an evidence-based pain assessment tool for clinical decision-making for dementia patients enrolled in hospice services. Hospice nurses are advocates for optimal pain and symptom management, resulting in improved QOL measures.

Impact on Population

Pain affects approximately 80-90% of individuals with a chronic or life-limiting illness and is widely recognized in hospice patients with dementia (Mc Guire, Kaiser, Haisfield-Wolfe, & Iyamu, 2016). Many barriers to effective pain management exist among nurses (Brorson, Plymoth, Örmon, & Bolmsjö, 2014). Dementia patients can exhibit aggressive behaviors that can negatively affect pain assessment and also contributes to nurses' negative attitudes about pain assessment. Nurses' attitudes on pain assessment negatively affect EOL care and QOL metrics on pain and symptom management guidelines that facilitate good death scenarios for patients and families (Brorson et al., 2014). Utilizing a standardized pain assessment tool provides the basis for clinical decisions regarding non-pharmacological and pharmacological interventions (Brorson et al., 2014).

The inconsistency in the utilization of behavioral pain assessment tools negatively impacts the nurses' ability to accurately assess and manage pain in dementia patients due to the patient's inability to accurately verbalize pain (Brorson et al., 2014). Uncontrolled or poorly managed pain results in adverse physical and psychological stressors that interfere with daily activities, which increases the potential for negative chain of health consequences such as depression and social isolation that negatively impacts a patient's QOL and good death scenario (Mc Guire et al., 2016). Dying in pain is one of the most feared scenarios for patients and families diagnosed with a terminal illness (HPNA, 2013). Pain, however, is a common experience for hospice patients that can hasten death. Uncontrolled pain at the EOL is one of the most distressing experiences and evokes fear among patients with terminal diseases, which can manifest in emotional suffering for patients and caregivers. Hospice nurses aim to provide holistic EOL care that includes effective pain assessment and management; which is a foundational principle of hospice and palliative care (HPNA, 2013).

Problem Statement

The problem is there is a gap in hospice nurses' knowledge and attitudes on pain assessment in dementia patients resulting in uncontrolled pain due to under-assessment, under-treatment, and/or untreated pain.

Purpose Statement

The purpose of this evidence-based practice training intervention was to improve hospice nurses' knowledge and improve attitudes on pain assessment in dementia patients.

Project Objectives

The project objectives were focused on creating and implementing an evidence-based provider-training program to increase hospice nurses' knowledge and improve attitudes on pain assessment in dementia patients. The objectives of the project included the following.

Objective One

Develop an EBP pain assessment-training program for hospice nurses to increase knowledge on pain assessment and improve attitudes about using the PAINAD Scale.

Objective Two

Measure hospice nurses' pre-training knowledge and attitudes on pain assessment in patients with dementia using the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey*.

Objective Three

Provide an EBP training program for hospice nurses on pain assessment in dementia patients utilizing the evidence-based PAINAD Scale.

Objective Four

Measure hospice nurses' post-training knowledge and attitudes on pain assessment in dementia patients using the *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* and compare the results with pre-training survey data.

Objective Five

Review the project outcomes with relevant organizational stakeholders (e.g. patient care administrators, nurse managers, and hospice nurses).

Objective Six

Disseminate the project's findings to organizational and professional stakeholders.

Objective Seven

Sustain EBP training program for newly hired hospice nurses utilizing a PowerPoint presentation in new hire nurse orientation.

Theoretical Framework

Theoretical frameworks are used in nursing practice to develop research questions, describe the methodological processes of a project's design, organize data, analyze data, and evaluate outcomes. Utilizing a theoretical or conceptual framework strengthens the research study and readers' confidence in evaluating the study's findings.

Conceptual frameworks are broad and descriptive and provide structure in developing a systematic plan of action (Field, Booth, Ilott, & Gerrish, 2016).

Knowledge to Action Framework

The EBP training project was a clinical practice project that was amenable to the *Knowledge to Action Framework* (KTA). KTA is a conceptual framework that facilitates knowledge translation into practice and the successful implementation of a practice change and spread of evidence (Field et al., 2016). This EBP training project aimed to increase hospice nurses' knowledge and improve attitudes about pain assessment in dementia patients by providing a formal evidenced-based training intervention on pain assessment utilizing the PAINAD Scale. Hospice nurses' lack of adequate knowledge and attitudes on pain assessment create a gap in clinical-care practices resulting in suboptimal pain assessment and management for dementia patients (Reimer-Kirkham et al., 2015).

According to Mick (2017), nurses traditionally apply knowledge, skills, and attitudes (KSAs) acquired from multiple sources, including formal training programs, professional habits, clinical practice routines, and personal choices into practice. Today's complex healthcare environment requires all healthcare clinicians to enhance KSAs by incorporating current scientific evidence into clinical decision-making. Nurses' reliance on previous knowledge or habits results in the poor-uptake of current EBP, which negatively affects the quality, safety, and cost-effectiveness of care and patient outcomes. Mc Ewen and Wills (2014) assert that nurses' clinical knowledge refers to nurses' personal knowledge obtained from multiple ways of knowing, including the act of practicing nursing care. Equally, conceptual knowledge is derived from personal experiences and logical reasoning, a culture of curiosity, imagination, persistence, and commitment to acquiring new knowledge that is factual, reliable and generalizable (Mc Ewen & Wills, 2014). Nurses’ must engage in a self-assessment of knowledge, which is critical to the uptake and adoption of current EBP (Hande, Williams, Robbins, Kennedy, & Christenbery, 2017). Although nurses’ draw from past knowledge and experience, the funneling of new knowledge is critical and necessary to achieve quality healthcare in the 21st century.

Conceptual frameworks can provide the structure for integrating multiple elements that influence the application of evidence into practice. The funneling of new knowledge through an action-process framework provided the rationale for utilizing the KTA framework. The KTA framework facilitated the translation of knowledge into practice to increase hospice nurses’ knowledge and improve attitudes on pain assessment in dementia patients (Field et al., 2016; Mick, 2017).

Major Constructs of the Knowledge to Action Framework

The KTA framework was developed by Graham et al. (2006) and is based on the assimilation of 31 planned action theories. According to Field et al. (2016), the KTA framework is frequently used for planning and evaluating knowledge transfer strategies. KTA is cited throughout the literature as the most commonly used framework for knowledge transfer. The KTA framework has two distinct but related components: knowledge-creation and an action-cycle that enhances the ability to implement practice guidelines and diagnose and measure determinates of knowledge uptake. The KTA framework also includes an evaluation process to determine the effectiveness of knowledge translation into practice, as well as an action plan for knowledge sustainability. Graham et al. (2006) describe knowledge-creation and action-cycle as multiple phases that overlap.

Field et al. (2016) argue that knowledge-creation and the action-phase are dynamic forces that influence each other; the action-phase can be sequential or simultaneous. The two-cycles are dynamic and flexible processes that demonstrate the interrelationship between knowledge inquiry, synthesis, and utilization of tools in the context of a local system to address a gap. According to Plamondon and Caxaj (2018), "persistence of gaps between what we know to be good, and what we do in practice, is inaction and disconnect of providers' knowledge of good practices and their action" (p. 18). KTA facilitated a deliberate dialog between stakeholders, healthcare organizations, and healthcare providers for adopting practices of accountability and driving evidence-informed changes within healthcare systems (Plamondon & Caxaj, 2018).

KTA Knowledge Creation

Knowledge creation is represented in the KTA framework as a funnel that processes and customizes existing knowledge into a specific application and purpose. The knowledge phase represents the activities needed for knowledge translation in the practice setting and includes identifying facilitators and barriers with organizational stakeholders.

The KTA framework posits that knowledge is generated from multiple sources of individual studies that result in evidence-based knowledge transfer tools and products.

The knowledge-creation phase facilitates knowledge that is implementation ready (Graham et al., 2006; Sinden & Mac Dermid, 2014; Straus, Tetroe, & Graham, 2013).

KTA Action-Cycle

The KTA action-cycle is an adaptive process of knowledge transfer within a specific local context. Seven processes that define the action-cycle include: problem identification and selection of existing knowledge relevant to the problem; adapting the selected knowledge to the specific context; assessment of barriers to knowledge use; selection, tailoring, and implementation of the intervention; monitoring knowledge use; evaluating outcomes; and confirming sustained knowledge use (Graham et al., 2006; Sinden & Mac Dermid, 2014).

Graham et al. (2006) contend that the KTA action phase is deliberately designed to focus on change within healthcare systems and groups. KTA facilitates knowledge translation at the point of care. For example, developers of clinical practice guidelines synthesize research and make recommendations for clinical decision-making and practice. Clinicians can evaluate the recommendations and developer tools and determine its usefulness for patient-care interventions (Graham et al., 2006; Straus et al., 2013). Nurses serve as a bridge between patients and the knowledge generated by scientific evidence. Knowledge translation closes the gap in clinical-care practices and improves the quality and safety of patient care. KTA facilitated a transfer of knowledge through target-specific training to increase hospice nurses’ knowledge of pain assessment in dementia patients utilizing the PAINAD scale.

Application of Theory to Project

The overarching goal of healthcare research is to generate new knowledge that can be quickly and seamlessly translated into clinical-care processes to improve healthcare systems and population health initiatives (Straus et al., 2013). The nursing profession is accountable for identifying gaps in practice that affect patient-care outcomes and negatively impact safety, quality, and satisfaction of healthcare services. KTA action-cycle identified knowledge barriers, such as practitioners' knowledge and attitudes, and customized interventions, such as a targeted EBP training program, to transfer knowledge into practice (Graham, Kothari, & McCutcheon, 2018; Straus et al., 2013).

DNP Project KTA Action-Cycle Components

Identified the problem. Pain assessment in dementia patients is suboptimal and negatively influences the QOL metrics for patients and families receiving hospice services. Hospice nurses' knowledge and attitudes on pain assessment in dementia patients resulted in under-assessed, under-treated, and/or untreated pain. The inconsistent use of the PAINAD scale contributed to a gap in quality care.

Adapted knowledge to local context. The local context was hospice nurses caring for dementia patients in the home setting.

Assessed barriers to knowledge. Inadequate-training programs for hospice nurses on current EBP recommendations for pain assessment in dementia patients were lacking or did not exist. Nurses' underutilized the PAINAD scale and held negative beliefs about adopting EBP guidelines for pain assessment in dementia patients.

Selected, tailored, and implemented interventions. Provided a target-focused EBP training program for hospice nurses on pain assessment in dementia patients and trained hospice nurses on the use of the PAINAD scale.

Monitored knowledge use. The pain assessment metric for compliance used data from the *Centers for Medicare and Medicaid Hospice Item Set* (HIS) metrics on pain assessment in hospice patient admission data and the *Consumer Assessment of Healthcare Provider Services* (CHAPS) metrics for pain from the first quarter of 2019 to the second quarter of 2019.

Evaluated outcomes. Pretest and post-test survey scores from the *Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* were used to measure any increases in hospice nurses' knowledge and improvement of attitudes on pain assessment in dementia patients.

Sustained knowledge use. An EBP training program provided for newly hired hospice nurses utilized a PowerPoint presentation in new hire nurse orientation.

Graham et al. (2006) KTA diagram illustrates the two components of the model – knowledge creation and action-cycle. Knowledge creation is depicted as the funneling of knowledge-inquiry, knowledge synthesis, and knowledge products and decision tools, surrounded by the seven action-cycles. The action-cycles demonstrate flexible and dynamic processes, which start with the identification of the problem and then target specific implementation of knowledge transfer. The action-cycle continuously monitors knowledge usage of an overall quality improvement project, which enhances sustainability and the transfer of knowledge into practice. KTA constructs were utilized for the DNP project.

Significance of Project

Nursing Practice

The Quality and Safety Education for Nurses (QSEN) Institute outlines professional competencies for patient-centered care that state nurses' self-awareness, knowledge of pain and pain assessment, as well as their knowledge of the standards of care for pain management, enhance nurses' ability to advocate for, and assure effective pain management of, each patient (Cronenwett et al., 2007). The first principle of pain management is a clinical assessment, which provides the basis for patient-specific interventions and the evaluation of the efficacy of therapeutic pharmacological and non-pharmacological interventions (Herr, Coyne, Mc Caffery, Manworren, & Merkel, 2011). The development and implementation of an EBP training program on PAINAD enhanced clinical decision-making and improved care for patients with dementia as well as promoted patient-centered quality EOL care (Chandler & Bruneau, 2014; Herr et al., 2011).

Healthcare Outcomes

According to Brant et al. (2017), there is robust research suggesting education and training initiatives aimed at improving nurses' knowledge and attitudes about pain management results in better patient outcomes and satisfaction of provider services. Lewthwaite et al. (2011) assert, "providing adequate pain management is contingent on the knowledge, skills and attitudes" of the nurses providing care (p. 255). The evidence suggests that the development and implementation of this EBP training project enhanced the quality of care hospice nurses provide directly to patients.

Nurses are at the forefront of healthcare and translating science at the bedside. A critical step in improving pain management was the promotion and implementation of an EBP pain assessment tool, the PAINAD scale (Zwakhalen, van der Steen, & Najim, 2012). The nursing profession advocates for patients and families; therefore, the assessment and management of pain in dementia patients enrolled in hospice services was an important EOL principle that required great attention from all stakeholders.

Healthcare Delivery

Random chart audits at the project site revealed that hospice nurses were inconsistently utilizing a valid pain assessment tool and documenting “unwilling and unable” in patients diagnosed with dementia. Hospice nurses’ omissions in pain assessment and the underutilization of a valid pain assessment tool resulted in suboptimal EOL care. Although standards and policies at the project site required hospice nurses to complete a clinical assessment of pain at each patient encounter, random chart audits revealed gaps in pain assessments.

Zaccagnini and White (2014) assert that doctorally prepared nurses work to enhance healthcare practices by identifying barriers and opportunities for implementing organizational changes to create new healthcare delivery systems that are more effective and efficient. These providers engage in quality management principles that improve clinical-care processes to promote safe, high quality, and efficient patient-centered care and improve patient outcomes (Zaccagnini & White, 2014). Furthermore, nurses serving in this advanced practice role identify issues that directly affect nurses and develop focused educational programs aimed at improving the quality of care (Zaccagnini & White, 2014). Thus, the current project succinctly addressed the responsibilities of the doctorally prepared nurse to expand and improve nursing and healthcare.

Healthcare Policy

The IOM’s (2011) *Relieving Pain in America: A Blueprint for Transforming Prevention Care, Education, and Research* report suggests significant barriers to adequate pain care can be addressed by enhancing education for all healthcare professionals. In its report, the IOM further asserted, “cultural attitudes about pain, negative and ill-informed attitudes about people with pain, and stereotyping and biases contribute to disparities in pain care” (p. 9). Additionally, pain assessment and management are quality measures that are reportable to the Centers for Medicare and Medicaid Services (CMS, 2013) as a critical domain of patient care by hospice service providers under the Condition of Participation (CoPs). To bridge the gap in knowledge and attitudes regarding pain assessment and management, continuing education among healthcare professionals must be a priority. The topic of nurses’ knowledge and attitudes in assessing and managing pain is critical to effective pain relief for at-risk populations, as well as for all patients, to improve the quality of healthcare (Brorson et al., 2014; Zaccagnini & White, 2014).

Summary

The EBP training project addressed a gap in the assessment of pain for hospice patients with dementia. Despite current scientific EBP guidelines on pain assessment and management, and a global call to action in recognizing pain as a basic human right, the assessment and management of pain in dementia patients is suboptimal. Improvements in hospice nurses' knowledge and attitudes regarding the use of an evidenced-based pain assessment tool achieved healthcare quality benchmarks and improved patient outcomes. Pain assessment and management at the EOL is a foundational principle of hospice. Hospice nurses play a critical role in pain management; nevertheless, gaps in knowledge and professional attitudes exist. The DNP project, guided by the KTA framework, addressed gaps in hospice nurses' knowledge and attitudes about pain assessment in patients with dementia. Increasing hospice nurses' knowledge and attitudes on pain assessment and management translate to improved QOL and a positive care transition for the patient and family.

Chapter Two: Review of the Literature

Melnyk and Fineout-Overholt (2019) note evidence-based practice (EBP) is a synthesis of best evidence, healthcare provider expertise, and patients' preferences and values. The first step in implementing best practices is to ask a clinical question that will drive inquiry for the best and most appropriate research evidence that addresses the question of interest. The clinical question for this EBP project was: *Does a training intervention on pain assessment in dementia patients improve hospice nurses' knowledge and attitudes on assessing and treating pain in dementia patients*?

Search Engines, Databases, Keywords, and Timeframe

The search strategy employed for this literature review included a search of online electronic databases specific to nursing and other allied health disciplines. The following databases were utilized as a part of the search process for articles: Cumulative Index to Nursing and Allied Health Literature (CINAHL) with Full Text, Cochrane Library, Medical Literature Online (MEDLINE) with Full Text, and Nursing and Allied Health Data Bases. Limiters placed on the searches included the following: full-text articles published in peer-reviewed scholarly journals within the last six years (2012–2018). All searches were organized by the relevance of the search terms; in cases where there were more than 200 articles returned, the first 100 abstracts were reviewed to determine relevance. Articles were determined to be relevant if they included information about the topic, type of primary research study, were written in English, and were peer-reviewed. Relevant abstracts were assigned to a folder for full-text review. A total of 28 articles were identified as being relevant to the literature review. The articles were selected based on factors such as level of evidence, the salience of results, and importance to the project. Fourteen articles identified a common and resounding theme that supported deficits in nurses’ knowledge of pain assessment and management. In addition, the articles identified how nurses’ beliefs act as barriers to the efficacy of assessing and managing pain, and the poor uptake of pain assessment tools used for clinical decision-making and, pain management guidelines.

Table 1 below includes a review of the search terms used and the number of full-text articles returned.

All searches were organized by the relevance of the search terms; in cases where there were more than 200 articles returned, the first 100 abstracts were reviewed to determine relevance. Articles were determined to be relevant if they included information about the topic, type of primary research study, were written in English, and were peer-reviewed. Relevant abstracts were assigned to a folder for full-text review. A total of 28 articles were identified as being relevant to the literature review. The articles were selected based on factors such as level of evidence, the salience of results, and importance to the project. Fourteen articles identified a common and resounding theme that supported deficits in nurses’ knowledge of pain assessment and management. In addition, the articles identified how nurses’ beliefs act as barriers to the efficacy of assessing and managing pain, and the poor uptake of pain assessment tools used for clinical decision-making and, pain management guidelines.

Table 1

Search Terms and Number of Results Returned and Included

	Number of results	
Search terms	Returned	Included
Dementia and *pain*	1,422	4
Dementia, *pain*, and *management*	523	5
Dementia, *pain*, and *assessment*	435	3
Dementia and *pain management*	332	4
Nurses' knowledge, *attitudes*, and *pain*	21	8
Nurses' knowledge, *attitudes*, *pain*, and *dementia*	4	1
Nurses' knowledge, *attitudes*, *pain*, and *assessment tools*	10	1
Hospice nurses' knowledge, *attitudes*, *pain*, *end of life*, and *dementia*	2	2

Significance of Research

Dementia Patients and Pain

Worldwide, dementia has become a significant contributor to population mortality. More specifically, current statistics indicate that globally, 46.5 million people have this disease; a figure that is anticipated to increase by 10 percent by 2030 (De Witt Jansen et al., 2016). Although efforts have been made to improve care and quality of life (QOL) for patients with dementia, the unique behavioral and cognitive deficits caused by the disease results in suboptimal pain assessment and management. Despite the recognition that pain management for this population may be inadequate or ineffective, little has been done to establish EBP guidelines for the assessment and management of pain in patients with dementia. Current research strongly suggests nurses' lack of knowledge and beliefs regarding pain are significant factors hindering adequate pain management for dementia patients (Hadjistavropoulos et al., 2014; Machira et al., 2013; Tsai, Jeoung, & Hunter, 2018).

Further research suggests that nurses are inconsistent in utilizing valid pain assessment tools, such as the *Pain Assessment in Advanced Dementia* (PAINAD) Scale (Lichtner et al., 2014). Older adults diagnosed with dementia have a right to pain relief that prevents suffering at the end of life (EOL). It is critical that hospice nurses providing care for this population are competent in assessing and managing pain. The literature indicated that nurses' knowledge deficits and attitudes in the assessment of pain in dementia patients are barriers to effectively managing pain (Chandler & Bruneau, 2014).

Pain Assessment in Dementia Patients

Newton et al. (2014) argue that dementia significantly affects a person's ability to report pain. Furthermore, the authors note that pain is inadequately assessed and managed and suggest a patient-centered care approach would improve dementia patients' QOL and autonomy, which aligns with EOL care principles. Dementia patients gradually lose the ability to communicate, and hospice nurses often do not recognize the typical expression of pain. Newton et al. state that the paucity of EBP guidelines regarding treatment protocols are due to the under-representation of dementia patients in research studies. Newton et al. further assert barriers to optimal pain assessment and management in dementia patients are primarily due to negative beliefs among nurses and other healthcare professionals who believe pain is a normal part of the aging process and rely on intuition to assess pain. Newton et al. concluded that nurses' lack knowledge on pain assessment guidelines for assessing and managing pain in dementia patients. Jones and Mitchell

(2015) also suggest that healthcare professionals develop negative attitudes and bias towards older individuals, which undermines the personhood of dementia patients and negatively impacts nurses’ pain assessment and management for those patients.

An integrated literature review conducted by Tsai et al. (2018) synthesized research from 2006-2016 using Cooper’s Integrative Review Framework to understand the relationship between hospital nurses’ practices on pain assessment and management for older people with dementia. A preliminary search yielded only six research articles, which demonstrates the paucity of research on nurses’ pain assessment and management of dementia patients. Tsai et al.’s research inclusion criteria included: articles published in English, after 2006, which investigated current pain assessment and management of elderly populations with cognitive impairment. Exclusion criteria included pain assessment, management, and nursing practice in elderly populations without dementia or cognitive impairment.

Nurses’ Knowledge Gap on Pain Assessment in Dementia Patients

Approximately 3,000 articles were screened for title and abstract using the Applied Framework for the Integrated Review. After the exclusion/inclusion criteria were applied, the review yielded 14 full-text articles. Three qualitative and 11 quantitative articles were examined and synthesized. Tsai et al. (2018) discussed several studies that described nurses’ pain assessment and management in dementia patients at the EOL where pain scores were seldom documented, and the pain was undertreated. Tsai et al.’s study suggests that nurses face many challenges in assessing and managing pain in dementia patients because of the patient’s limited ability to self-report pain. Generally, nurses found it difficult to accept dementia patients’ self-reports of pain and relied on clinical instincts instead of clinical pain assessment guidelines. Research suggests that the consistent use of pain assessment tools can improve pain management for dementia patients (Tsai et al., 2018). Additionally, the study found that nurses were not appropriately initiating pain assessments for dementia patients and cited nurses’ lack of knowledge using standardized pain assessment tools.

McNamara, Harmon, and Saunders’ (2012) descriptive study of 59 nurses evaluated the effectiveness of a pain-training program to improve nurses’ knowledge, attitudes, and competencies on postoperative pain in adult patients. The pretest questionnaire was implemented after the EPB training intervention, and the post-test questionnaire was administered six weeks after the training intervention. The study revealed that targeted pain management training improved nurses’ knowledge and attitudes towards pain management. McNamara et al. suggest that the results of the study provide a catalyst for further training aimed at EBP based pain management principles and pain assessment tools.

Additionally, Machira et al. (2013) used a quasi-experimental pretest and post-test design that corroborated McNamara et al.’s (2012) study that investigated the benefit of a pain management training program to improve nurses’ knowledge and attitudes using the *Nurses’ Knowledge and Attitudes Survey Regarding Pain* (NKASRP). The study included 27 nurses practicing at a large metropolitan hospital in Kenya. The study randomly selected nine nurses for a comprehensive pain management-training program. Baseline data from the pretest revealed a knowledge deficit on knowledge and attitudes related to pain management at baseline. However, two-weeks post training participant scores on the NKASRP were significantly higher and therefore, demonstrated the interventional EBP training program improved knowledge and attitudes on pain assessment and management among the nurses in the study. The results of both studies indicate the urgent need to strengthen pain assessment and management training programs that target knowledge deficits and barriers.

Al Qadire and Al Khalaileh’s (2014) exploratory study used the NKASRP assessment tool to quantify nurses’ knowledge and attitudes on assessing and managing pain. Thirty-one nurses participated in the study. The findings identified an average score of 20 out of 40 correct answers (50%) on the NKASRP. In a similar study, Francis and Fitzpatrick (2013) used assessment tools, e.g. the NKASRP, and *The Short-Form Mc Gill Questionnaire* (SF-MPQ) to examine nurses’ knowledge and behaviors toward managing postoperative pain and to investigate the patients’ perceptions of pain intensity. The nurses scored 69.3% (out of 100%) on knowledge and attitudes when the patients’ pain level was moderate. Francis and Fitzpatrick’s and Al Qadire and Al Khalaileh’s research indicates that nurses’ have a knowledge deficit on pain assessment and management. The evidence presented highlights a system-wide clinical-care gap resulting in under-assessed and under-treated pain, which is a critical issue in today’s healthcare environment.

Gretarsdottir, Zoëga, Tomasson, Sveinsdottir, and Gunnarsdottir (2017) conducted a cross-sectional descriptive study to evaluate the primary determinants of knowledge and attitudes regarding pain among nurses practicing in a government-funded public hospital. Gretarsdottir et al. assert that nurses overestimate professional competencies needed to assess and manage pain and underestimate patients’ pain. The two objectives of the study included: assessing determinants of knowledge and attitudes toward pain among RNs working on a surgical unit and using the NKASRP questionnaire to discriminate for different levels of knowledge among nurses. A total of 459 nurses were invited to participate in the study, and more than 50% of those invited returned a completed questionnaire (n=235). The study concluded that nurses with advanced degrees had sufficient knowledge of pain assessment and management. Age and years of nursing experience, however, were not associated with acceptable pain assessment and management knowledge and skills.

Conversely, Eid, Manas, Bucknall, and Almazooa (2014) used a descriptive design to examine nurses’ knowledge and attitudes in Saudi Arabia using the NKASRP questionnaire for nurses working in acute care, intensive care, and nursing education. A total of 775 questionnaires were distributed; 593 nurses responded. Data were analyzed using descriptive and inferential statistics. The mean score of correctly answered questions was 16.9 out of a total possible score of 40. The study concluded that nurses consistently demonstrated misconceived attitudes about the administration of opioids, and nurses consistently underutilized pain assessment tools. Study recommendations included the development of pain assessment and management training and educational programs on current EBP pain management principles for increasing the utilization of pain assessment tools.

Burns and McIlfatrick (2015) conducted a systematic narrative review of the literature published between 2001-2014 specific to the project. The study explored nurses knowledge and attitudes about pain assessment in older people with dementia. Research participants included RNs involved in the assessment and management of dementia patients in multiple healthcare settings that included dementia units, nursing homes, and community and acute care settings. Data from 11 studies were analyzed for qualitative thematic content. Burns and McIlfatrick stated five themes emerged from the literature,“challenges in diagnosing pain in dementia patients, inadequacies of pain assessment tools, time constraints and workload pressures, lack of interdisciplinary teamwork and communication, and lack of training and education” (p. 402). The authors further assert pain assessment and management is challenging in dementia patients due to the complexity of dementia and the distinctive nature of pain behaviors. According to Burns and McIlfatrick, nurses play a prominent role in pain assessment and management for end-stage dementia patients and the authors offer a strong argument for appropriate training initiatives and a standardized approach to pain assessment and management for dementia patients.

Dowding et al. (2016) and Lichtner et al. (2016) used qualitative exploratory ethnography and case study design methodologies and found nurses failed to initiate pain assessments using EBP guidelines for clinical decision making. Nurses' described behavioral pain assessment tools as fragmented and did not provide useful clinical indications that the patient was in pain. Dowding et al.'s study included 31 patients with dementia from 11 acute and surgical care units. The study's design included nonparticipant observation and chart audits of pain interventions and prescribed analgesics. Fifty-two clinical staff (nurses and physicians) were also interviewed. Direct observation revealed that dementia patients were not routinely asked about pain or given pain relief medication.

Similarly, Lichtner et al. (2014) found nurses lacked pain assessment competencies and confidence in pain assessment tools, which was caused by the utilization of multiple different pain assessment tools and assessment rules that frequently changed. These inconsistencies resulted in nurses' confusion and poor understanding of pain assessment tools. Lichtner et al. (2014) argued the lack of standardization of pain assessment guidelines at the site negatively influenced the utilization of pain assessment tools for assessing pain in dementia patients. Nurses in Lichtner et al.'s (2014) and Dowding et al.'s (2016) studies concede pain assessment tools require skills in pain interpretation, and competencies in pain management principles, and suggest training programs on pain assessment and management to enhance nurses' ability to manage pain in dementia patients effectively are needed. Dowding et al. and Lichtner et al. (2014) concluded that nurses consistently underutilize pain assessment tools, preferring to rely on common sense and past experiences for assessing pain in dementia patients. Inconsistencies in pain assessment tools result in poor pain assessment and management.

In a descriptive and interpretive qualitative study, Brorson et al. (2014) used semi-structured interviews with open-ended questions for nurses to describe experiences regarding EOL pain relief for patients with dementia. The authors noted that nurses cited a decline in patients' cognition as a major barrier to effective pain assessment and management. The evidence from Brorson et al., Dowding et al. (2016), Lichtner et al. (2014), Burns and McIlfatrick (2015), and Lichtner et al. (2016) provides a plethora of evidence on how nurses' lack of knowledge and varied attitudes about pain assessment and management negatively impacts all patient populations, across multiple healthcare environments, resulting in inadequate pain relief. Although, there is a paucity of current literature specifically addressing hospice nurses' knowledge and attitudes on pain assessment and management for dementia patients, the relevance of pain control in nursing practice highlights a gap in clinical-care practices and the uptake of pain management principles and guidelines, as well as the underutilization of standardized pain assessment tools, which supports the EBP training project.

The most significant findings identified through a review of the literature focused on the lack of consistency in the assessment and management of pain in patients with dementia. Several meta-analyses were conducted in recent years to evaluate the scope of the issue and to identify methods to address the problem in practice (Hadjistavropoulos et al., 2014; Lichtner et al., 2014; Stubbs et al., 2016; Van Dalen-Kok et al., 2015). The literature demonstrates there is a dearth of consensus regarding the problem, and on how to assess and manage pain in clinical practice for patients with dementia. For example, Stubbs et al. (2016) conducted a systematic review and meta-analysis of 13 studies to examine if pain perception is altered in patients with Alzheimer's disease (AD). The results indicate that while patients with AD demonstrated greater sensitivity to pain when observed through facial expressions, verbal responses to painful stimuli were not always elicited. Similar findings were reported by Van Dalen-Kok et al. (2015) in a systematic review and meta-analysis to evaluate the association between pain and neuropsychiatric symptoms. Utilizing 22 studies for review, Van Dalen-Kok et al. found a strong association between pain and neuropsychiatric symptoms, suggesting patients with dementia experience more pain than older adults without the disease.

Pain Assessment Tools

Additional research on pain assessment and management for dementia patients indicates there is also a lack of consensus regarding the methods that should be used for pain assessment of patients with dementia. Lichtner et al. (2014) conducted a systematic review of eight studies examining 28 different tools for the assessment of pain in patients with dementia. The authors note that while there are a plethora of tools for the assessment of pain in patients with dementia, there is limited evidence demonstrating the reliability and validity of these tools. Lichtner et al. (2014) assert no one tool for assessing pain in patients with dementia can be recommended. Additional data provided by Hadjistavropoulos et al. (2014), through a systematic review of pain assessment tools based on patient facial expressions, also demonstrated challenges for application in practice. More specifically, the data indicated that while assessment tools using patient facial expressions to evaluate pain may be effective in some instances, these tools are subjective and prone to observer bias and contextual variables that are often difficult to control (Hadjistavropoulos et al., 2014).

Additional randomized controlled trials evaluating pain assessment tools in patients with dementia also demonstrated a lack of consensus regarding the clinical assessment of the problem. Chen and Lin (2016), for example, examined the use of pain recognition and treatment (PRT) protocols for identifying pain in patients with dementia. In this random control trial (RCT), three assessments were utilized: *Verbal Descriptor*

Scale (VDS), PAINAD Scale, and the *Cohen-Mansfield Agitation Inventory* (CMAI). When using these tools, patients with dementia had more referrals for pain management than the control group and had established non-pharmacological methods for treating pain when compared with a control group (Chen & Lin, 2016). Pieper et al. (2018) further note the use of the *Pain Assessment Checklist for Seniors with Limited Ability to Communicate* (PACSLAC) and the PAINAD Scale to evaluate pain in 222 institutionalized adults with dementia residing in 21 nursing home facilities. The results of this investigation suggested that both tools were effective for improving nurses' interventions to observed pain in dementia patients. However, the training intervention was not effective for improving the ability of the nurses to estimate pain (Pieper et al., 2018).

Additional studies utilizing pre/post-intervention designs, case studies, and qualitative designs have also been reported in the literature and demonstrate similar challenges when it comes to instituting EBP regarding the assessment and management of pain in patients with dementia (Lichtner et al., 2016; Newton et al., 2014; Ruest et al., 2017; van der Steen et al., 2015). Paulson, Monroe, and Mion (2014) applied a single case study scenario using the PAINAD Scale and determined that the proper use of PAINAD improved pain assessment and reduced the probability of unrecognized and under-treated and/or untreated pain in patients with dementia. Content analysis of several tools for the evaluation of pain in patients with dementia was further undertaken by Van der Steen et al. (2015). More specifically, these authors reviewed the PAINAD Scale, the PACSLAC, and Pain Assessment in Impaired Cognition (PAIC) tool. The assessment found that all tools had notable overlap in content, indicating all three tools could be efficacious in assessing pain in patients with dementia. Ruest et al. (2017) further compared the use of the PAINAD Scale with PACSLAC in a prospective evaluation of the tools' application in practice. The results suggest that both scales provided equal support for assessing pain in elderly patients with dementia. Overall, this literature demonstrates that despite considerable research on the topic, there is a lack of consensus regarding how to effectively assess and manage pain in dementia patients in clinical practice, and that enhancing nurses' knowledge on pain assessment and management with a focused training program is warranted.

Strengths and Weaknesses

Through the methodologies utilized to assess nurses' knowledge on pain assessment and management for patients with dementia and behavior pain assessment tools, both strengths and weaknesses of the literature were noted. Several high-quality studies demonstrated the complexity of the problem. Level I studies included systematic reviews and meta-analyses, which demonstrated there were significant challenges in providing EBP recommendations for pain assessment and management in patients with dementia (Hadjistavropoulos et al., 2014; Kales, Gitlin, & Lyketsos, 2015; Lichtner et al., 2014; Song, He, Xu, Xiu, & Wei, 2018; Stubbs et al., 2016; Van Dalen-Kok et al., 2015). These findings were consistent across studies (Chen & Lin, 2016; Husebo, Ballard, Fritze, Sandvik, & Aarsland, 2014; Pieper et al., 2018; Sandvik et al., 2014). Level, I and II studies, represented the strongest support for EBP change, and the lack of consensus and consistency across these studies underscored the need for current literature regarding pain assessment and management for dementia patients.

Furthermore, Brorson et al. (2014), Dowding et al. (2016), Lichtner et al. (2014), and Burns and McIlfatrick (2015) provided authentic, valid discussions on the lack of nurses’ knowledge and inconsistent attitudes on pain assessment and management. These studies also supported a mandate for targeted training programs for nurses on pain management principles that promote current EBP pain assessment and management guidelines. EBP training programs can demystify pain assessment and management for dementia patients. Additional training to enhance hospice nurses’ competencies in the utilization of behavioral pain assessment tools specific for dementia patients, such as the PAINAD Scale, improves pain assessment and management of pain for patients with dementia.

The literature was less robust regarding pain assessment methodologies and suggests the PAINAD Scale and other assessment tools, including the PACSLAC, may be effective for assessing pain in patients with dementia (Paulson et al., 2014; Ruest et al., 2017; van der Steen et al., 2015). However, these studies included weak methodologies that present challenges for generalizing the findings to a larger population. For instance, the study undertaken by Paulson et al. (2014) suggests that the PAINAD Scale can be quite effective for evaluating pain in patients with dementia. Unfortunately, this study only reviewed one case example. Research regarding the management of pain in patients with dementia further indicated that broad recommendations for patient-centered care are typically supported without any concrete steps for clinical change and improvement (Lichtner et al., 2016; Newton et al., 2014; Tsai et al., 2018).

Identification of Gaps in Literature

Current gaps in the literature were well documented and supported the Doctor of Nursing Practice (DNP) EBP training project aimed at increasing hospice nurses' knowledge and improving attitudes on pain assessment and management for dementia patients. Without clear consensus within the literature regarding EPB guidelines on assessing pain in dementia patients, or clear protocols on pain assessment tools for patients with dementia, there is an impetus to begin filling this gap in the literature, such that clinical-care practices for patients with dementia can be improved. Meeting the needs of this highly vulnerable population is central to promoting and enhancing core nursing values.

Summary

A synthesis of the information provided by the literature review indicated that there are considerable challenges for the assessment and management of pain in patients with dementia. Even though numerous scholars have noted the importance of addressing the prevalence of suboptimal pain management in patients with dementia, collective efforts to build an EBP protocol to address this issue have not been fully developed or explored in the literature or the clinical setting. Researchers and clinicians have failed to adequately establish both the methods of assessing and treating pain in patients with dementia. Given the significance and importance of the issue, there is an impetus to address these gaps and to provide a viable foundation for improving outcomes for patients with dementia. Optimizing this care is essential for ensuring that patients with dementia do not suffer at the EOL. The failure of hospice nurses to adequately address this issue represents a significant problem that has systemic implications for patients, families, and providers.

Chapter Three: Methods

Quantitative research design methodologies examine underlying relationships as well as differences among variables of interest. The purpose of this evidence-based practice (EBP) training intervention was to improve hospice nurses' knowledge and attitudes on pain assessment in dementia patients. The DNP project *Increasing Hospice Nurses' Knowledge and Improving Attitudes on Pain Assessment in Dementia Patients* addressed barriers in pain assessment and gaps in hospice nurses' knowledge and attitudes on pain assessment for patients with dementia. The project's evidence-based practice (EBP) intervention included targeted training on the use of the *Pain in Assessment in Advanced Dementia Scale* (PAINAD).

Project Design

The EBP training project used a before and after design with pre-test/post-test measurements to determine whether providing training on pain assessment in dementia patients improved hospice nurses' knowledge and attitudes on pain assessment in dementia patients. Pre-test and post-test measures are useful in testing dependent variables such as "knowledge, attitudes, satisfaction, or skills in a single-group of subjects; interventions are typically educational or behavioral in nature" (Spurlock, 2018, p. 70).

Project Setting

The target population for the EBP training project was hospice nurses who provide care for patients with dementia for a large for-profit hospice organization located in the southeastern region of the United States (U.S.). A convenience sample of hospice nurses was used for the EBP training program. Sampling strategies were developed from the project's stated objectives and identified significant features and characteristics of groups of people and behaviors or events under investigation (Gray et al., 2017; Stern, Jordan, & McArthur, 2014). Precisely detailing the sampling methodology allows reviewers to analyze and assess the validity and the generalizability of the EPB training results. According to Eldredge, Weagel, and Kroth (2014), a sampling strategy is an iterative process of defining the evidence-based intervention population; hospice nurses (group) knowledge and attitudes (behaviors) on pain assessment (event) for patients with dementia.

Identification of Participants

Eligibility Criteria

Eligibility criteria were used to determine the shared characteristics of a population that met the project objectives. Eligibility criteria provided the basis for defining the target population and explicitly outlined the sample inclusion and exclusion criteria used in the recruiting process (Gray et al., 2017). This accessible target population increased the likelihood of EBP training intervention participant inclusion.

A convenience sampling (nonprobability) method was used for the project. Gray et al. (2017) argue that nonprobability sampling may not represent the target population. However, subjects who met the eligibility criteria and who were willing to participate were included in the EPB training intervention. Etikan, Musa, and Alkassim (2016) describe a convenience sample as, "members of the target population who meet certain practical criteria, such as easy accessibility, geographic proximity, availability at a given time, or willingness to participate" (p. 2). Furthermore, convenience sampling was inexpensive and was amenable to the project's limited timeline. Gray et al. contend that a convenience sampling method is useful when researchers encounter challenges in recruiting participants. The lack of generalizability of the EBP training project results in other populations or subpopulations is one of the disadvantages of convenience sampling (Bornstein, Jager, & Putnick, 2013).

Sample Size

Faber and Fonseca (2014) discuss the importance of estimating an appropriate sample size that can detect clinically relevant differences required for generalizability to the population from which is sampled. A power analysis revealed that a sample size of 44 participants was required to determine statistical significance and generalizability.

Recruitment Process

Participant recruitment and retention required significant planning that included building relationships with internal stakeholders and influencers throughout the organization (Gray et al., 2017). Adhering to ethical guidelines and Institution Review Board (IRB; see Appendix A) protocols mitigated any potential biases and facilitated transparency and the primacy of informed consent (Nijhawan et al., 2013). Flexibility in recruiting activities promoted participant engagement resulting in an adequate sample size for the project.

Sufficient participant recruitment was essential to the overall success of the EBP training project. Hagan and Walden (2017) suggest recruiting the target population of healthcare providers, specifically hospice nurses, could be challenging because research suggests that many nurses do not understand research and therefore, are reluctant to participate in interventional studies. The authors further state that barriers to nurses' participation included lack of time for research due to clinical workloads, as well as the perceived relevance of research to nursing practice.

The recruitment process included passive and active recruitment strategies. Overcoming barriers to recruitment and retention included providing a detailed description of the project's purpose, objectives, and goals. Communicating this information about the project to potential participants provided a basis for building enthusiasm and interest in the project (Gray et al., 2017). Once IRB approval was obtained (see Appendix A), the DNP student participated in recruitment via peer-to-peer discussions about the EBP training project, thereby capturing the attention and earning buy-in of hospice nurses at the project site. Potential participants were informed that the EBP training project was on pain assessment for patients with dementia. Hospice nurses were also recruited using flyers and legal-size posters (see Appendix B) that were distributed in team meetings and placed in common areas throughout the project location. Electronic mail (E-mail) reminders were sent every week to team managers announcing the project's recruitment activities; recruitment flyers were also attached to the email reminder. Upon receiving approval from the project-site administrator, (see Appendix C), on-site recruitment took place at 24-interdisciplinary team meetings and six-team manager meetings.

Inclusion and Exclusion Criteria

Inclusion Criteria

The participants in this EBP pain assessment training project included full-time, part-time and per-diem registered nurses (RNs) and licensed practical nurses (LPNs) who provide care for hospice dementia patients in residential homes, long-term nursing facilities, and adult care facilities. Nurse participants also must have worked for hospice for at least three months.

Exclusion Criteria

The participants excluded from this EBP pain assessment-training project were RNs and LPNs who work on inpatient units.

Ethical Considerations and Human Subject Protection

The EBP project involved the development of a nurse-led EBP training program to increase the ability of hospice nurses to assess pain in dementia patients. Research demonstrates widespread poor pain assessment and sub-optimal pain control by nurses in patients with dementia (Chandler & Bruneau, 2014; De Witt Jansen et al., 2016; Tarter et al., 2016). These findings in large part were due to nurses' lack of knowledge and varied attitudes about how to assess pain in this targeted patient group (Pieper et al., 2018).

Protection of Human Subjects

Confidentiality

The issue of confidentiality in nursing research is one that has been extensively reviewed in the literature. Petrova, Dewing, and Camilleri (2016) argue that confidentiality is associated with values such as autonomy, privacy, and commitment.

Researchers must be honest and respectful in their actions with research participants and must act on behalf of the participants in demonstrating respect for autonomy (Petrova et al., 2016). The EBP training project involved training nurses to effectively assess and manage pain in dementia patients receiving hospice care. To ensure the confidentiality and protection of the project participants, no identifiable personal participant information was collected. Further, all participants received a statement of confidentiality assuring the participants that no personal identifiable information from the participants would be collected or published during the course of the EBP training program. Participants were also informed that all data collected for the project was secured. Electronic data was stored on a password-protected laptop, and paper data was stored in a locked filing cabinet that only the DNP student had access to, thereby preventing any data from being acquired by unauthorized third parties.

Fidelity

Broadly, fidelity involves faithfulness to a person, which is typically demonstrated by loyalty and support (Grove, Gray, & Burns, 2015). In the context of nursing research, Siedlecki (2018) argues that fidelity is often assessed in the context of intervention fidelity. According to Siedlecki, intervention fidelity assures the participants that the EBP project will be implemented the same way the EBP project was described in the IRB protocol.

Similarly, Grove et al. (2015) argue that intervention fidelity also provides research participants with clear expectations regarding what will occur in the context of research. Application of fidelity to the EBP project was achieved by providing participants with a statement of informed consent that outlined the specific procedures utilized as a part of the project. The information provided ensured that participants knew what to expect.

Beneficence

As described by Grove et al. (2015), the principle of beneficence “encourages the researcher to do good, and above all, do no harm” (p. 98). Establishing beneficence in the context of research requires the consideration of all risks and benefits of the research project and the specific ways the researcher promotes good for those participating in the research process and minimizes risks (Christofides, Stroud, Tullis, & O’Doherty, 2017). When reviewing the EBP training project, it was evident that beneficence was the focus of the project. In particular, it was anticipated that hospice nurses participating in the EBP training program would become more knowledgeable about pain assessment and management and hold true the belief that assessing and treating dementia patients’ pain is important. In turn, pain control and management for dementia patients would be improved, leading to overall enhancements in patient-care outcomes. Development of the EBP training program also considered how participants would be treated. The training incorporated different learning formats to address various learning styles and respect for the cultural diversity of the participants. These efforts ensured that all participating hospice nurses were able to fully benefit from the training experience and utilize their knowledge to fully improve patient care.

Nonmaleficence

Nonmaleficence was also incorporated into the EBP training project. In its simplest form, nonmaleficence focuses on doing no harm to the participant (Navab, Koegel, Dowdy, & Vernon, 2016). In the context of research, Navab et al. (2016) note that every effort must be made to ensure the planned methodology and intervention minimizes or eliminates risks for harm to participants. Several actions were taken to ensure that hospice nurses were not harmed by participating in this EBP training program. The project was approved by an IRB (see Appendix A). An IRB's purpose is to protect project participants. IRB approval ensured that any potential harm to participants was minimized or eliminated and that all participants were fully informed of any potential harm or benefits as a result of participating in the EBP training program and was fully disclosed to the participants. Finally, participants were given the option to leave the EBP training program at any time before or during the training, for any reason. There was no penalty for non-participation, or for withdrawing from the training before completion.

Data Collection Process

Data collection for this EBP training project occurred through two specific tools, the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* (see Appendix D) and the *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* (see Appendix E), both administered in paper form to all hospice nurses who agreed to participate in the EBP training program. The *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients*

Survey collected demographic data such as gender, age, education, and the number of years providing hospice care and asked 17 knowledge questions adopted from the *Staff Knowledge and Attitudes About Pain in Patients with Dementia Questionnaire* (see Appendix F, permission to use and adapt). The 17 knowledge questions assessed hospice nurses' knowledge of pain assessment, control, and management in patients with dementia receiving hospice care. *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* data was collected before the initiation of the EBP training program. To ensure participant anonymity, no personal identifying information was collected on these forms. The *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* asked the same 17 knowledge questions as the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey*. The post-training survey assessed hospice nurses' knowledge of pain assessment, control, and management in patients with dementia receiving hospice care immediately after participants completed training. Both surveys asked participants for two anonymous linkable identifiers (day of month born and first two initials of high school attended) that was used to facilitate linking of the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Surveys* and the *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Surveys*.

Data Storage

The data from the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* and *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Surveys* were collected; data from all the forms was entered into an Excel spreadsheet and transferred into SPSS (Version 24) software for data analysis. Hard copy data (paper forms) collected from the EBP training program were stored in a locked file cabinet to maintain confidentiality. Electronic data was transferred from paper forms to an electronic format and stored on a password-protected laptop, maintaining confidentiality.

Data Analysis Procedure

The *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* (see Appendix D) and *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* (see Appendix E) were used to compare-the differences between mean pre-test scores and mean post-test scores to analyze the effectiveness of the EBP training program (Privitera & Ahlgrim-Delzell, 2018). Descriptive statistics were used to describe, analyze, and summarize the data in a meaningful way, and inferential statistics ($p \leq 0.05$ to mirror level of significance set in other studies that used the same measurement tool) to draw conclusions about hospice nurses' knowledge and attitudes changes after the EBP training program. Understanding the usefulness and efficacy of EBP training interventions are critical to enhancing nursing knowledge and improving nursing practice (Burns & McIlfatrick, 2015; Elfil & Negida, 2017). Descriptive statistics analyzed demographic and overall knowledge and attitude question data. In addition, inferential statistics on the knowledge and attitude survey questions (paired t-tests with $p \leq 0.05$) identified any statistically significant changes in hospice nurses' knowledge and attitudes. Mean scores for each question were measured and analyzed for statistically significant differences between pre and post training data using SPSS (Version 24) software.

Measurement Survey Tool

The measurement tool utilized for this EBP project was the adopted *Knowledge on Assessing Pain of Dementia Patients* Survey (see Appendix F). The instrument was developed by Zwakhalen, Hamers, Peijnenburg, and Berger (2007) in response to a lack of measurement tools to assess nurses' knowledge and attitudes about pain in patients receiving care in long-term care facilities. The tool was appropriate for the EBP training project and provided a useful assessment of nursing knowledge and attitudes. The instrument includes 17 identical questions that are answered using a 5-point Likert scale that ranges from 1 (completely disagree) to 5 (completely agree). Four sub-scales measure: (a) experiences of pain in older adults, (b) use of pain assessment in the workplace, (c) administration of pain medication, and (d) the relationship of pain to aging. A letter of informed consent (see Appendix F) of this work indicated that permission to use and adapt the *Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* was acquired.

Statistical Testing

Statistical testing for the project included descriptive and inferential analyses. Descriptive statistics were calculated for the participant data collected through the demographic survey and provided an overview of the project participants including count, percentage, mean, and standard deviation. Inferential statistics, including paired *t*-

tests, were used to evaluate differences in the means, and to determine if the results were statistically significant. A $p \leq 0.05$ was used for determining statistical significance.

Data Access/Security/Protection

Access to project data was restricted using security tools, including password protection for electronic data and the use of a locked file cabinet to prevent unauthorized access to paper data. All requests for data must be approved by the Doctor of Nursing Practice (DNP) student who implemented the EBP training project before data can be released. Data will only be released if necessary, for the completion of the project. All data will be retained for three years following the completion of the EBP training project. After three years, hard copy project data stored in the locked file cabinet will be shredded. After three years, all electronic data will be deleted, and the computer recycle bin will be emptied to remove the project files from the computer.

HIPAA Procedures

The current EBP training project did not involve patients or protected health information. Therefore, no Health Insurance Portability and Accountability Act (HIPAA) procedures were considered for the project.

Risk-Benefit Ratio and Risk Minimization Plan

A risk-benefit ratio was based on an assessment of the risks and benefits associated with research (Dube et al., 2018). The aim of the EBP training program using the adopted and adapted PAINAD Scale (see Appendix G) was to increase hospice nurses' knowledge and improve attitudes about pain assessment and management for dementia patients, to prevent suffering and improve the quality of life (QOL) for dementia patients. Increasing hospice nurses' knowledge and improving attitudes on pain assessment created a foundation for modeling additional practice changes that address gaps in clinical-care practices that can be disseminated to hospice organizations operating across the U.S., as well as other healthcare facilities that provide care for dementia patients. Furthermore, increasing hospice nurses' knowledge and improving attitudes on pain assessment in dementia patients has the potential to improve *Consumer Assessment of Healthcare Provider Services* (CAHPS) metrics, reimbursement and satisfaction of services, as well as the *Centers for Medicare and Medicaid* (CMS) regulatory requirements for assessing pain within the first 24 hours post-admission to hospice. The positive impact on hospice patients with dementia is optimal pain assessment and management. Nurses have a moral, ethical, and professional obligation to prevent suffering in vulnerable populations. Pain relief that prevents suffering is a human rights issue and a philosophical underpinning of hospice care.

Risks associated with the EBP training program for nurses was minimal. Nurses who were uncomfortable during the EBP training program or required specific accommodations to facilitate their learning (e.g. sitting closer to the front of the class, written materials) were assessed at each EBP training program. The risks were minimal and were quite low in comparison to the benefits that were gained from participating in the training program: namely improving patient care. To address these issues, a risk minimization plan was implemented to further reduce risks for the participants. Specifically, participants were asked about these needs before the initiation of the EBP training program to ensure that the risks of discomfort were minimized. Timed breaks for restroom visits, and stretch breaks, were also provided.

There was also a minimal risk for eliciting an emotional response from a participant when discussing dementia and pain assessments. Chaplains and social workers were available at the project location during all scheduled training sessions, and during normal business hours after the training sessions, to assist participants with any unintended emotional responses. Employee discussions with Chaplains and Social Workers are confidential. In addition, printed brochures on the *Employee Assistance Program* (EAP) were available to all participants. EAP is free of charge and is completely anonymous. By including these actions as part of the EBP project, the EBP training program and potential risks were minimized for the participants.

Project Phases and Objectives

Dementia is a complex condition that proves challenging to treat. Because there is no cure for the disease, treatment for dementia often focuses on the alleviation of symptoms to improve the patient's QOL and well-being (Flo, Gulla, & Husebo, 2014). Critical to this process is the effective management of pain (Flo et al., 2014). Current evidence suggests that half of all dementia patients receiving care in long-term care facilities experience pain (Van Kooten et al., 2017). Despite the awareness of this issue and its underlying pathophysiology, pain assessment and management in this population is often suboptimal (Van Kooten et al., 2017). Given these issues, the DNP project focused on providing a formal EBP training program to improve hospice nurses' knowledge and attitudes on pain assessment in dementia patients.

Project Objectives

The purpose of this evidence-based practice training intervention was to improve hospice nurses' knowledge and attitudes on pain assessment in dementia patients. Applying this goal, seven objectives for the project were established.

Objective one. Develop an EBP pain assessment-training program for hospice nurses to increase knowledge on pain assessment and improve attitudes about using the PAINAD scale (see Appendix G).

Objective two. Measure hospice nurses' pre-training knowledge and attitudes on pain assessment in patients with dementia using the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey*.

Objective three. Implement an EBP training program for hospice nurses' utilizing the PAINAD scale.

Objective four. Measure hospice nurses' post-training knowledge and attitudes on pain assessment in patients with dementia using the *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey and* compared the results with *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* data.

Objective five. Review the project outcomes with relevant organizational stakeholders e.g. patient care administrators, nurse managers, and hospice nurses.

Objective six. Disseminate the project's findings to organizational and professional stakeholders.

Objective seven. Sustain EBP training program for newly hired hospice nurses utilizing a PowerPoint presentation in new nurse orientation.

Process Description

The process of the DNP project began with an assessment of current knowledge and attitudes of hospice nurses regarding pain assessment in patients with dementia. The *Pre-Training Self-Assessment of Knowledge on Pain Assessment in Dementia Patients Survey* assessed baseline knowledge and attitudes about pain assessment and management for dementia patients and established a baseline for understanding the knowledge and attitudes of the participants. The *Pre-Training Self-Assessment of Knowledge on Pain Assessment in Dementia Patients Survey* includes demographic questions and 17 knowledge and attitudes questions that are answered using a 5-point Likert scale that ranges from 1 (completely disagree) to 5 (completely agree) and is comprised of four sub-scales that measure: (a) experiences of pain in older adults, (b) use of pain assessment in the workplace, (c) administration of pain medication, and (d) the relationship of pain to aging (see Appendix D). Cronbach alpha for the total scale (17 questions) is 0.782. The face validity of the instrument indicates moderate reliability for the entire instrument.

The EBP training program is based on the PAINAD Scale (see Appendix G), with components of the scale used as focal points for teaching. Insight regarding the tool provided by Rodriguez, Reinhardt, Spinner, and Blake (2018) indicates that the PAINAD Scale was developed to foster the ability of nurses to assess pain in patients with dementia effectively. This tool is particularly useful for use with uncommunicative dementia patients. The tool relies on nurses' careful observation of five changes in patient behavior: breathing, facial expression, negative vocalizations, body language, and the ability of the patient to be consoled (Rodriguez et al., 2018). This scale was used as a foundation for nurses' EBP training project to increase knowledge and improve attitudes on assessing pain in patients with dementia.

Following the EBP training program, the *Post-Training Self-Assessment of Knowledge on Pain Assessment in Dementia Patients Survey* was compared with the results from the *Pre-Training Self-Assessment of Knowledge on Pain Assessment in Dementia Patients Survey* assessment. Following the analysis, the results were disseminated among members of the organization, including leaders, and nurses who participated in the project. Additionally, the results will be disseminated through publication of the results in a nursing journal, and presentation of the results at a nursing conference.

Project Timeline

A project timeline was established from the DNP project objectives and goals, which facilitated completing the project on time.

July 2018

DNP project proposal defense and obtain approval for continuation.

August 2018

Receive organizational site support letter of commitment for the DNP project (see Appendix C).

September 2018

Submit Institutional Review Board proposal for DNP project.

October 2018

Received Institutional Review Board approval for the project (see Appendix A).

January 2019

1. Develop EBP training PowerPoint on the PAINAD scale.

2. Recruit participants by distributing recruitment flyers and posters at DNP project site and sending emails to stakeholders (see Appendix B).

February–April 2019

Implement DNP project of EBP training program and collect data

May 2019

Collaborate with a statistician for data analysis using SPSS (Version 24). Analyze data and interpret results.

June–July 2019

Report DNP project findings to stakeholders. DNP project defense, provide data and outcomes.

August–September 2019

Submit DNP project for publication to the National Black Nurses Association Journal, Hospice, and Palliative Care Nurses Association and Minority Nurse Journal.

Resources and Budget

Project SWOT Analysis

The project SWOT analysis (see Appendix H) summarized the strengths, weaknesses, opportunities, and threats for the DNP project. Strengths of the project stemmed from the culture of the organization and the attitudes of providers. The organization had a positive culture where the staff was motivated to provide compassionate care for patients. Additionally, hospice nurses (participants) are well educated in the nursing process and are dedicated to providing patients with the best possible care. Weaknesses for the project were primarily from issues related to staffing, staff knowledge, and the organizational system's design. In particular, the facility had a high nurse turnover rate and employs staff who may not be familiar with patients' end of life (EOL) care requirements. Further, a recent change in leadership created the potential to negatively impact overall support for the project and its sustainability. Nurses' lack of knowledge regarding quality improvement projects, and the facility's use of paper charting fragmented care, making it difficult to ensure that patients were indeed being assessed for pain.

Opportunities and threats for the project were also evident. Opportunities for the project included DNP project implementer participation in the National Black Nurses Organization and National Hospice and Palliative Care Organization, which helped promote project development and will facilitate dissemination of findings. Further, expertise and necessary information to build knowledge was provided to staff through the project to address critical weaknesses, including knowledge deficits. Finally, collaboration and quality improvement were utilized as a foundation for fostering improvements in the care provided to all patients. Threats to the project included limited time for nurses to engage in the project and undertake patient assessments, reimbursement issues associated with pain assessment processes, and challenges for the sustainability of the project over the long-term.

Project Budget

Costs for the project were minimal and the DNP student contributed the majority of the expenses for implementing the intervention. Table 2 presents the budget for the DNP project.

Table 2

Budget for the Project

Budget item	Cost ($)
Office supplies (paper, photocopying, printing, Lexar USB flash drive, etc.)	120.00
Transportation (gas for DNP student) 86 miles at 58¢ per mile	49.88
Snacks for participants during training	50.00
Facilities costs	—
Equipment costs (computers)	—
Total	219.88

Note. Dashes indicate costs that were covered by the hospice company.

Evidence of Site Support

The DNP student obtained organizational support for the DNP EBP training project (see Appendix C).

Feasibility and Sustainability of the Project

Project feasibility and sustainability must be pragmatically assessed when reviewing the DNP project. Feasibility, according to Morgan, Hejdenberg, Hinrichs-

Krapels, and Armstrong (2018), refers to the pragmatic elements of program implementation. When evaluating the practical components of the EBP DNP project, it is reasonable to argue that the project provided an important foundation for improving the care provided to hospice dementia patients. Further, the project involved the training of nurses; a process that is often undertaken when new protocols or practices are being implemented within a healthcare organization. Nurses are accustomed to receiving training and are generally open to improving practice to enhance the quality of care delivered to patients. From this standpoint, the project was feasible.

However, the sustainability of the EBP project may prove challenging for several reasons. First, there is a high level of turnover of nurses in the organization where the project was implemented; indicating that those currently trained on how to assess pain may not be working in the organization in six or 12 months. Providing this training during future new hire nurse orientations will help ensure all nursing staff possess the knowledge and attitudes needed to assess and manage dementia patients' pain. Currently, paper patient charts are used in the organization, which causes fragmented care and may cause it to be unclear whether pain assessments have been completed and what, if any, additional actions need to be taken for the patient to address his/her pain.

Finally, continued leadership support for the project is needed to ensure that it is sustained over the long-term. The organization where the training was provided has recently undergone a change in leadership. It is unclear at present if new leaders within the organization will support the practice change over the long-term. This will have implications for the sustainability of the project. Thus, while the project is feasible, ensuring its sustainability over the long-term will be challenging. However, sustainability can be achieved with a PowerPoint presentation that can be used at new hire nurse orientation.

Outcome Measures

Outcome measurements at the EOL exemplify best practices that reflect patient-centered care outcomes and satisfaction of services (cite). Outcome measures provide a basis for patient assessments, which results in improved recognition of symptoms, symptom relief, and QOL and further, describe the patient population, e.g. hospice dementia patients, as well as the effectiveness of interventions such as pain assessment and management using the PAINAD scale.

Objective One

The Knowledge to Action conceptual framework was used to synthesize the literature to develop an EBP training program on PAINAD.

Objective Two

Using the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* data were evaluated using descriptive statistics to analyze, demographic and assess overall baseline knowledge, and attitude question data.

Objective Three

An EBP training program on PAINAD via an interactive PowerPoint presentation was delivered to 49 hospice nurses from February 2019 to April 2019.

Objective Four

The *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* data were compared to the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* data. Inferential statistics were used to compare pre and post training data to identify any statistically significant increases in knowledge and attitudes about assessing pain in dementia patients.

Objective Five

Preliminary DNP project findings were reviewed with key stakeholders and final project findings presented post statistical analysis.

Objective Six

Disseminated the project's findings to organizational and professional stakeholders that included Dade Hospice Programs, Palm Beach Hospice Program, Mid-Florida Hospice Program, Florida Association of Directors of Nursing Administration (FADONA), Tenet Hospitals and HCA Healthcare Hospitals (Broward and Miami-Dade County), Cleveland Clinic Fort Lauderdale, and North Broward Hospital.

Objective Seven

EBP Training PowerPoint vetted and approved by hospice organization for new hire nurse orientation and as a refresher for hospice nurses.

Outcome Measures of the DNP Project

Outcome measurements at the end-of-life exemplifies best practices that reflect patient-centered care outcomes and satisfaction of services. Outcome measures provides a basis for patient assessments, which results in improved recognition of symptoms, symptom relief and QOL (Bausenwein et al., 2015). Outcome measures also describe the patient population (e.g. hospice dementia patients) as well as assessing the effectiveness of interventions such as pain assessment and management. Specific outcome measures related to health conditions include physical, psychosocial, spiritual aspects of care and benchmark symptoms that can negatively affect QOL metrics for patients and families (Bausenwein et al., 2015).

Summary

The insight and information provided in the EBP project's design and implementation process clearly outlined the scope of the DNP project and the necessary steps to ensure its completion and success. Adhering to ethical guidelines ensured the EBP training project upheld the highest ethical standards for protecting the project's participants and the validity of the data collection processes. There are several challenges that must be addressed to ensure the long-term success of the project, which includes gaining new administrative buy-in, and addressing the need for electronic records and the high turnover rate of nurses. By identifying and understanding these challenges before beginning work on the DNP project, proactive steps were taken to enhance project outcomes and ensure that nurses provide the best possible patient care.

Chapter Four: Results and Discussion

This chapter provides a review of the results obtained from the Doctor of Nursing Practice (DNP) evidence-based practice (EBP) training project**.** Evaluation of the DNP project is a process used to determine if the EBP training intervention on *Pain Assessment in Advanced Dementia Scale* (PAINAD, see Appendix G) and project objectives to improve hospice nurses' knowledge and attitudes on pain assessment in dementia patients was effective (Smith & Ory, 2014). The clinical practice problem addressed was a lack of consistent pain assessment in patients with dementia at the project site and no consistent tool was used to assess and measure pain. Research consistently demonstrates that in patients with dementia, pain is typically under-assessed and/or undertreated (Burns & McIlfatrick, 2015; Miu & Chan, 2014; Tsai et al., 2018). The under-assessment and lack of treatment of pain in patients with dementia has been linked to three factors including knowledge deficits among healthcare providers regarding pain assessment, healthcare provider bias and attitudes toward pain management, and the inconsistent use of valid pain assessment tools in practice (Ortiz et al., 2014). The purpose of this EBP training intervention was to improve hospice nurses' knowledge and attitudes on pain assessment in dementia patients. The project specifically utilized a before and after design using linkable pre-test/post-test survey measures to ensure the participants' anonymity, as well as evaluate hospice nurses' knowledge of pain assessment and attitudes towards pain in dementia patients.

Data Analysis Process

Data for this DNP project were collected before and immediately after the EBP training program. The *Pre and Post-Training Self-Assessment of Knowledge on Assessing Pain on Dementia Patients Survey*s were utilized to capture participant demographic data (six questions) and knowledge and attitude survey scores (see Appendix D and E). Further, the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey and the Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* contained linkable participant identifiers. Once pre and post-intervention assessments were completed by participants, the DNP project implementer entered survey data into an Excel spreadsheet and transferred the data to SPSS (Version 24) software for analysis. In addition to the six demographic questions, the pre and post-training surveys asked 17 (5-point Likert scale) questions; 12 questions measured knowledge (Questions 1-4 and 10-17) and five questions measured attitudes (Questions 5-9). Data placed in the SPSS software were labeled as: “pre-knowledge,” “post-knowledge,” “pre-attitude,” and “post-attitude.”

Descriptive and inferential statistical testing analyzed DNP project data collected. Descriptive data, including frequencies, were used to evaluate demographic data of the participants, while maximum/minimum, mean, and standard deviation, was used to describe raw *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey and the Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* assessment data. Paired *t*-tests ($p \leq 0.05$) were conducted to evaluate pre and post-training intervention knowledge and attitude question data for any statistically significant increases in knowledge and attitudes on assessing pain in dementia patients.

Results of the Data Analysis

Participant Demographics

The population for the EBP project was hospice registered nurses (RN), advanced practice registered nurses (APRN), and licensed practical nurses (LPN). Hospice nurses working in the organization were recruited through email messages sent to work email addresses, as well as placing posters and distributing flyers (see Appendix B) in common staff areas. The emails sent to nurses and the posters and flyers included a review of the purpose of the EBP training program as well as information regarding the date, time, and place of the training. A total of 106 licensed nurses in the organization were recruited. Of these, 49 agreed to participate in the EBP training program. Further, of the 49 nurses who agreed to participate in the DNP project, only 44 participants provided linkable identifiers (day of month born and first two initials of high school attended) that could be used for analysis.

Additionally, missing participant data from the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients and the Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Surveys* decreased the sample size further (*n* = 43 knowledge, and *n* = 30 attitude survey questions). Demographics of the hospice nurses who agreed to participate in the EBP training program found 85.7% (*n* = 42) were female, and 14.3% (*n* = 7) were male. Further, 77.6% of the participants (*n* = 38) were RNs, 16.3% (*n* = 8) were LPNs, and 6.1% (*n* = 3) were APRNs. Additionally, 63.3% (*n* = 31) of the participants had 10 or fewer years of experience while 36.7% (*n* = 18) had 11 or more years of experience. A total of 73.5% (*n* = 36) of participants had worked in hospice for 10 years or less, and 26.5% (*n* = 13) had worked in hospice for 11 years or more. Demographic data regarding educational level was also collected and indicated that 12.2% (*n* = 6) held a vocational/technical diploma, 44.9% (*n* = 22) of the participants held an Associate of Science in Nursing (ASN) degree (two of the eight LPN participants identified as having ASNs), while 30.6% (*n* = 15) held a Bachelor of Science in Nursing (BSN) degree, and 12.2% (*n* = 6) held a Master of Science in Nursing (MSN) degree (*n* = 3 APRNs and *n* = 3 MSNs, see Table 3).

Evaluation of Outcomes

The primary outcome measures that were used for this project included hospices nurses' knowledge and attitudes toward the assessment of pain in patients with dementia. *Table 4* includes the summarized data for the *t*-tests ($p \leq 0.05$) performed to assess knowledge and attitude both before and following the EBP training program. Information from *Table 4* indicates that while knowledge scores for all hospice nurses participating in the EBP training project did not increase significantly from the pre-test to post-test EBP training implementation phases of the project ($p = 0.280$), attitude scores did increase significantly ($p = .000$*).

Figure 1 shows the results of the *t*-test pre-test attitude (*M*=1.97, *SD* 1.50, *n*=30) and post-test attitude results *(M* = 4.43, *SD* 97, *n* = 30).

Table 3

Demographic Composition of the Sample

Characteristic	*n*	%
Gender		
Male	7	14.3
Female	42	85.7
Total	49	100.0
Job title		
APRN	3	6.1
LPN	8	16.3
RN	38	77.6
Total	49	100.0
Years in nursing profession		
≤ 10	31	63.3
≥ 11	18	36.7
Total	49	100.0
Years in hospice care		
≤ 10	36	73.5
≥ 11	13	26.5
Total	49	100.0
Educational level		
Vocational/technical	6	12.2
ASN	22	44.9
BSN	15	30.6
MSN (3 APRN/3 MSN)	6	12.2
Total	43	100.0

Note. APRN = advanced practice registered nurses; ASN = associate of science in nursing; BSN = bachelor of science in nursing; LPN = licensed practical nurses; MSN = master of science in nursing; RN = registered nurse.

Table 4

Paired t-*Test Results for All Nurses*

Comparison	*n*	*M (SD)* Preintervention	*M (SD)* Postintervention	*t*	*df*	*p*
Knowledge	43	48.81 (3.63)	49.49 (2.91)	−1.10	42	.280
Attitude	30	1.97 (1.50)	4.43 (.97)	−7.69	29	.000*

**p* < .05

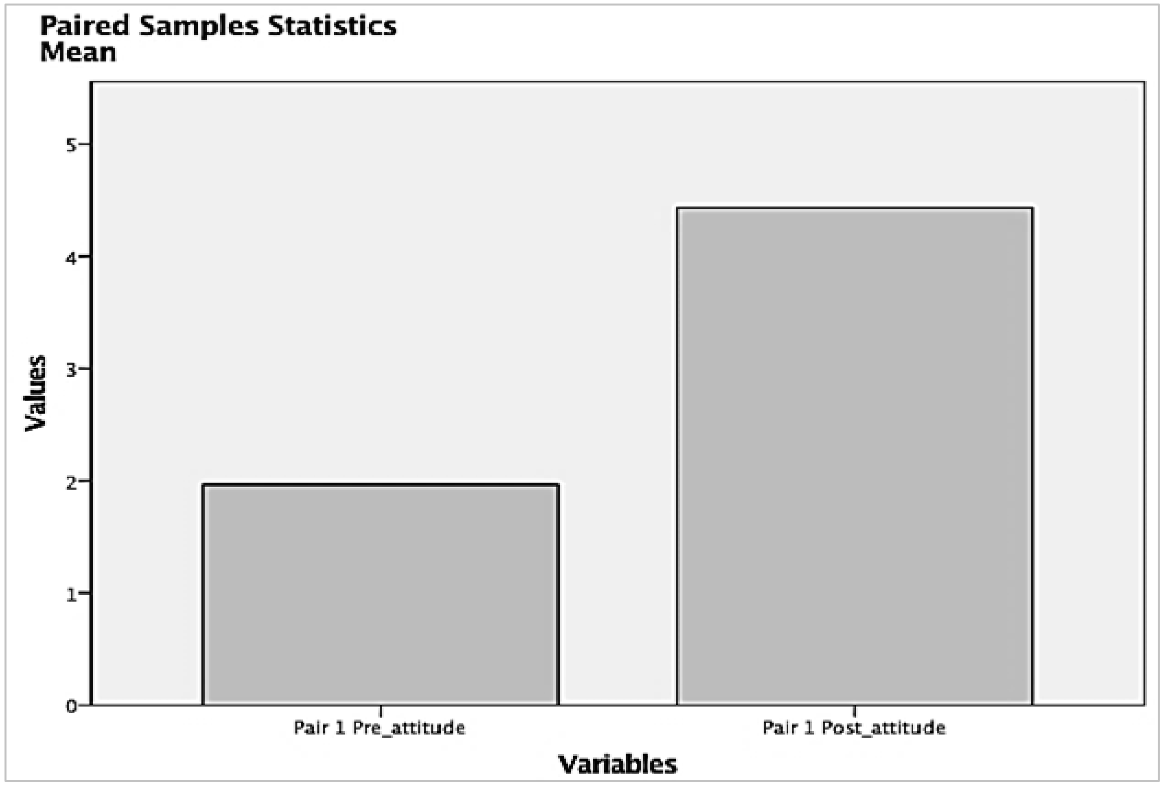

Figure 1. Sample preattitude score mean and postattitude score mean.

Evaluation of Outcomes

A total of seven objectives were identified for this project. A review of each of the objectives is provided here, along with a consideration of how each was addressed through the implementation of the DNP project.

Meeting Objectives

Objective one. The first objective was to develop and evidence-based practice (EBP) pain assessment training program for hospice nurses to increase knowledge on pain assessment and improve attitudes using the PAINAD Scale (see Appendix G). To complete this objective, the PAINAD Scale was accessed, and an EBP training program covering each element of the scale was created.

Objective two. The second objective for the project was to measure hospice nurses' pre-training knowledge and attitudes on pain assessment in patients with dementia using the *Pre- Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey*. This was completed before the EBP training program. All data collected from the pre-assessment phase was recorded in SPSS (Version 24) and was subsequently analyzed utilizing descriptive and inferential statistics.

Objective three. The third objective for this project was to provide an EBP training program for hospice nurses on pain assessment in dementia patients utilizing the evidence-based PAINAD Scale. Training began in February of 2019 and was completed on April 19, 2019. A total of 49 nurses out of 106 currently working in the hospice organization attended the EBP training program. EBP training program was subsequently delivered to 49 hospice nurses currently working in the implementation site's organization.

Objective four. The fourth objective for this project was to measure hospice nurses' post-training knowledge and attitudes on pain assessment in dementia patients using the *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia*

Patients Survey and compare the results with the *Pre-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* data. Following the EBP training program, participants were administered the *Post-Training Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey*, and the data was entered into an Excel spreadsheet and then transferred to SPSS (Version 24) program for analysis. Paired *t*-tests were utilized to analyze the data. The results indicated there were no statistically significant changes in knowledge scores from the pre to post-intervention (see *Table 4*). However, the results also showed there were statistically significant increases in attitude scores from the pre to post-intervention phases (see *Table 4* and Figure 1).

Objective five. The fifth objective for the project was to review the project outcomes with relevant organizational stakeholders: e.g. patient care administrators, nurse managers, and hospice nurses. This was accomplished by sending an email to all staff, providing them with the results of the project. Additionally, follow-up meetings with patient care administrators and nurse managers were held to review the final results from the DNP project and to discuss where additional changes or improvements in practice could be made.

Objective six. Objective six for the project was to disseminate the project’s findings to organizational and professional stakeholders. The finalized report was sent via email to all pertinent organizational stakeholders for review.

Objective seven. The final objective for this project was to sustain EBP training program for newly hired hospice nurses utilizing a PowerPoint presentation during new hire nurse orientation. The organization has agreed to incorporate the training program developed for this project into orientation materials for new hires in the organization. All new hires at the organization will be required to review the materials as part of their orientation. Although no new hires have utilized this resource, it is currently available when new nurses are hired by the organization.

Expected Outcomes

The EBP training program developed for this DNP project focused on two expected outcomes: e.g. increases in knowledge for nurses completing the EBP training program and improvements in attitudes toward the assessment of pain in dementia patients. The results indicate that only one of these expectations was met: improving attitudes of hospice nurses toward pain assessment in patients with dementia. Further, *t*-test data from the entire sample (*Table 4*) indicates that there was a statistically significant improvement in attitudes toward pain assessment, demonstrating that this expectation had been met.

Unexpected Findings

The unexpected findings of this EBP training intervention included the fact that there was no discernable change in knowledge scores when comparing the pre to the post-intervention data of the project for the entire sample. This outcome was unexpected as the current literature indicates that knowledge deficits regarding pain assessment and management in patients with dementia is lacking (Ortiz et al., 2014). Education should have provided the needed support to increase nurses’ knowledge, suggesting that some effort may be needed to assess why this did not occur. It is possible to conceive that may be explained However, it is important to note that hospice nurses receive considerable education and training in pain management, which may explain why there was no discernable increase in knowledge from the pre-test/posttest knowledge scores for the entire sample.

Discussion

Strengths of the Project

The primary strength of the project was that it facilitated/caused statistically significant improvements in hospice nurses' attitudes toward the assessment of pain in patients with dementia. There were substantial changes in attitude scores, suggesting that the EBP training intervention was indeed effective for addressing this component of practice. While the results did not demonstrate similar gains in knowledge scores—as pre and post-intervention knowledge scores were notably similar—changes in attitude may have the potential to markedly enhance and improve nurses' engagement in pain assessment in patients with dementia (Ortiz et al., 2014). The DNP project utilized an innovative approach for improving attitudes on pain assessment for patients with dementia and could have a profound effect on this patient population.

Limitations of the Project

Despite statistically significant results demonstrating improvements in nurses' attitudes toward pain assessment, there are some limitations of the project that need to be addressed. In particular, it is important to note that the sample was drawn from a single site and only incorporated 49 participants. For some of the analyses undertaken, data was further restricted because some respondents did not provide answers for every question when completing the *Pre and/ or Post Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey* tool. In some instances, this dramatically reduced the size of the sample data used for analysis. This coupled with the fact that the data was drawn from a single site, could limit the generalizability of the findings to other healthcare settings.

Additional weaknesses stem from the lack of a control group to compare outcomes. Without a control group, it is not possible to state with certainty that the EBP training program was the primary cause of changes in attitudes. The *t*-tests used to assess the data do indicate the presence of a correlation but did not provide definitive support that a cause-effect relationship exists between the EBP training program and improvements in hospice nurses’ knowledge and attitudes. Further, while most of the objectives for the program were met, objectives 5, 6, and 7 have not been fully completed. While a plan for completing these objectives has been established, these objectives are still pending and will need to be completed.

Implications for Nursing Practice

The implications of this DNP project for practice are significant. Although knowledge gains were not made for the entire sample, the data does indicate that attitudes toward pain assessment and management did improve for all hospice nurses regardless of educational level. Research consistently demonstrates that under-assessment and management of pain in dementia patients is a significant issue of concern impacting patient well-being and quality of life (QOL) indicating that changes in provider attitude may be instrumental to enhancing outcomes for patients (Burns & McIlfatrick, 2015; Miu & Chan, 2014; Tsai et al., 2018).

Further research indicates that provider knowledge and attitude play significant roles in shaping the ability and willingness of nurses to address pain in dementia patients (Ortiz et al., 2014). When the results of this DNP project are juxtaposed against the literature, there is a need for practice change to help ensure that nurses have the tools, training, and education needed to address pain in dementia patients. This appears to be important for all nurses regardless of their level of education or years of experience.

Healthcare Outcomes

Although dementia is a progressive disease that has no cure, improving the well-being and QOL in patients with dementia is a significant issue of concern (O'Rourke, Duggleby, Fraser, & Jerke, 2015). Patients with dementia often experience pain and are typically unable to effectively communicate their needs (Brorson et al., 2014). This can cause considerable distress for the patient and result in a more rapid decline in both physical and mental health (Flo et al., 2014). The results of this DNP project do indicate that it is possible to educate nurses such that they can better address pain assessment and management in patients with dementia. Application of this knowledge in the clinical setting should lead to improved healthcare outcomes for dementia patients in terms of lowering pain levels, reducing psychological distress, and enhancing well-being and QOL. These are important goals in the healthcare system and should be considered when making the decision to provide nurses with EBP training programs to improve pain assessment and management.

Healthcare Delivery

Education and training of hospice nurses to improve pain assessment and management in dementia patients should also have implications for healthcare delivery. In particular, the results of this DNP project support the use of nurse training programs to enhance the attitudes of all nurses to improve pain assessment in patients with dementia. Better assessment and management of pain may lead to the decision to develop and implement new evidence-based guidelines for standard assessment and management of pain in dementia patients. These changes in practice will alter the way in which healthcare is delivered to this patient group. It is essential that nurses are aware of the need to assess and manage pain in patients with dementia such that a closer examination of clinical-care practices can be made. With this information, changes to healthcare delivery can be established to ensure that all patients are provided with the same level of care.

Healthcare Policy

Healthcare policy may also change as a result of this DNP project. The data reviewed here does indicate that education and training can be a useful tool for augmenting attitudes of all nurses and knowledge for less educated nurses. A policy change could involve a requirement for all hospice nurses in the organization to receive regular and updated EBP training on pain assessment and management in patients with dementia. By making this training mandatory, all staff members would have the knowledge and attitudes needed to assess and manage pain in patients with dementia. While this policy will more than likely be developed at the institutional level, sharing the experiences with other healthcare organizations and providers may lead to more significant changes in which education regarding pain assessment and management in dementia patients becomes compulsory for hospice workers.

Recommendations for Future Research

Even though the Project provides some important insight into the impact of nurse education and training on improving knowledge and attitudes toward pain assessment and management in patients with dementia, there are opportunities to utilize this EBP training project as a starting point for further research on the topic. For instance, the same population used for training could be increased and include nurses from other care settings, as well as hospice interdisciplinary care teams that include home health aides, social workers, and chaplains who are also responsible for assessing pain. It is possible that outside of hospice care, nurses at all levels of education lack the knowledge to effectively assess and manage pain in dementia patients. Therefore, further research on the topic may shed light on nursing groups that may benefit the most from training and education to improve knowledge and attitudes on managing pain.

Additional areas for research would include the use of a control or wait-list group to demonstrate causality between the training intervention and outcomes. While this project did demonstrate a correlation for the data, suggesting that the training intervention did have some impact on knowledge and attitudes outcomes for nurses, demonstrating causality through the use of a control group would further strengthen support for providing this type of education and training to all nurses providing care for patients with dementia. Qualitative research to better understand the challenges facing nurses when it comes to assessing and managing pain in dementia patients may also be useful for acquiring additional insight into what can be done to help nurses with this practice issue.

Implications for Nursing Practice

The American Association of Colleges of Nursing (AACN, 2006) established eight essentials for doctoral education. These essentials provide a foundation for the DNP graduate to demonstrate competency in critical areas needed for this advanced practice role. The eight essentials are individually reviewed to demonstrate how each essential was integrated into the DNP project.

Essential I: Scientific Underpinnings for Practice

The first essential involves scientific underpinnings for practice. More specifically, this essential focuses on the acquisition and translation of knowledge from scientific disciplines to build effective care for the patient (AACN, 2006). Various scientific approaches were used in the development of this project. Initially data from the hospice organization was acquired through a SWOT (strengths, weaknesses, opportunities, threats) analysis to identify the scope of the problem (lack of effective pain assessment for patients with dementia) and current nurse knowledge regarding the topic. Typically, SWOT analyses are used in business to acquire an understanding of the organization’s current operations, gaps in operations, and opportunities for improving outcomes (Gurel & Tat, 2017). Through the application of this approach in practice, the scope of the problem is reviewed in the context of the hospice organization.

Once the problem and its implications for the organization were elucidated, scientific evidence to solve the problem was acquired through the development of a literature review. Scientific evidence regarding the problem of pain in patients with dementia was obtained from the disciplines of geriatrics (Albrecht et al., 2013), nursing (Brant et al., 2017), medicine (Brennan et al., 2016), mental health (Jones & Mitchell, 2015), and psychology (Navab et al., 2016), to name a few. This demonstrates the integration of scientific data for both reviewing the problem and for identifying potential solutions for the purposes of building EBP. Consequently, the foundation of the Project was rooted in scientific underpinnings to ensure an integration of “biophysical, psychosocial, analytical, and organizational sciences” as per Essential I of the AACN (2006, p. 9).

Also of importance when integrating Essential I into the Project was the use of educational science for building the staff education program and for designing the project. Sources integrated into the project included those focused in different research designs as well as those focused on building educational programs for nurses (Privitera & Ahlgrim-Delzell, 2018; Spurlock, 2018; Straus et al., 2013). The use of this evidence in the project further codifies the scientific foundations for the project and further demonstrates that Essential I was met.

Essential II: Organizational and Systems Leadership

The second essential identified by the AACN (2006) involves the integration of organizational and systems leadership for quality improvement and systems thinking. This essential requires the DNP graduate to focus on both direct care and the needs of a broader patient population, and to recognize the broader organizational issues involved in the development and improvement of nursing practice. The integration of this essential in the project can be viewed in several ways including the process of gaining approval for the project, the challenges of leadership turnover during the project, and the recognition that the current healthcare organization had contributed to the identified clinical practice problem of suboptimal pain management for patients with dementia.

The process of organizational approval for the project required working with leaders throughout the organization to provide education and information regarding the scope of the problem and the need for change. Although this process was time-consuming, leaders were primarily supportive of the project, acknowledging that pain assessment and management for patients with dementia was suboptimal. The greatest lesson learned during this stage of the project focused on acquiring knowledge of how leadership and management was structured in the organization and how leaders influenced what nursing policies and care were prioritized. This information was essential for building knowledge of how to navigate the organizational system to implement an evidence-based training program on PAINAD (see Appendix G).

Similar observations are expressed when reviewing experiences with changes in leadership that occurred during the execution of the evidence-based training program. Although organizational leaders were initially supportive of the project, key leaders in the organization left during the project and new leaders were hired. As a result, it was necessary to review the project with new leaders and to ensure project support. Unfortunately, not all members of the new leadership team were supportive. This impacted the ability and willingness of hospice nurses to participate in the program. Learning the challenges of organizational politics made it possible to recognize the importance of leadership in undertaking the project and the need to address these pragmatic concerns when building evidence-based training program on PAINAD (see Appendix G).

What also became evident through the completion of this project was that the healthcare organization had, to some extent, contributed to the suboptimal management of pain in patients with dementia. Although pain has been shown in the literature to have a significant and deleterious impact on the health of patients with dementia (Dy & Seow, 2013), leaders within the organization had not prioritized these concerns and addressed them through policy. Subsequently, hospice nurses within the organization lacked the knowledge, resources, and supports needed to engage in pain assessment and intervention. By making this a priority for patient care, leadership supported the project as an opportunity to enhance the care of all hospice patients.

Essential III: Clinical Scholarship and Analytical Methods

As reported by the AACN (2006) the third essential for nurses prepared at the doctoral level is clinical scholarship and analytical methods for EBP. At its core, this essential focuses on the need for nurses to synthesize information, analyze data, and build scholarship for the discipline of nursing. The topic of scholarship is discussed by Burson (2017) who argues that while scholarship is formally defined as serious study in a particular subject, in nursing, scholarship is defined by three activities: breadth and depth of knowledge, innovation and creativity, and peer review and public scrutiny of scholarly projects. Application of the definition of scholarship provided by Burson facilitates important insight regarding the way in which Essential III was met through the development and implementation of the project.

Considering first breadth and depth of knowledge, the development of this project fostered the ability to explore a critical topic impacting patient care and to build extensive expertise for application in practice. Creativity and innovation were cultivated through the development of an evidence-based training program that had not been implemented previously in the organization. Peer review and scrutiny were undertaken throughout the project by sharing information with hospice nurses and interdisciplinary team members. Through this process, collaboration was fostered to improve the project design as well as the final written document reviewing the project.

Essential IV: Information Systems/Technology and Patient Care

The fourth essential established by the AACN (2006) focuses on information systems/technology and patient care technology for the improvement and transformation of healthcare. More specifically, nurses educated at the doctoral level are expected to be able to utilize information systems and technology to improve patient care, to enhance leadership practice, and to improve health and nursing care. Technology was utilized as a foundational component of all aspects of this project and a review of the integration of technology in this undertaking provides clear evidence of how this essential was met.

Technology systems were first employed in the project to acquire the evidence needed to conceptualize the problem and to identify solutions. Electronic databases and internet searching provided access to critical information needed to establish the project and to identify tools for practice change. All materials developed for the evidence-based training program were created utilizing various technology software tools including Microsoft Word and PowerPoint. Additionally, random chart audits from the organization were performed, indicating that the electronic health records from the hospice organization were accessed and utilized for data collection. Data acquired from the project was analyzed utilizing statistical software including the creation of the charts and graphs. This reflection on Essential IV demonstrates that multiple information technology and systems were used to build and complete this project, demonstrating competency in this essential for doctoral education.

Essential V: Health Care Policy and Advocacy

As noted by the AACN (2006), Essential V involves building healthcare policy for advocacy in healthcare. In particular, the AACN argues that nurses prepared at the doctoral level should be able to engage in the process of policymaking at the government, institutional, or organizational level to bring about improvement in healthcare. Political activism as well as the design and influence of policy are critical to meeting this essential (AACN, 2006). Again, various actions taken throughout the course of the project illustrate efforts to build health care policy for advocacy.

The initiation of the project to improve pain assessment and management in patients with dementia began with a review of organizational policy to identify what steps had been taken to address the problem. This undertaking indicated that there were a dearth of policies and practices in place to address the problem despite the evidence that demonstrated pain was not being adequately assessed demonstrated the importance of addressing pain to improve the care of the patient with dementia (Dy & Seow, 2013).

This prompted efforts to educate leaders within the organization that hospice nurses would be better prepared to manage this problem in clinical practice. Working with leadership to make this change is indicative of political advocacy to improve health care and patient outcomes.

Advancement of health policy as a result of the project may also be possible following dissemination of the final report. The data collected through this project demonstrates that an EBP training program positively influences hospice nurse' knowledge and attitudes on pain assessment and management in patients with dementia. Without training to enhance hospice nurses' knowledge and attitude on pain assessment in patients with dementia, it may not be possible to sustain benefits achieved from this project. Consequently, efforts will be needed to institute a policy change such that all hospice nurses working in the organization have access to training and education regarding the assessment and management of pain in patients with dementia. By making this training mandatory, all hospice nurses as well as the interprofessional team would have the knowledge, and attitude needed to assess and manage pain in patients with dementia. While this policy will more than likely be developed at the organizational level, sharing the experiences of the organization with other healthcare organizations and providers may lead to more significant changes in which education and training regarding pain assessment and management in patients with dementia becomes compulsory for hospice workers.

Essential VI: Interprofessional Collaboration

The sixth essential for doctoral education as noted by the AACN (2006) involves interprofessional collaboration for improving patient and population health outcomes. Nurses prepared at the doctoral level are expected to work as part of interprofessional teams to comprehensively meet the needs of the patient and to improve care (AACN, 2006). In addition to working with professionals from other healthcare specializations, DNP graduates are expected to implement and lead these teams to foster improvements in patient care (AACN, 2006). Reflection on the project does highlight where interprofessional collaboration was integrated into the design, development, and implementation of the evidence-based training program for nurses.

As previously noted, development of the project began with building an evidence base for understanding the problem and identifying potential problem solutions. Use of information technology to locate evidence was facilitated through collaboration with library sciences personnel to tailor searches and locate needed information. Design of the project was facilitated through collaboration with organizational leaders and managers to identify key issues for successful implementation. Leaders and managers within the organization currently have specialization in a wide range of disciplines including business, management, medicine, and healthcare administration. Collaboration with all members of the nursing staff was further utilized to conduct the EBP training program and acquire feedback. Following data collection, collaboration with statisticians was used as the basis for data analysis and interpreting the results. Throughout the project, collaboration with educational leaders and project supporters was utilized to acquire feedback for design, implementation, and dissemination of the results from the project.

Essential VII: Clinical Prevention and Population Health

Information from the AACN (2006) indicates that the seventh essential focuses on clinical prevention and population health for improving the nation's health. More specifically, the AACN reports that nurses prepared at the doctoral level should be able to implement clinical prevention and population health activities to achieve the goal of improving the health of the entire population. Reflection on the project indicates that undertaking this project had several benefits for clinical prevention and population health. The project was designed based on evidence demonstrating that both a lack of nurses' knowledge and negative attitude toward pain assessment and management could adversely impact the health and quality of life in patients with dementia (Dy & Seow, 2013). Consequently, by demonstrating the utility of staff training to address these issues, it was possible to contribute to the evidence base supporting training programs across all hospice organizations.

The results from this project clearly emphasize the role of clinical prevention by demonstrating that there are steps that nurses and hospice organizations can take to improve health outcomes and quality of life for patients with dementia. Dissemination of these results through journal publication and completion of this project manuscript will further strengthen the ability of nurses and healthcare organizations to implement these recommendations in practice. As the number of older adults with dementia continues to increase, the ability to provide effective care for this group will be imperative for improving overall population health, well-being and quality-of-life. This project will contribute to the achievement of those outcomes.

Essential VIII: Advanced Nursing Practice

The final essential established by the AACN (2006) addresses advanced nursing practice. Reviewing this essential, the AACN reports that nurses prepared at the doctoral level must demonstrate practice competencies that transcend all specialties to integrate knowledge and information to strengthen the discipline of nursing as well as the clinical care of patients. The DNP graduate must acquire knowledge and skills to simultaneously utilize capabilities in biophysical, psychosocial, behavioral, sociopolitical, cultural, economic, and nursing science (AACN, 2006). A review of the project indicates that this essential was met.

Building an evidence-based training program to enhance pain assessment and management in patients with dementia required an understanding the biophysical components of dementia and pain to comprehend the scope of the problem. Pain has implications for the psychosocial and behavioral well-being of the patient. However, making change to improve practice requires an understanding of the sociopolitical and cultural environment of the organization to implement change. This knowledge, acquired through an organizational SWOT analysis and work with organizational leaders, provided a foundation for undertaking the EBP training program. Economics was emphasized through an identification of a project budget and nursing science was encapsulated through building the EBP training program for hospice nursing to improve the care of the patients with dementia and the planning of a sustainability component for the project so all newly hired hospice nurses are provided training for assessing pain in dementia patients. By addressing each of these elements in the project, the DNP essentials were met.

Final Conclusions

This project provided a useful framework upon which to address an important issue of concern in healthcare and nursing practice: pain assessment and management in patients with dementia. As the number of older adults in the United States continues to increase, it is reasonable to assume that more individuals will be diagnosed with dementia. Determining the best methods for providing care to this population is of paramount concern. While this project did not address all aspects of care for the patient with dementia, it did provide an opportunity to fill a vital gap in knowledge and to establish a foundation for advancing the care of dementia patients who have pain through the use of a standardized pain assessment tool. With training and education, which increased knowledge and improved attitudes about pain assessment in dementia patients, hospice nurses are better equipped to provide care to this patient group. Over time, this should have systemic implications for improving practice, enhancing healthcare outcomes for patients, improving care delivery, and building healthcare policy.

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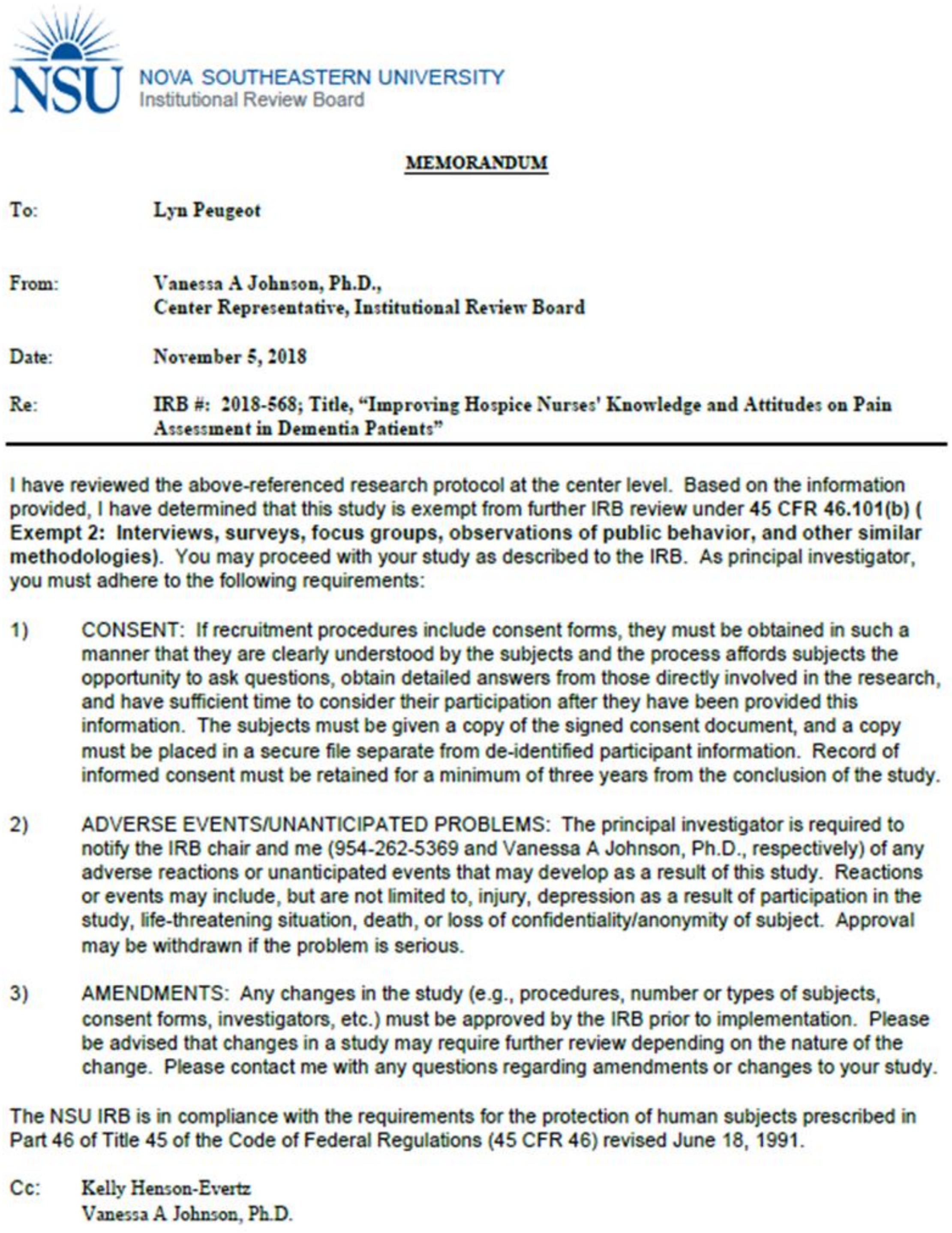
Appendix A

Institutional Review Board Approval Letter



NOVA SOUTHEASTERN UNIVERSITY
Institutional Review Board

MEMORANDUM

To: **Lyn Peugeot**

From: **Vanessa A Johnson, Ph.D.,**
Center Representative, Institutional Review Board

Date: **November 5, 2018**

Re: **IRB #: 2018-568; Title, "Improving Hospice Nurses' Knowledge and Attitudes on Pain Assessment in Dementia Patients"**

I have reviewed the above-referenced research protocol at the center level. Based on the information provided, I have determined that this study is exempt from further IRB review under **45 CFR 46.101(b) (Exempt 2: Interviews, surveys, focus groups, observations of public behavior, and other similar methodologies)**. You may proceed with your study as described to the IRB. As principal investigator, you must adhere to the following requirements:

1) CONSENT: If recruitment procedures include consent forms, they must be obtained in such a manner that they are clearly understood by the subjects and the process affords subjects the opportunity to ask questions, obtain detailed answers from those directly involved in the research, and have sufficient time to consider their participation after they have been provided this information. The subjects must be given a copy of the signed consent document, and a copy must be placed in a secure file separate from de-identified participant information. Record of informed consent must be retained for a minimum of three years from the conclusion of the study.

2) ADVERSE EVENTS/UNANTICIPATED PROBLEMS: The principal investigator is required to notify the IRB chair and me (954-262-5369 and Vanessa A Johnson, Ph.D., respectively) of any adverse reactions or unanticipated events that may develop as a result of this study. Reactions or events may include, but are not limited to, injury, depression as a result of participation in the study, life-threatening situation, death, or loss of confidentiality/anonymity of subject. Approval may be withdrawn if the problem is serious.

3) AMENDMENTS: Any changes in the study (e.g., procedures, number or types of subjects, consent forms, investigators, etc.) must be approved by the IRB prior to implementation. Please be advised that changes in a study may require further review depending on the nature of the change. Please contact me with any questions regarding amendments or changes to your study.

The NSU IRB is in compliance with the requirements for the protection of human subjects prescribed in Part 46 of Title 45 of the Code of Federal Regulations (45 CFR 46) revised June 18, 1991.

Cc: Kelly Henson-Evertz
Vanessa A Johnson, Ph.D.

Appendix B

DNP Project Flyer and Poster

PAIN ASSESSMENT IN DEMENTIA TRAINING PROGRAM FOR NURSES

[redacted]

Training Program Date/Time

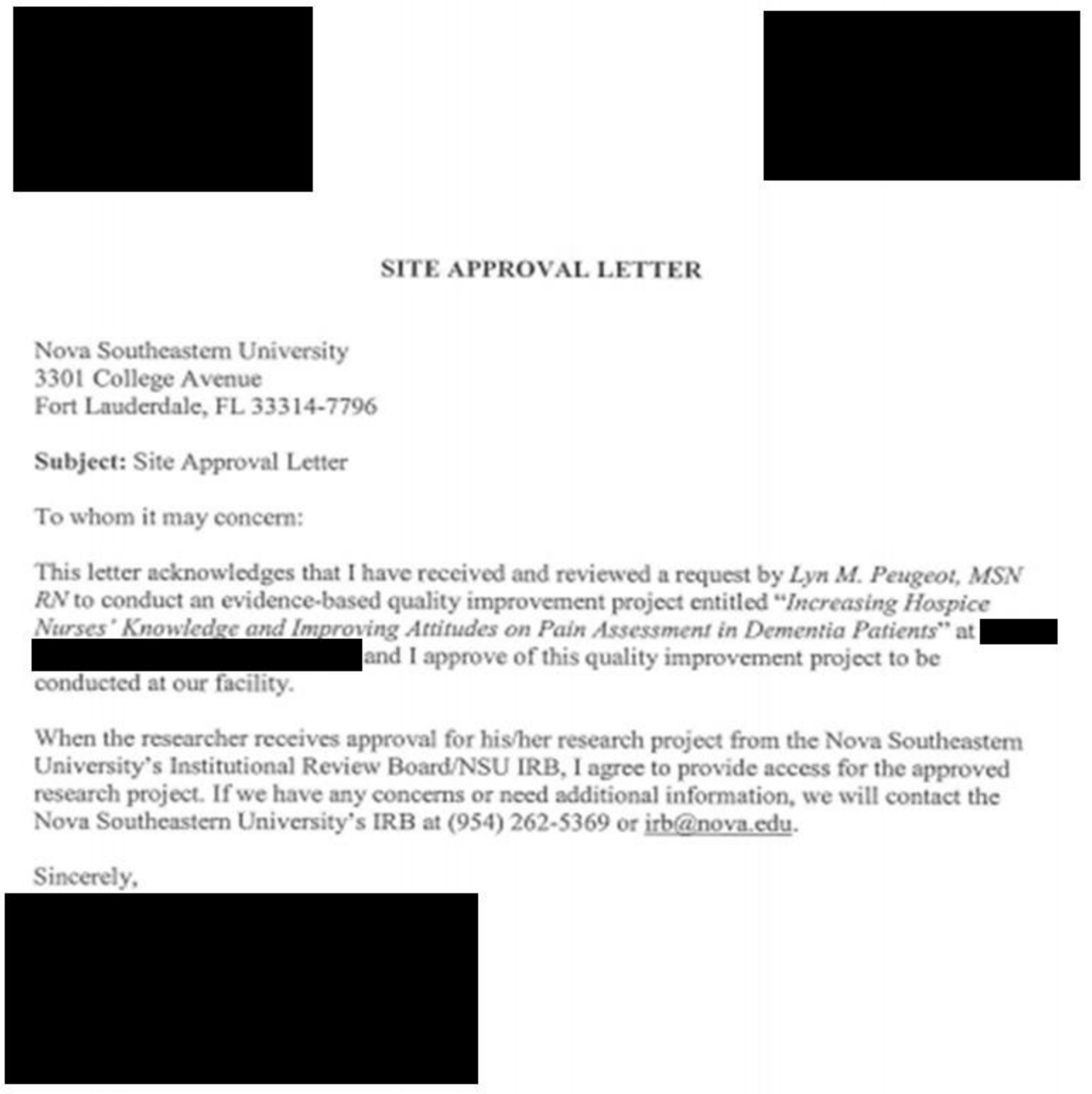
February 16, 17, 2019 - @ 8:00am/10:00am/12:00pm
February 19, 20, 21, 2019 - @ 11:30am/12:00pm/12:30pm
February 26, 27, 28 2019 - @ 11:30am/12:00pm/12:30pm

This evidence-based training program is a Nova Southeastern University (NSU) Doctor of Nursing Practice (DNP) quality improvement project to improve hospice nurses' knowledge and attitudes on pain assessment in dementia patients. **Participation is voluntary.** By coming to the 30 -minute training program and completing the questionnaire, you are consenting to participate in the above quality improvement project.

For more information contact: Lyn M. Peugeot, NSU DNP student
@[redacted]

Appendix C

Site Approval Letter



[redacted]

[redacted]

SITE APPROVAL LETTER

Nova Southeastern University
3301 College Avenue
Fort Lauderdale, FL 33314-7796

Subject: Site Approval Letter

To whom it may concern:

This letter acknowledges that I have received and reviewed a request by *Lyn M. Peugeot, MSN RN* to conduct an evidence-based quality improvement project entitled "*Increasing Hospice Nurses' Knowledge and Improving Attitudes on Pain Assessment in Dementia Patients*" at [redacted] and I approve of this quality improvement project to be conducted at our facility.

When the researcher receives approval for his/her research project from the Nova Southeastern University's Institutional Review Board/NSU IRB, I agree to provide access for the approved research project. If we have any concerns or need additional information, we will contact the Nova Southeastern University's IRB at (954) 262-5369 or irb@nova.edu.

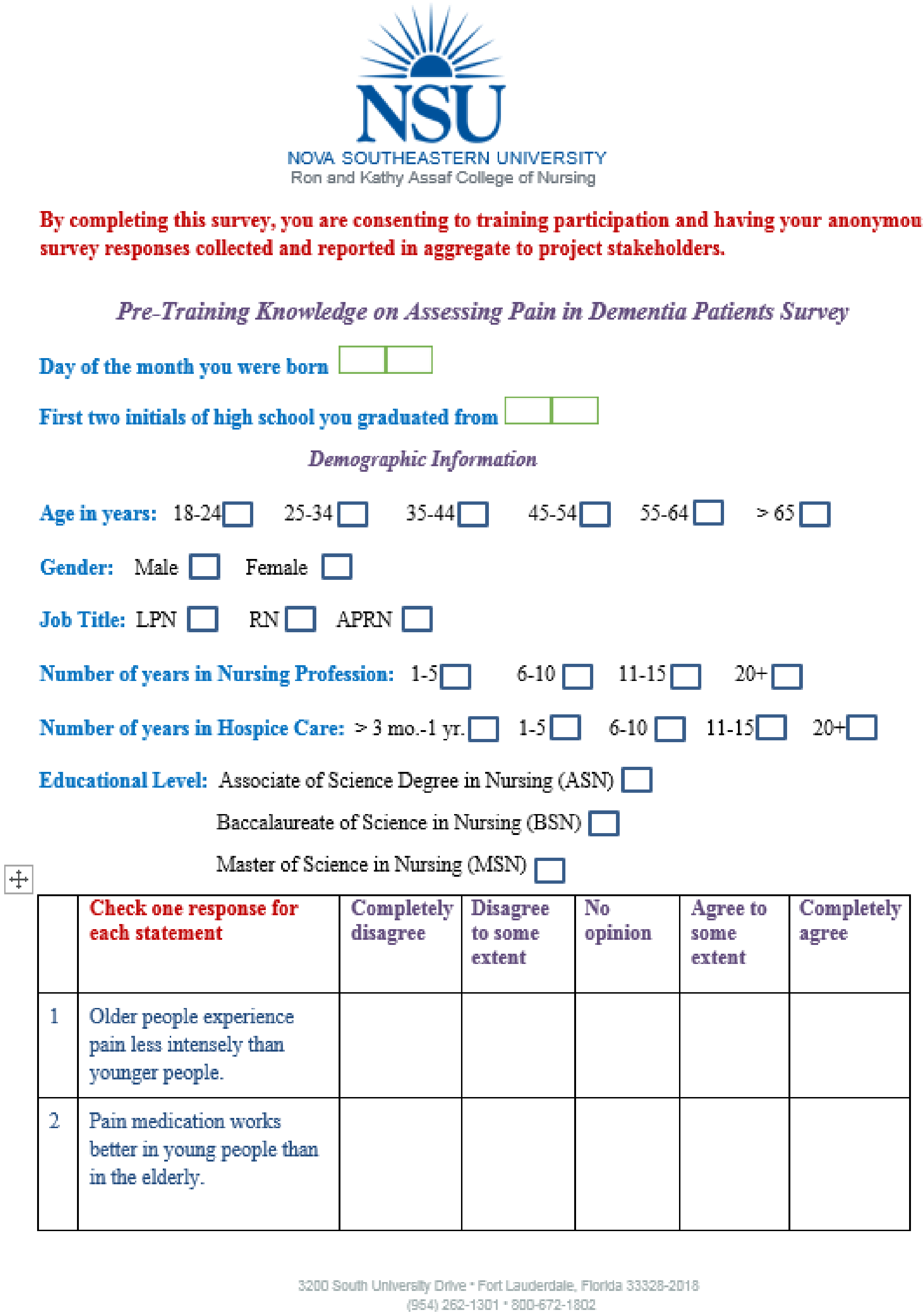
Sincerely,

[redacted]

Appendix D

Pretraining Self-Assessment of Knowledge on Assessing Pain in Dementia Patients

Survey



NOVA SOUTHEASTERN UNIVERSITY
Ron and Kathy Assaf College of Nursing

By completing this survey, you are consenting to training participation and having your anonymous survey responses collected and reported in aggregate to project stakeholders.

Pre-Training Knowledge on Assessing Pain in Dementia Patients Survey

Day of the month you were born ☐☐

First two initials of high school you graduated from ☐☐

Demographic Information

Age in years: 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ > 65 ☐

Gender: Male ☐ Female ☐

Job Title: LPN ☐ RN ☐ APRN ☐

Number of years in Nursing Profession: 1-5 ☐ 6-10 ☐ 11-15 ☐ 20+ ☐

Number of years in Hospice Care: > 3 mo.-1 yr. ☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 20+ ☐

Educational Level: Associate of Science Degree in Nursing (ASN) ☐
Baccalaureate of Science in Nursing (BSN) ☐
Master of Science in Nursing (MSN) ☐

	Check one response for each statement	**Completely disagree**	**Disagree to some extent**	**No opinion**	**Agree to some extent**	**Completely agree**
1	Older people experience pain less intensely than younger people.					
2	Pain medication works better in young people than in the elderly.					

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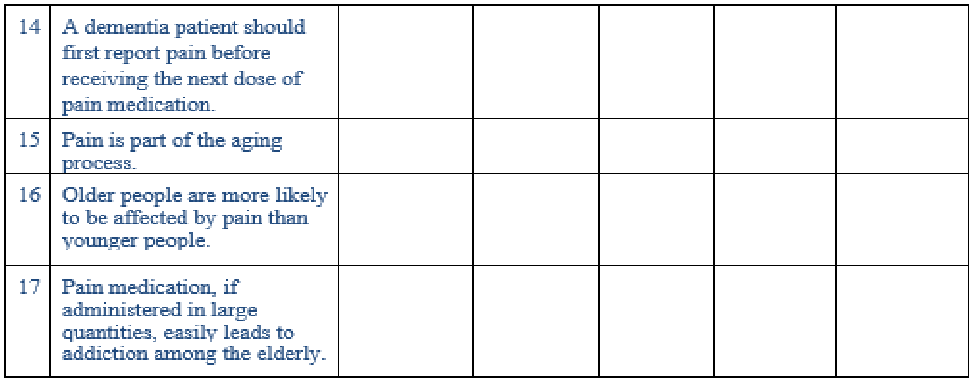
3	Pain medication works longer in the elderly than in young people.					
4	Pain medication has more side effects in the elderly than in younger people.					
5	Dementia patients experience less pain than non-dementia patients.					
6	Assessing pain in a dementia patient is a matter of guessing					
7	Where I work, pain is assessed correctly.					
8	Where I work, pain is treated correctly.					
9	Where I work, much attention is given to pain in dementia patients.					
10	Pain medication should only be administered to patients suffering from severe pain.					
11	Patients are often prescribed too much pain medication.					
12	It is better to administer pain medication 'when necessary', rather than according to a fixed schedule.					
13	Administering pain medication should be postponed as long as possible, because dementia patients should receive as little pain medication as possible.					



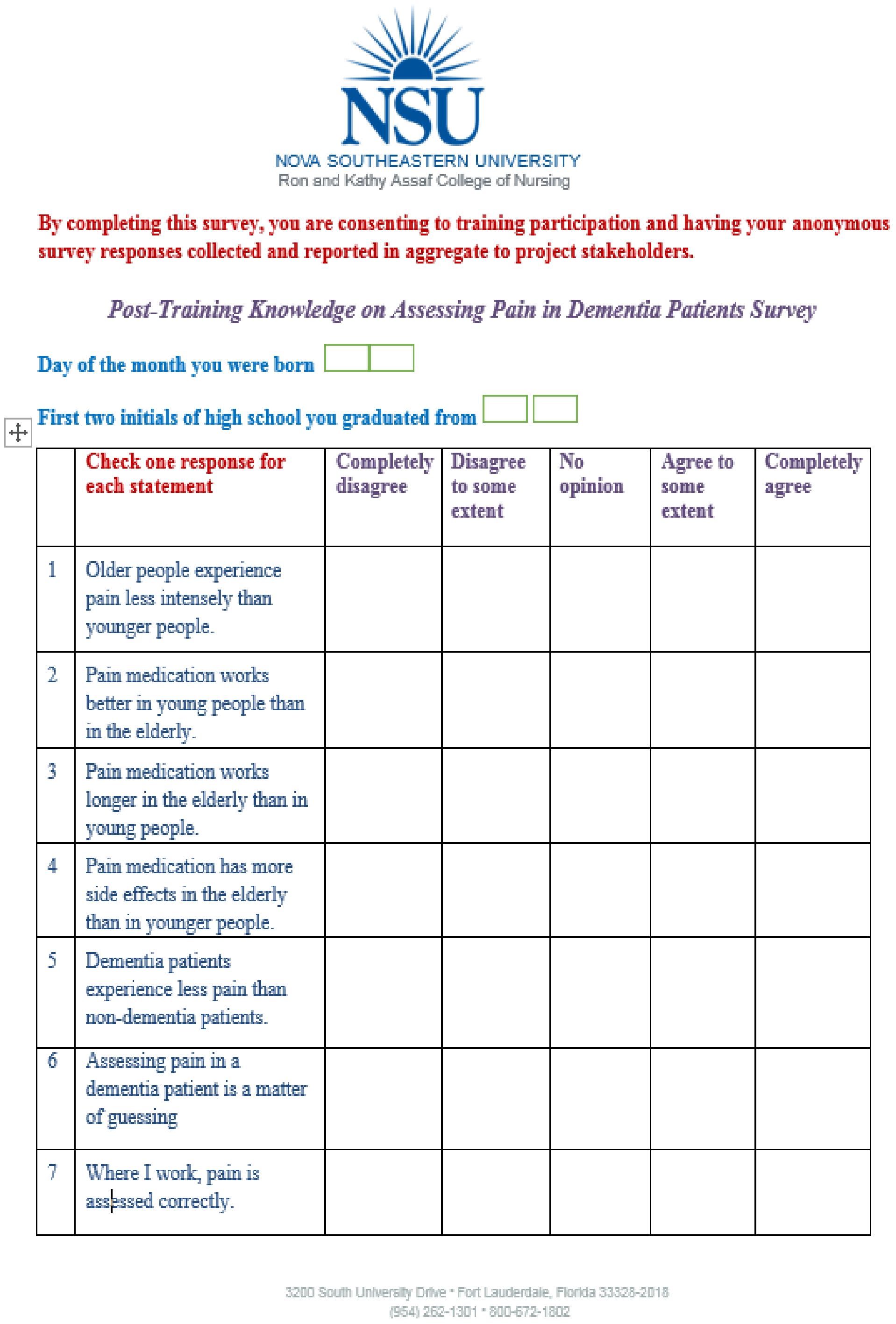
14	A dementia patient should first report pain before receiving the next dose of pain medication.					
15	Pain is part of the aging process.					
16	Older people are more likely to be affected by pain than younger people.					
17	Pain medication, if administered in large quantities, easily leads to addiction among the elderly.					

End of Survey

Appendix E

Posttraining Self-Assessment of Knowledge on Assessing Pain in Dementia Patients

Survey



NSU
NOVA SOUTHEASTERN UNIVERSITY
Ron and Kathy Assaf College of Nursing

By completing this survey, you are consenting to training participation and having your anonymous survey responses collected and reported in aggregate to project stakeholders.

Post-Training Knowledge on Assessing Pain in Dementia Patients Survey

Day of the month you were born ☐☐

First two initials of high school you graduated from ☐ ☐

	Check one response for each statement	**Completely disagree**	**Disagree to some extent**	**No opinion**	**Agree to some extent**	**Completely agree**
1	Older people experience pain less intensely than younger people.					
2	Pain medication works better in young people than in the elderly.					
3	Pain medication works longer in the elderly than in young people.					
4	Pain medication has more side effects in the elderly than in younger people.					
5	Dementia patients experience less pain than non-dementia patients.					
6	Assessing pain in a dementia patient is a matter of guessing					
7	Where I work, pain is assessed correctly.					

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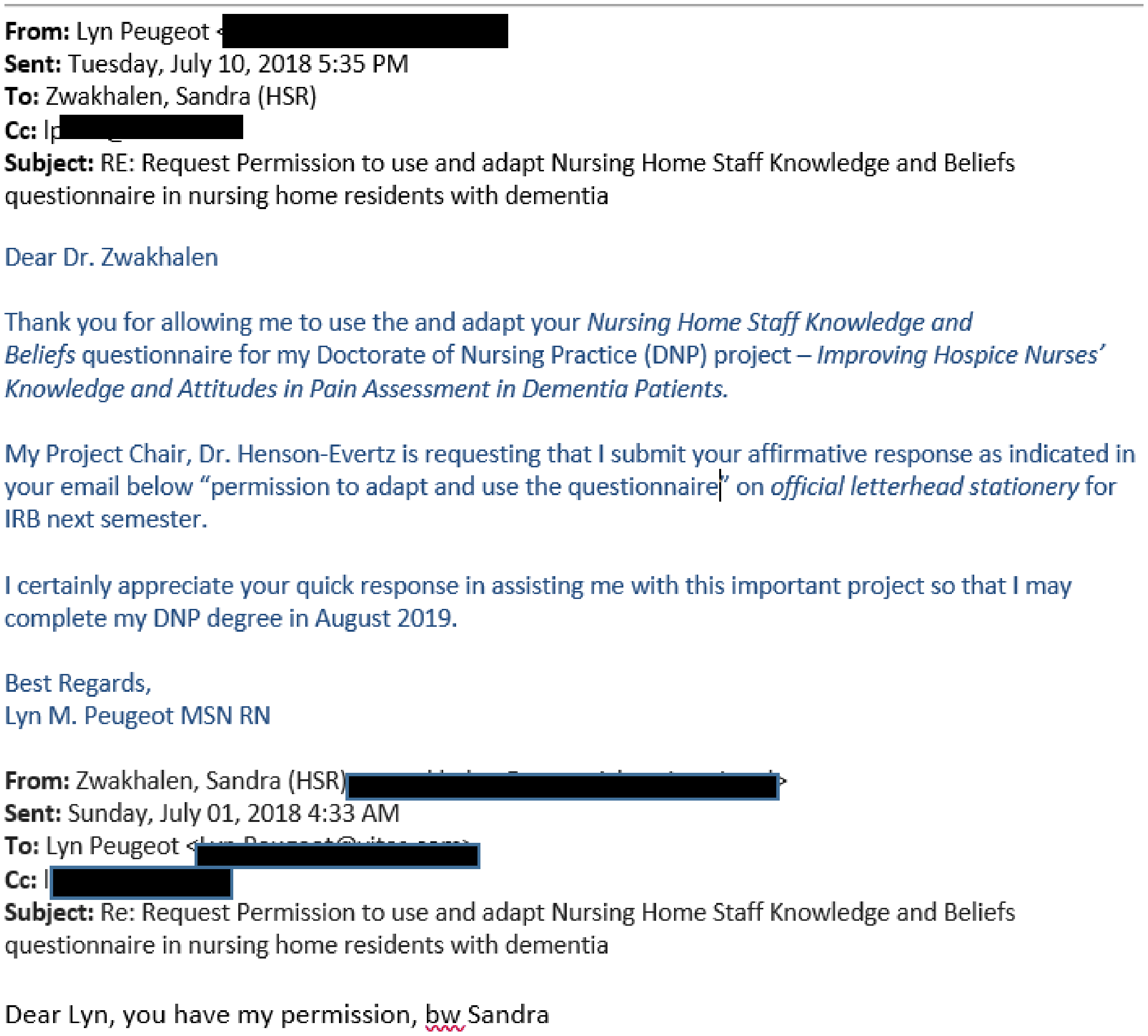
8	Where I work, pain is treated correctly.					
9	Where I work, much attention is given to pain in dementia patients.					
10	Pain medication should only be administered to patients suffering from severe pain.					
11	Patients are often prescribed too much pain medication.					
12	It is better to administer pain medication 'when necessary', rather than according to a fixed schedule.					
13	Administering pain medication should be postponed as long as possible, because dementia patients should receive as little pain medication as possible.					
14	A dementia patient should first report pain before receiving the next dose of pain medication.					
15	Pain is part of the aging process.					
16	Older people are more likely to be affected by pain than younger people.					
17	Pain medication, if administered in large quantities, easily leads to addiction among the elderly.					

End of Survey

Appendix F

Permission to Use and Adapt

Self-Assessment of Knowledge on Assessing Pain in Dementia Patients Survey



From: Lyn Peugeot <[redacted]
Sent: Tuesday, July 10, 2018 5:35 PM
To: Zwakhalen, Sandra (HSR)
Cc: lp[redacted]
Subject: RE: Request Permission to use and adapt Nursing Home Staff Knowledge and Beliefs questionnaire in nursing home residents with dementia

Dear Dr. Zwakhalen

Thank you for allowing me to use the and adapt your *Nursing Home Staff Knowledge and Beliefs* questionnaire for my Doctorate of Nursing Practice (DNP) project – *Improving Hospice Nurses' Knowledge and Attitudes in Pain Assessment in Dementia Patients.*

My Project Chair, Dr. Henson-Evertz is requesting that I submit your affirmative response as indicated in your email below "permission to adapt and use the questionnaire" on *official letterhead stationery* for IRB next semester.

I certainly appreciate your quick response in assisting me with this important project so that I may complete my DNP degree in August 2019.

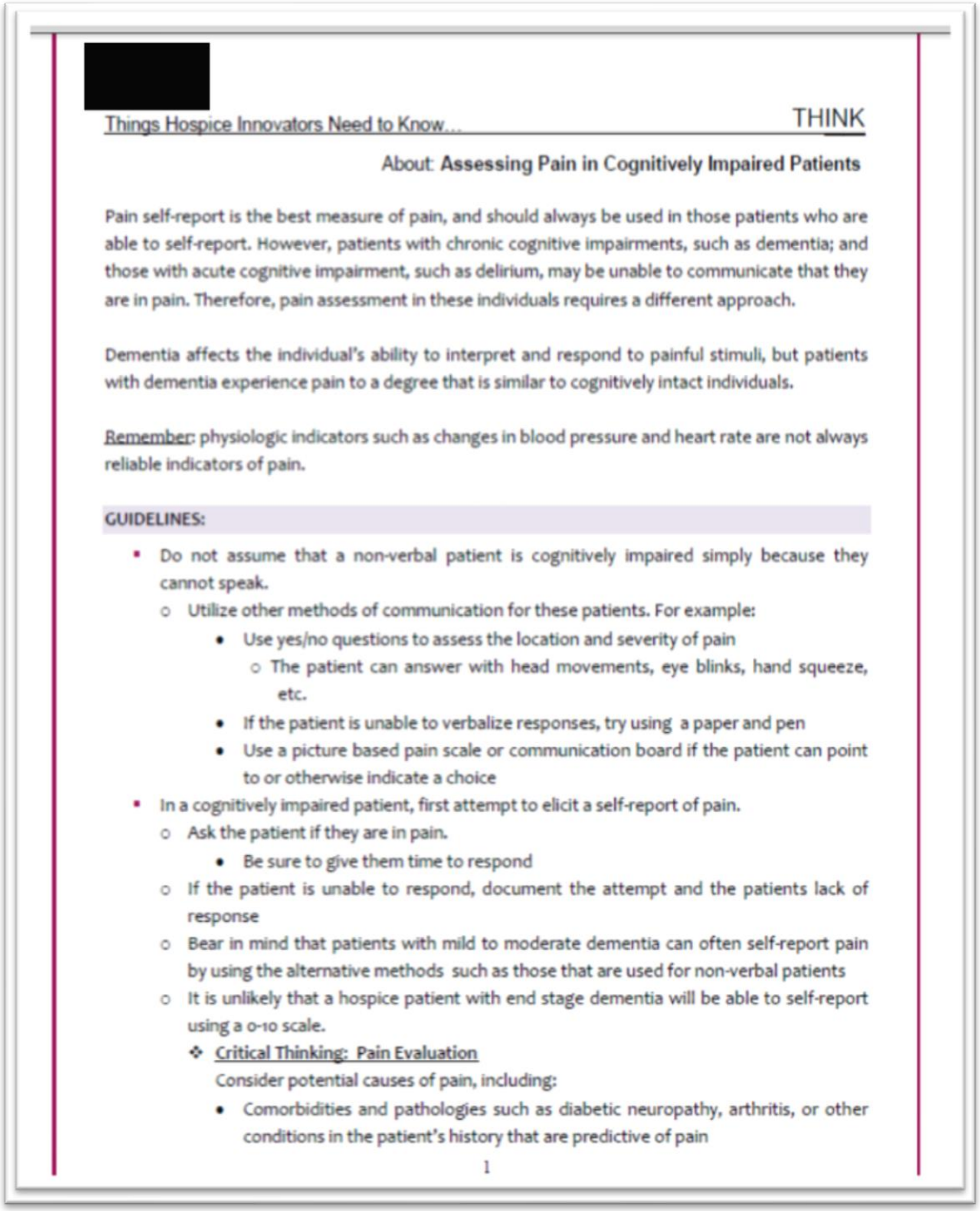
Best Regards,
Lyn M. Peugeot MSN RN

From: Zwakhalen, Sandra (HSR)[redacted]
Sent: Sunday, July 01, 2018 4:33 AM
To: Lyn Peugeot <[redacted]
Cc: l[redacted]
Subject: Re: Request Permission to use and adapt Nursing Home Staff Knowledge and Beliefs questionnaire in nursing home residents with dementia

Dear Lyn, you have my permission, bw Sandra

Appendix G

Assessing Pain in Cognitively Impaired Patients/Pain Assessment in Advanced Dementia Scale



[redacted]

Things Hospice Innovators Need to Know… THINK

About: **Assessing Pain in Cognitively Impaired Patients**

Pain self-report is the best measure of pain, and should always be used in those patients who are able to self-report. However, patients with chronic cognitive impairments, such as dementia; and those with acute cognitive impairment, such as delirium, may be unable to communicate that they are in pain. Therefore, pain assessment in these individuals requires a different approach.

Dementia affects the individual's ability to interpret and respond to painful stimuli, but patients with dementia experience pain to a degree that is similar to cognitively intact individuals.

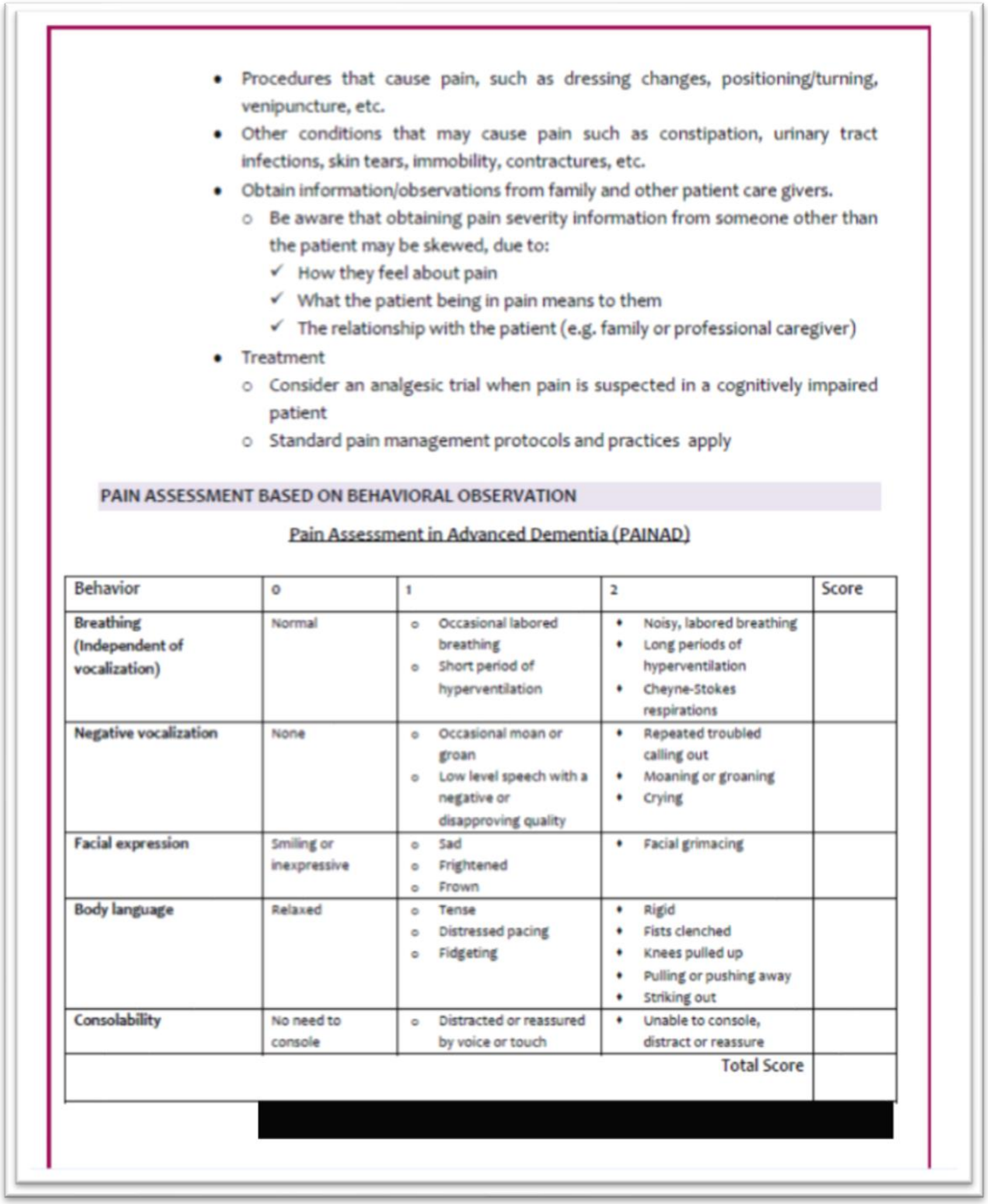
Remember: physiologic indicators such as changes in blood pressure and heart rate are not always reliable indicators of pain.

GUIDELINES:

- Do not assume that a non-verbal patient is cognitively impaired simply because they cannot speak.
    - Utilize other methods of communication for these patients. For example:
        - Use yes/no questions to assess the location and severity of pain
            - The patient can answer with head movements, eye blinks, hand squeeze, etc.
        - If the patient is unable to verbalize responses, try using a paper and pen
        - Use a picture based pain scale or communication board if the patient can point to or otherwise indicate a choice
- In a cognitively impaired patient, first attempt to elicit a self-report of pain.
    - Ask the patient if they are in pain.
        - Be sure to give them time to respond
    - If the patient is unable to respond, document the attempt and the patients lack of response
    - Bear in mind that patients with mild to moderate dementia can often self-report pain by using the alternative methods such as those that are used for non-verbal patients
    - It is unlikely that a hospice patient with end stage dementia will be able to self-report using a 0-10 scale.
        - ❖ Critical Thinking: Pain Evaluation

          Consider potential causes of pain, including:
            - Comorbidities and pathologies such as diabetic neuropathy, arthritis, or other conditions in the patient's history that are predictive of pain

1



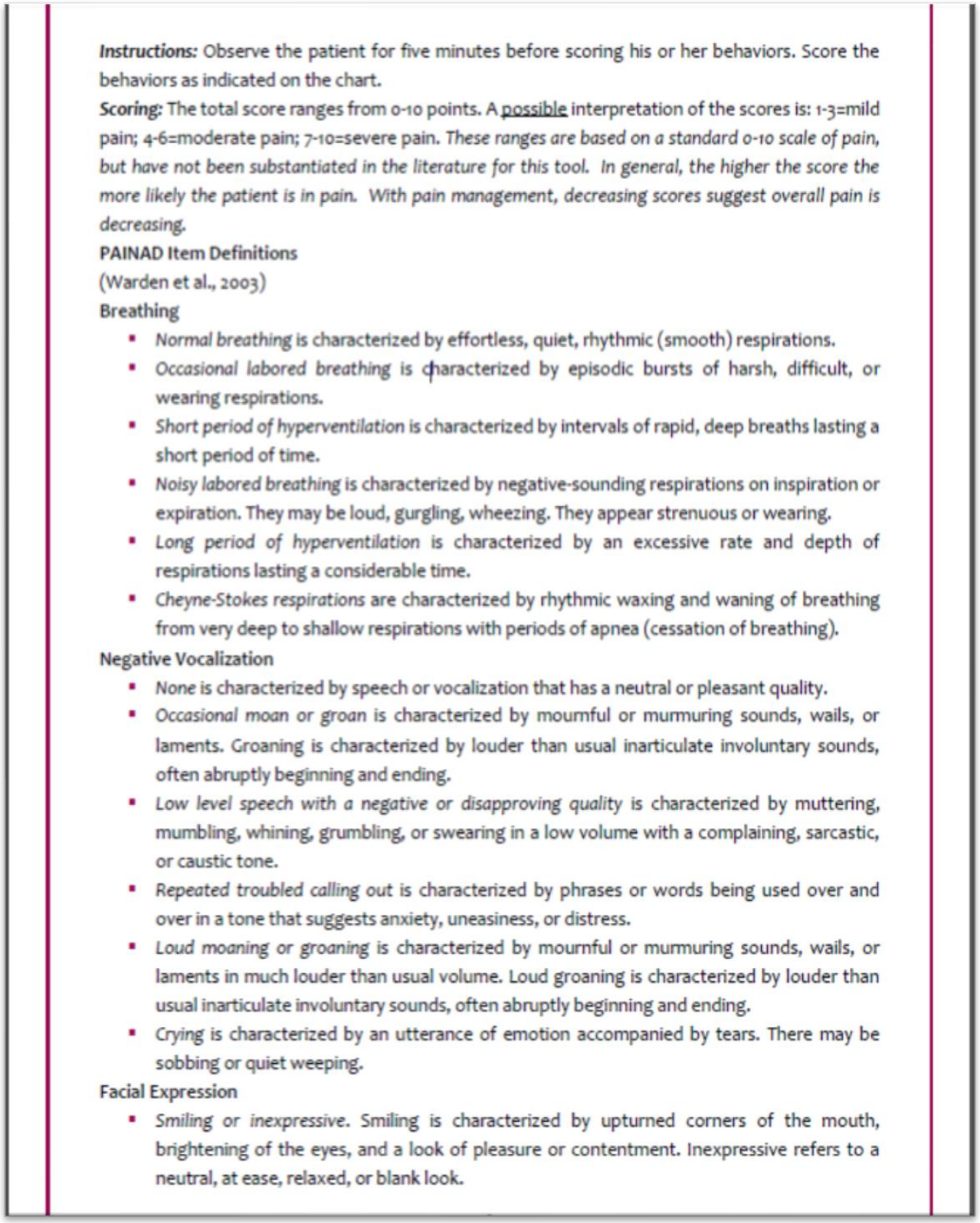
- Procedures that cause pain, such as dressing changes, positioning/turning, venipuncture, etc.
- Other conditions that may cause pain such as constipation, urinary tract infections, skin tears, immobility, contractures, etc.
- Obtain information/observations from family and other patient care givers.
  - Be aware that obtaining pain severity information from someone other than the patient may be skewed, due to:
    - ✓ How they feel about pain
    - ✓ What the patient being in pain means to them
    - ✓ The relationship with the patient (e.g. family or professional caregiver)
- Treatment
  - Consider an analgesic trial when pain is suspected in a cognitively impaired patient
  - Standard pain management protocols and practices apply

PAIN ASSESSMENT BASED ON BEHAVIORAL OBSERVATION

Pain Assessment in Advanced Dementia (PAINAD)

Behavior	0	1	2	Score
Breathing (Independent of vocalization)	Normal	○ Occasional labored breathing ○ Short period of hyperventilation	• Noisy, labored breathing • Long periods of hyperventilation • Cheyne-Stokes respirations	
Negative vocalization	None	○ Occasional moan or groan ○ Low level speech with a negative or disapproving quality	• Repeated troubled calling out • Moaning or groaning • Crying	
Facial expression	Smiling or inexpressive	○ Sad ○ Frightened ○ Frown	• Facial grimacing	
Body language	Relaxed	○ Tense ○ Distressed pacing ○ Fidgeting	• Rigid • Fists clenched • Knees pulled up • Pulling or pushing away • Striking out	
Consolability	No need to console	○ Distracted or reassured by voice or touch	• Unable to console, distract or reassure	
			Total Score	

[redacted]



Instructions: Observe the patient for five minutes before scoring his or her behaviors. Score the behaviors as indicated on the chart.

Scoring: The total score ranges from 0-10 points. A possible interpretation of the scores is: 1-3=mild pain; 4-6=moderate pain; 7-10=severe pain. *These ranges are based on a standard 0-10 scale of pain, but have not been substantiated in the literature for this tool. In general, the higher the score the more likely the patient is in pain. With pain management, decreasing scores suggest overall pain is decreasing.*

PAINAD Item Definitions

(Warden et al., 2003)

Breathing

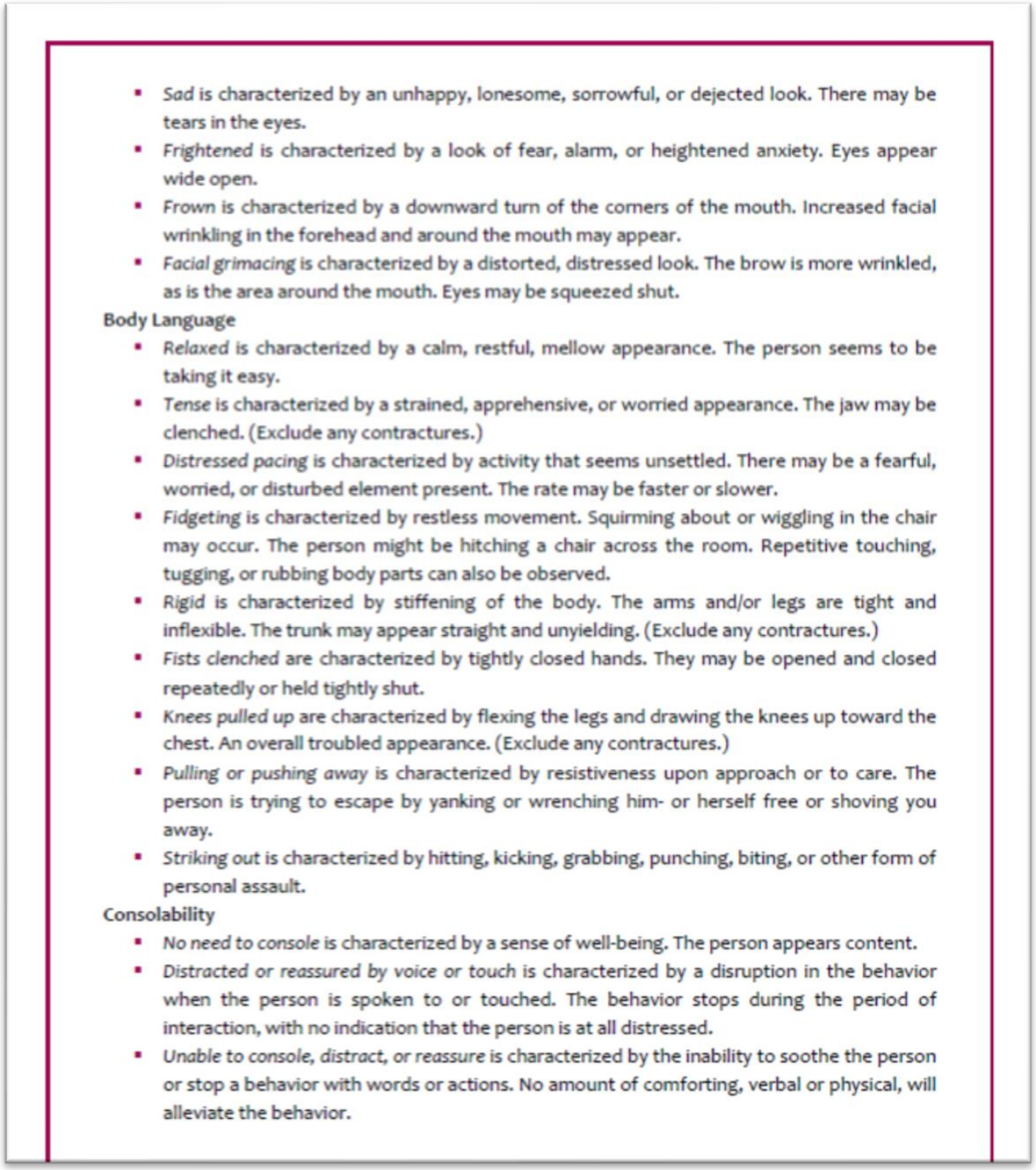
- *Normal breathing* is characterized by effortless, quiet, rhythmic (smooth) respirations.
- *Occasional labored breathing* is characterized by episodic bursts of harsh, difficult, or wearing respirations.
- *Short period of hyperventilation* is characterized by intervals of rapid, deep breaths lasting a short period of time.
- *Noisy labored breathing* is characterized by negative-sounding respirations on inspiration or expiration. They may be loud, gurgling, wheezing. They appear strenuous or wearing.
- *Long period of hyperventilation* is characterized by an excessive rate and depth of respirations lasting a considerable time.
- *Cheyne-Stokes respirations* are characterized by rhythmic waxing and waning of breathing from very deep to shallow respirations with periods of apnea (cessation of breathing).

Negative Vocalization

- *None* is characterized by speech or vocalization that has a neutral or pleasant quality.
- *Occasional moan or groan* is characterized by mournful or murmuring sounds, wails, or laments. Groaning is characterized by louder than usual inarticulate involuntary sounds, often abruptly beginning and ending.
- *Low level speech with a negative or disapproving quality* is characterized by muttering, mumbling, whining, grumbling, or swearing in a low volume with a complaining, sarcastic, or caustic tone.
- *Repeated troubled calling out* is characterized by phrases or words being used over and over in a tone that suggests anxiety, uneasiness, or distress.
- *Loud moaning or groaning* is characterized by mournful or murmuring sounds, wails, or laments in much louder than usual volume. Loud groaning is characterized by louder than usual inarticulate involuntary sounds, often abruptly beginning and ending.
- *Crying* is characterized by an utterance of emotion accompanied by tears. There may be sobbing or quiet weeping.

Facial Expression

- *Smiling or inexpressive*. Smiling is characterized by upturned corners of the mouth, brightening of the eyes, and a look of pleasure or contentment. Inexpressive refers to a neutral, at ease, relaxed, or blank look.



- *Sad* is characterized by an unhappy, lonesome, sorrowful, or dejected look. There may be tears in the eyes.
- *Frightened* is characterized by a look of fear, alarm, or heightened anxiety. Eyes appear wide open.
- *Frown* is characterized by a downward turn of the corners of the mouth. Increased facial wrinkling in the forehead and around the mouth may appear.
- *Facial grimacing* is characterized by a distorted, distressed look. The brow is more wrinkled, as is the area around the mouth. Eyes may be squeezed shut.

Body Language

- *Relaxed* is characterized by a calm, restful, mellow appearance. The person seems to be taking it easy.
- *Tense* is characterized by a strained, apprehensive, or worried appearance. The jaw may be clenched. (Exclude any contractures.)
- *Distressed pacing* is characterized by activity that seems unsettled. There may be a fearful, worried, or disturbed element present. The rate may be faster or slower.
- *Fidgeting* is characterized by restless movement. Squirming about or wiggling in the chair may occur. The person might be hitching a chair across the room. Repetitive touching, tugging, or rubbing body parts can also be observed.
- *Rigid* is characterized by stiffening of the body. The arms and/or legs are tight and inflexible. The trunk may appear straight and unyielding. (Exclude any contractures.)
- *Fists clenched* are characterized by tightly closed hands. They may be opened and closed repeatedly or held tightly shut.
- *Knees pulled up* are characterized by flexing the legs and drawing the knees up toward the chest. An overall troubled appearance. (Exclude any contractures.)
- *Pulling or pushing away* is characterized by resistiveness upon approach or to care. The person is trying to escape by yanking or wrenching him- or herself free or shoving you away.
- *Striking out* is characterized by hitting, kicking, grabbing, punching, biting, or other form of personal assault.

Consolability

- *No need to console* is characterized by a sense of well-being. The person appears content.
- *Distracted or reassured by voice or touch* is characterized by a disruption in the behavior when the person is spoken to or touched. The behavior stops during the period of interaction, with no indication that the person is at all distressed.
- *Unable to console, distract, or reassure* is characterized by the inability to soothe the person or stop a behavior with words or actions. No amount of comforting, verbal or physical, will alleviate the behavior.

Appendix H

SWOT Analysis

Internal	Factors
Strengths (+)	**Weaknesses (-)**
• Positive organizational culture focused on change and improving care. • Compassionate staff that are willing to help patients. • Knowledgeable staff that have the education and experience to provide high-quality patient care.	• High turnover of nurses, poor retention rate. • Inexperienced staff with poor understanding of EOL pain assessment tools. • New leadership at organizational site will have to gain new support for project. • Nurses lack knowledge in understanding quality improvement projects. • Paper charting – documentation is fragmented, data extraction is tedious.
External	**Factors**
Opportunities (+)	**Threats (-)**
• DNP student has relationship with National Black Nurses Organization and National Hospice and Palliative Care Organization will promote Project – dissemination of project. • DNP student has expertise and knowledge to facilitate practice change within the organization. • DNP student can promote collaboration and quality improvement to foster improvements in patient care.	• Nurses may have limited time to perform patient assessments for pain and to engage with the project. • Reimbursement issues may be an issue of concern for implementing practice change. • Challenges may arise for long-term sustainability if the DNP student does not remain with the organization over the long-term.