2019

Increasing Nursing Staff Knowledge of Palliative Care Criteria with a Decision Tree

Juliana Cotton
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Julianna Cotton

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Edna Hull, Committee Chairperson, Nursing Faculty
Dr. Barbara Gross, Committee Member, Nursing Faculty
Dr. Tracy Wright, University Reviewer, Nursing Faculty

The Office of the Provost

Walden University
2019

Abstract

Increasing Nursing Staff Knowledge of Palliative Care Criteria with a Decision Tree

by

Julianna Cotton, MSN, RN

MS, Walden University, 2016

BS, University of Cincinnati, 2012

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2019

Abstract

Palliative care is often not considered during care or is considered too late in the patient's healthcare journey to provide much benefit. The underutilization of palliative care contributes to increased healthcare costs, poor patient outcomes, and decreased patient satisfaction. The practice-focused question guiding this evidence-based practice (EBP) project was whether an education program would increase nursing knowledge regarding palliative care criteria. The program was developed using Rogers's diffusion of innovation model and a literature review to create educational tools and achieve a sustainable EBP change. An evidence-based decision tree was developed and used as a tool for teaching and learning. Other assessment tools included a pretest, posttest, and program evaluation. Twenty staff nurses from the same department participated in the education program. Registered nurses were selected based on the amount of regular face to face patient contact they have with patients. The education program increased knowledge of palliative care by 58% and validated the need for nursing education of palliative care criteria. The program might be beneficial to disseminate to all nurses who have patient contact. The potential for positive social change generated from findings of this project include improving satisfaction, quality of care, and outcomes of the patients and families benefiting from palliative care services.

Increasing Nursing Staff Knowledge of Palliative Care Criteria with a Decision Tree

by

Julianna Cotton, MSN, RN

MS, Walden University, 2016

BS, University of Cincinnati, 2012

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2019

Dedication

To my son Jordan. You will forever be my angel.

Acknowledgments

I cannot express enough gratitude to my committee for their support and encouragement. Dr. Edna Hull, my committee chair; Dr. Barbara Gross; and Dr. Tracy Wright. Thank you so much for the learning opportunities and the knowledge you have shared.

My completion of this project could not have been achieved without the support of the hospice and palliative care team, Dr. George Martinez, Christian Taylor, and Ken Miller. I could not have done this without your guidance and passion.

Finally, to my loving and supportive husband, Isaac. Thank you for always believing in me. Because you think I can do anything, I do also. I could not have achieved this without your love and support. You picked me up on the days I felt like I could not do anymore and encouraged me to keep trying.

Table of Contents

List of Tables

List of Figures

Section 1: Nature of the Project

Introduction

Palliative care has many benefits such as improved quality outcomes, increased patient satisfaction, and decreased costs of healthcare (O'Connor et al., 2017). On average, 66% of healthcare costs occur during the final 6 months of life, equating to billions of dollars spent every year with little value added to the patient's quality of life (Rolden, Bodegom, & Westendorp, 2014). Patients who could benefit from palliative care are often not identified early enough to realize the true impact of palliative care. Thus, the purpose of this doctorate in nursing practice (DNP) project was to determine whether an education program on the utilization of a decision tree on palliative care criteria would increase the knowledge of staff regarding palliative care criteria. In order to promote positive social change, this DNP project provided increased awareness to all nursing staff regarding the availability of palliative care services within the facility and the benefit to the patients, their families and the facility from the use of these services. An integrated palliative care program improves physical and emotional outcomes for patients and their caregivers. Empowering the nursing staff to advocate for this vulnerable population, increases nursing engagement and improves patient outcomes (U.S. Department of Veterans Affairs, 2017). The development of this staff education program resulted in an evidence-based practice (EBP) change at this clinical site, which expanded the knowledge of the nursing staff and will be looked at to positively impact the care of the patient population. Increasing palliative care services to patients who are suffering will transform their healthcare journey.

Problem Statement

The problem that this project was focused on is the lack of knowledge of nursing staff regarding palliative care criteria at this clinical site. There has been a movement to expand palliative care services due to an expected increase in the patient population with chronic health issues (Pinderhughes et al., 2018). By the year 2030, approximately 20% of the population will be over the age of 65, many with significant health issues (Knickman & Snell, 2012). Medical care for patients with chronic illness is often leads to in physical distress and strain on caregivers and support systems. Palliative care is used to relieve suffering and achieve the best possible quality of life for patients who are suffering from chronic illness and their caregivers (National Institute of Nursing Research, 2017). One of the largest healthcare systems in the world, the Department of Veterans Affairs supports the use of palliative care to decrease hospital readmissions and complications (U.S. Department of Veterans Affairs, 2017). Palliative care is the connection between the unmet needs of patients with serious illness and the deliverance of appropriate care that improves the quality of their lives (National Institute of Nursing Research, 2017). Palliative care emphasizes honest communication, symptom assessment integrated with spiritual assessment, and early integration of specialized hospice and palliative care resources as a patient's circumstance evolves (Rangachari & Smith, 2015).

A preliminary review of the literature revealed a knowledge gap in improving the number of palliative care referrals and how this practice can improve healthcare overall while decreasing spending. O'Connor et al. (2017) concluded that patients receiving palliative care services had decreased intensive care unit admissions, decreased

emergency department visits, decreased incidence of hospital readmissions and an overall cost savings of $8,000 per patient. Dailey (2016) also suggested that there is an opportunity for nurses who are knowledgeable about palliative care criteria to assist in educating patients and providers about the benefits of palliative care. Nurses are in an ideal position as advocates for patients and the sustainability of our healthcare system (Dailey, 2016). Timely palliative care referrals are one answer to the current healthcare spending crisis. Palliative care is also an integral component of providing compassionate and high-quality care, improving physical and emotional outcomes for the patient and their caregivers.

Improved assessment tools have been developed to help palliative care providers (National Palliative Care Research Center, 2013). Clinical decision analysis tools have become an accepted method of overcoming uncertainty in a particular area or with a particular subject (Bae, 2014). Using a clinical decision analysis tool in the clinical environment assists with overcoming complexity by giving the user an objective method to assist with evaluating evidence to make a judgment (Bae, 2014).

One type of clinical decision analysis tool is the decision tree. A decision tree is a flowchart that represents decision-making graphics; the symbols within the decision tree assist the clinical staff in navigating the criteria to identify patients who meet palliative care criteria as established through a literature review (Ward, 2015). Sources from the literature review support the benefits of the decision tree as a tool in complex decision-making. For example, Bohara, Laudari, Parajuli, Rupakheti, and Joshi (2018) indicated that a decision tree model was a useful tool in the identification of patients at high risk for

developing pancreatitis. Utilizing clinical metrics as decision points within the decision tree model, clinicians were able to correctly identify these high-risk patients 97.8% of the time (Bohara et al., 2018). This type of model has also been beneficial in the decision-making process for other complex care issues such as pain management (Ward, 2015). The patients who would most benefit from the palliative care plan are the most critically ill, who also account for most of the healthcare dollars that are spent. This disproportionate spending does not improve their quality of care, quality of life, or their outcomes (Meier, 2011). Considering a palliative care plan may improve their quality of care, patient satisfaction, patient outcomes, and decrease the spending of unnecessary healthcare dollars.

When the healthcare team does not have a clear understanding of the palliative care program or whether patients could benefit from the program, appropriate care is delayed for the patient. The cooperation of all members of the interdisciplinary team is required for early identification and referrals for palliative care services (Devi, 2011). A strategy for improving the collaboration between other services and palliative care is the development of a decision tree model that can be used as a tool to assist nurses in identifying those patients who could benefit from palliative care. Therefore, this project used a decision tree in coordination with the education program to increase the number of referrals from primary care and specialty care clinics to the palliative care service team. Despite many advances in palliative care, most patients with life-limiting chronic illness do not receive palliative care services or receive it late in their disease process (Hawley,

2017). Advocating for this vulnerable population requires an education program for nursing staff to gain knowledge regarding palliative care criteria.

Purpose

There is a lack of knowledge regarding palliative care and when it is appropriate to make referrals. The purpose of this DNP project was to develop an education program that provided increased knowledge to the nursing staff regarding palliative care criteria. An evidence-based decision tree was developed and used as a tool for teaching and learning as well as how to objectively guide the decision-making process. The practice-focused question guiding this DNP project was "Will an education program for acute care staff on the utilization of a decision tree on palliative care criteria increase the knowledge of staff regarding the identification of these patients as evidenced by documented improvement in the scores attained on a posteducation exam when compared to the preeducation exam?

This project was completed within the medical–surgical unit of a hospital located in Southeast Kansas. The facility has multiple outpatient clinical areas and a palliative care department. Palliative care patients are located at times on the acute care units, in the ambulatory clinics, and frequently on the hospice unit located in the community living center. Education was trialed with the nursing staff on this 30-bed acute care medical-surgical unit. Nurses were targeted at this facility for a variety of reasons. Nurses spend more time talking with patients, developing relationships, and understanding of the patient's overall health goals. Nurses are also empowered to place palliative care consults as a part of their own practice at this clinical site. Based on the feedback from the

participants of this education program, it was found to be effective and valuable. This educational component will be included in new employee orientation for all newly hired nursing staff and additional sessions will be offered to current nursing staff. All current nursing staff will be educated on the use of the decision tree.

Using an EBP model, this DNP project addressed the gap in practice by increasing staff knowledge regarding palliative care criteria. The predicted long-term benefits of this project are increased appropriate referrals to the palliative care program, which would result in increased quality of care and increased patient satisfaction. The National Comprehensive Cancer Network recommends the early integration of palliative care services as one method to improve quality care and symptom management (Glare, 2013). This project followed the recommendations established in the Walden University Manual for Staff Education as the guide for implementing a staff education program. The project included two phases. The first phase was the development of a decision tree with the input of the hospice and palliative care providers along with an in-depth review of the literature to aid in establishing palliative care criteria. The second phase included a staff education program to enhance participant knowledge of palliative care criteria and the identification of potential patients. The following steps were utilized in carrying out the DNP project: planning, implementation, and evaluation. I obtained permission to carry out the project from Walden University's Institutional Review Board (IRB), the medical center director for the clinical site, the nursing education department, and the palliative care unit of the organization.

After reviewing sources of evidence to identify the appropriate palliative care criteria, I worked collaboratively with the hospice and palliative care providers to develop an appropriate algorithm tool. I used research and guidelines provided by organizational resources such as the National Hospice and Palliative Care Organization (https://www.nhpco.org/palliativecare), End of Life Nursing Education Consortium (n.d.), and the Hospice Nurses Association (https://advancingexpertcare.org). Staff education was planned as a continuing education program with the long-term objective being to incorporate this topic in the staff orientation program. The education program was developed based on the curriculum established by the End of Life Nursing Education Consortium. I spoke with the nurse manager of the unit to plan for this program to teach nurses how to use the decision tree. A pre and posteducation examination was completed to evaluate the knowledge gained as a result of the education program. I obtained permission for continuing education units (CEU) to be provided and adding this topic to the orientation plan for all nurses in the facility is in progress. Every nurse caring for a patient can assess their patient for appropriateness of palliative care services at some point. I worked with the education department to include this topic in the annual competencies for all nurses. A postprogram survey was provided to evaluate the initial effectiveness of the education program. In summary, this project involved implementing an EBP decision tree to increase the nursing staff's knowledge of palliative care criteria.

Nature of the Doctoral Project

The sources of evidence that were utilized for the purpose of this DNP project consisted of primary and secondary sources. Primary sources included original research

and use of governmental agency websites, such as the Department of Veterans Affairs. Secondary sources included reviews of literature accessed through CINAHL, PubMed, Medline, nursing textbooks, organizational websites, journal articles published in peer-reviewed publications, published evidence-based projects, dissertations, and clinical-based journals, such as EBSCO online journal databases. Other sources included staff demographic data, Veterans Affairs data sources, Google Scholar, and consultation with the Walden University Library service. Following approval of the project from the practice setting site and Walden University IRB, data to answer the practice-focused question were collected using pre and posteducation test results. The education test data were reviewed for its objective measure of increased knowledge regarding palliative care criteria based on selected questions. A posteducation survey was utilized to evaluate the perceived increase in knowledge and satisfaction with the overall educational program as well as any necessary changes in the content to improve its effectiveness. The data collected were evaluated with the findings reported in Section 4 of this project.

With the rising costs of health care and focus on increased quality and patient satisfaction, an educational program to increase staff knowledge regarding palliative care criteria as well as an objective tool for the identification of these patients is a meaningful gap in nursing practice. The purpose of this DNP project was to determine whether an educational program would increase staff knowledge regarding the criteria for palliative care services.

Significance

The stakeholders who were considered in this DNP project consisted of registered nurses and the palliative care team members. These stakeholders were chosen due to their commitment to the DNP practice site and their common interest in the delivery of quality care to the healthcare consumer. The stakeholders contributed their own professional input during the completion of the project and the knowledge they have gained was assessed during the completion of the posteducation exam. The stakeholders will benefit by staff having an increased knowledge of criteria for palliative care services, which could lead to increased palliative care referrals, improved patient outcomes, and improved patient satisfaction. As a result of this education program along with development of an evidence-based decision tree, nurses reported feeling confident in their knowledge and empowered to initiate conversations with the care team. This project offers contributions to nursing practice by increasing staff knowledge of palliative care criteria and producing a tool for the staff to use to objectively identify patients who are appropriate for a palliative care referral. The long-term benefit of this project has yet to be determined.

The ability to replicate this process in other nursing departments is achievable and beneficial. Currently, there is a knowledge gap in palliative care criteria, which results in the delay of palliative care referrals across the United States (Achora & Labrague, 2019). However, effective teaching strategies increases the knowledge of the palliative care team (Green & Markaki, 2018). For example, a decision tree model has been effective in increasing the knowledge of staff regarding postoperative care (Ward, 2015). The

decision tree model utilizes current EBP in the identification of patients that might benefit from a palliative care referral. In this project, while utilizing this evidence-based decision tree model, an increase in the knowledge of palliative care criteria has been validated, making this model an asset for all nurses in the facility.

This DNP project will impact positive social change by improving the satisfaction, quality of care, and outcomes of the patient population that could benefit from palliative care services. This project has provided increased awareness to nursing staff who participated in the education program regarding the availability and benefit of palliative care services within the facility. The objective of this project was to develop and implement an education program for the nursing staff regarding palliative care through implementation of a decision tree, which assists in the identification of palliative care appropriate patients. An integrated palliative care program improves physical and emotional outcomes for the patient and their caregivers. Empowering the nursing staff to advocate for this vulnerable population increases nursing engagement and improves patient outcomes. Nurses play an important role in the care of the patient because of the amount of time spent with the patient and the roles they play in the overall care (Achora & Labrague, 2019). The development of this staff education program resulted in an EBP change at the project site, which when fully implemented will expand the knowledge of the nurses and positively impact the care of patients. Increasing palliative care services to patients who are suffering will transform their healthcare journey and overall delivery of their care.

Summary

Despite the benefits of palliative care especially with timely referrals, there is still significant underutilization of this service across the United States. The lack of integration of palliative care into the care of chronically ill patients leads to an increased use of critical care services, increased emergency department visits, an increased incidence of hospital readmissions, and an overall increase of millions of health care dollars spent every year unnecessarily (O'Connor et al., 2017). In Section 2, multiple subsections will provide important information and findings related to education and palliative care. These subsections include concepts, models, and theories, relevance of the project to nursing practice, local background and context, role of the DNP student, and a chapter summary.

Section 2: Background and Context

Introduction

A lack of integrating palliative care is a widespread issue in healthcare. The lack of knowledge of palliative care criteria results in delayed and missed referral opportunities. Palliative care, when initiated prior to the final weeks of life, has a positive impact on symptom management and quality of life. An interview of the palliative care providers and a sample of nurses from the project facility identified a gap in the knowledge of nurses regarding palliative care and the patient population that could benefit from the services. Because nurses are often in the position to identify the patients who might benefit from these services, this DNP project was created to increase knowledge regarding palliative care using a clinical decision tree. The practice-focused question was “Will an education program for acute care staff on the utilization of a decision tree on palliative care criteria increase the knowledge of staff regarding the identification of these patients as evidenced by documented improvement in the scores attained on a posteducation test when compared to the preeducation test?” Using evidence-based literature as a guide, in collaboration with staff I developed and implemented a decision tree model and an education plan to increase nursing knowledge regarding palliative care criteria. This section begins with identification and discussion of the model guiding the DNP project. Additionally, Section 2 includes literature informing the topic, relevance of the project, background information, and the role of the DNP student.

Concepts, Models, and Theories

Adoption and diffusion of new knowledge is required to make effective practice changes. To support this needed education program, an EBP model must be utilized to support the translation of evidence (Schaeffer, Sandau, & Diedrick, 2012). The practice model that guided this DNP project is Rogers's diffusion of innovation model. Rogers's diffusion of innovation model has been described as one of the leading theories regarding the acceptance of new ideas and practices (Aizstrauta et al., 2017). Rogers's diffusion of innovation model was first developed by Everett Rogers in 1962 but is still relevant in nursing practice. The adoption of EBP changes is essential in clinical care, which Rogers's model addresses with the necessary steps for successful adoption of new practices and sustainment of the changes (Pashaeypoor, Ashktorab, Rassouli, & Majd, 2017).

The evolution of healthcare requires an environment that constantly adapts to changing practices, and Rogers's model provides a foundation for increasing acceptance of changing practices. The model delineates a pathway to the adoption of change, which includes the concepts of innovation, communication, time, and social systems (Sahin, 2006). For example, innovation is necessary in providing consistent high-quality care (Sahin, 2006). Rogers defined innovation as "an idea, practice, or project that is perceived as new by an individual or other unit of adoption" (as cited in Sahin, 2006, p. 14). The implementation of EBP throughout healthcare will continue to grow, and nurses will need to be supported during these transitions in practice.

The premise of the diffusion of innovations model is that there are stages that individuals move through to pass from innovation to decision: knowledge, persuasion, decision, implementation, and confirmation (Sahin, 2006). Practice changes are much more successful when the structure of Rogers's model is utilized as it incorporates the five essential stages of learning (Pashaeypoor et al., 2017). The knowledge stage is when the individual or group learns of the innovation and begins seeking clarification of the principles of the innovation. During the persuasion stage, individuals are influenced by their colleagues, reducing uncertainty and increasing credibility in the innovation. Often subjective opinions are more influential than the science of the innovation during this stage (Sahin, 2006). At the decision stage, acceptance of the change and planning for future use occurs. At the implementation stage the innovation is put into practice. Following successful adoption of the innovation during the implementation stage, the confirmation stage begins. During confirmation, implementation of the innovation is evaluated. Based on the overall support of the innovation, it can be adopted or discontinued at this final stage (Sahin, 2006).

Rogers's model is used often in educational programs in which the educational intervention is the innovation. EBP changes provide the best route to improvement of the health care delivery system (Pashaeypoor et al., 2017), making it important to develop education guided by models that can predict the factors influencing the adoption of best practices. Rogers's diffusion of innovation model (see Figure 1) provides valuable insights as to why some practice changes are adopted and others are not. The model includes all the necessary steps to facilitate adoption of strong practices (Pashaeypoor et

al., 2017). Rogers's model has been applied to the implementation of new practices in different clinical settings to answer the question of how and why new practices become accepted.

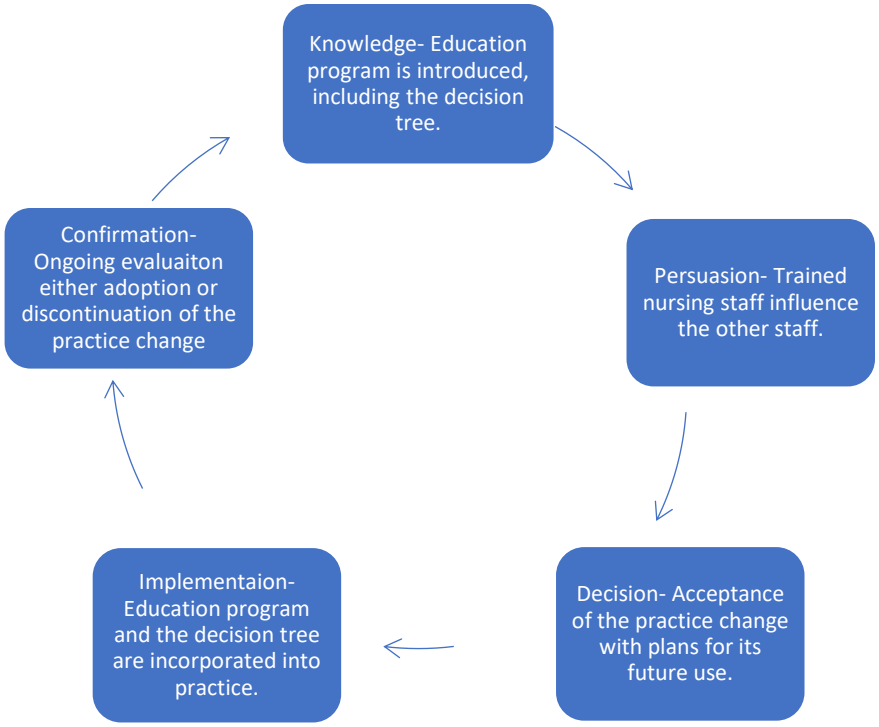


Figure 1. Schematic of the phases of Rogers's diffusion of innovation model. See Sahin (2010). This represents the individual or group process of adoption of new ideas.

Relevance to Nursing Practice

A lack of palliative care knowledge among nurses has a direct impact on patient care, patient outcomes, and patient satisfaction. When the healthcare team does not have a clear understanding of the palliative care program or whether patients could benefit from the program, appropriate care is delayed for the patient. The cooperation of all members of the interdisciplinary team is required for early identification and referrals for palliative care services (Devi, 2011). Patients in need of palliative care are challenged by their disease process (Devi, 2011). If these patients can be identified early, the palliative care team can provide psychosocial support and care that assists in the relief of some of the symptoms that cause suffering. Early identification of the patients that meet the palliative care criteria and their subsequent timely referral to palliative care and hospice services can improve overall patient satisfaction and outcomes despite the serious health conditions of these patients. Despite many advances in the specialty area of palliative care, most patients with life-limiting chronic illness do not receive palliative care services at all or receive palliative care extremely late in their disease process (Hawley, 2017). Advocating for this vulnerable population requires an educational program provided to nurses on palliative care criteria.

The use of a decision tree in increasing staff knowledge of palliative care criteria was identified as an area that could benefit from the implementation of this EBP project. Clinical decision tools have been shown to improve the nurse's ability to evaluate objective evidence and make a judgment (Bae, 2014). The use of the decision tree, as a practice change, may significantly increase the number of referrals from primary care and

specialty care clinics to the palliative care service team. Sources from the literature review support the benefits of the decision tree as a tool in complex decision-making. For example, Bohara et al. (2018) suggested that a decision tree model was an easy and useful tool in the identification of patients at high risk for developing pancreatitis. Utilizing clinical metrics as decision points within the decision tree model, clinicians were able to correctly identify these high-risk patients 97.8% of the time (Bohara et al., 2018).

Currently there is a knowledge gap in the competencies necessary for the initiation of palliative care referrals. There have been several studies that have evaluated the overall perceived competence of nurses in palliative care. In a study by Price et al. (2017), nurses reported a lack of overall confidence in their palliative care competence despite the realization that palliative care provides value to both patients and families. Nurses acknowledge a lack of confidence in identifying those patients that might benefit from palliative services as well as feeling comfortable in initiating the conversations regarding these services. In an integrative review by Kirkpatrick, Cantrell, and Smeltzer (2017), 19 studies were reviewed. Some of the common themes were recognition of the value of palliative care, knowledge gaps in palliative care criteria, and a lack of confidence in using palliative care competencies.

In summary, the literature reviewed demonstrated a consistent lack of knowledge reported by nurses related to palliative care criteria. This was supported by nurses who reported a lack of confidence when it relates to palliative care and that formal education programs do not incorporate palliative care into the curriculum. The literature is clear

related to the benefits of palliative care and the impact on patient outcomes when it is incorporated into patient care. Nurses are often faced with patient situations which require complex decision-making. Clinical decision tools such as decision tree models have been found to be valuable tools for clinical staff when making complex decisions. The addition of palliative care education to the projects site's curriculum for nursing orientation is one method of closing this gap.

Local Background and Context

The DNP project setting was a medical center that provides inpatient and ambulatory services to about 30,000 enrolled patients in southeast Kansas. The facility provides hospice and palliative care services. The local support for this project was depicted by the recent directives and initiatives to increase palliative care services throughout the facility. The Care Assessment Needs (CAN) score was utilized at this facility to identify high risk patients. The CAN score was developed by the Veterans Affairs as an indication of frailty. It is automatically generated from the medical record based on patient specific data that includes information on medical conditions, number of diagnoses, vital signs, medications, laboratory tests, use of care coordination resources and overall Veterans Affairs healthcare consumption (Ruiz et. al, 2018). A study of over four million patients receiving primary care revealed that a CAN score of 95 or higher was a good predictor of hospitalization and death within one year (Ruiz et. al, 2018). With thousands of patients being identified by this method, it is imperative that nurses have a good understanding of palliative care to make appropriate referrals. The clinical site has an identified knowledge gap in a clear process for the identification of patients

who will benefit from palliative care which made this DNP project essential for this facility and its desire to improve care to these patients.

The southeastern area in Kansas discussed in this project includes the largest and most densely populated city in Kansas with a large portion of the area being very rural. According to the American Community Survey completed in 2017, the demographics of the city consist of the following: population of 390,591 (Whites 316,379, African American 39,059, Asian 15,624 and other 19,529), median age 35.9, and median household income $48,982. There is a significant disparity between the household income of men ($34,534) and women ($21,763) The poverty rate is 16.9% which is increased slightly from 15% when compared to the 2016 survey (U.S. Census Bureau, 2017). African Americans in this region comprise the largest percentage of those under the poverty level despite making up only 10% of the total population. Women ages 18-64 years are also more likely to be living in poverty in this community. In this area, 13.1% of the population have no health insurance with men ages 25-54 comprising the largest part of this population (U.S. Census Bureau, 2017). There are 45,000 veterans living in this area along with two large military installations in proximity. Veterans and military personnel historically suffer from significant chronic medical issues (Kansas Health Matters, 2019). In this region, 12.2% of the population suffer from a medical disability. According to Kansas Health Matters (2019), 16.7% of the population in this area report that they have fair to poor self-perceived health status. There is a large incidence of chronic respiratory conditions, diabetes, and cancer (Kansas Health Matters, 2019).

In summary, this southeastern area is a more densely populated area than most in the state with a large population of military personnel and veterans. This contributes to a higher incidence of chronic health disease and perceived poor health. These demographics provided an excellent opportunity to utilize palliative care services to assist in the management of chronic health conditions. Implementing an EBP education program to increase knowledge of palliative care can improve health outcomes for patients in this region by providing tools for the nursing staff to be proactive regarding their use of palliative care in the management of chronic health conditions.

Definitions of Terms

Palliative care: A philosophy of providing care that focuses on the prevention and relief of suffering through early identification, assessment, and intervention while recognizing the patient's physical, psychosocial, and spiritual needs (WHO, 2019)

Palliative care criteria: The specific decision points which lead a nurse to consider initiating a discussion with the care teams regarding palliative care services for a patient.

Veterans: A term that specifically refers to any individual that has served in any branch of the armed services for a specified period (U.S. Department of Veterans Affairs, 2018).

Role of the DNP Student

My professional background as a nurse and as a nursing leader provided me with the knowledge and motivation to improve health outcomes. As a registered nurse for 22

years, I have been dedicated to improving the care for my patients. I have been a life-long learner and recognize the value of education in changing processes.

The relationship I have to this doctoral project was an impassioned investment into the mission of my facility to care for our patients to the best of my ability. As a nursing leader, it is my responsibility to put in place processes which allow the nursing staff to develop themselves and be successful. I recognize the responsibility of nursing to advocate for our patients and assist in the delivery of effective healthcare that meets the needs of the patient while respecting their desires and decisions. I strongly believe that increasing the knowledge of the nursing staff regarding palliative care will empower them to proactively identify patients who would benefit from this care. Expanding palliative care referrals at this facility will reduce medical costs of care, improve patient satisfaction, and enhance quality outcomes.

My role within this DNP project was the developer. After completing my literature review, I, in collaboration with nursing staff developed a decision tree model for the nursing staff to utilize in the identification of patients who might benefit from palliative care. Additionally, I developed an educational program, requested continuing education credit, and finally, facilitated the education for staff in coordination with the education department and the nurse managers. I was actively involved in driving this project.

My primary motivation for undertaking this educational program was to improve the nursing knowledge of palliative care. I believe this could result in improved care for patients, reduced overall health care costs, and improved patient satisfaction. I expected

that the results of this educational program would produce a documented increase in the knowledge level of staff nurses regarding palliative care. A potential unintended outcome of this project could be the recognized value of using decision trees in other complex decision-making activities at this facility. I was aware of potential biases when developing a new initiative. While considering research within my own facility, I recognized that I must consider staff's hesitancy to self-disclose their weaknesses, difficulty being honest, and the potential for professional jealousy amongst my peers. I discussed potential concerns with my committee chair. No additional issues were identified during the course of the project.

In summary, the goal of this DNP project was to increase the knowledge of palliative care among acute care staff to improve the ability of the nursing staff to identify patients who might benefit from palliative care services and facilitate the referral process. Early palliative care referrals improve patient outcomes, reduce healthcare costs, and increase patient satisfaction. The practice focused questions guiding this DNP project was "Will an education program for acute care staff on the utilization of a decision tree on palliative care criteria increase the knowledge of staff regarding the identification of these patients as evidenced by documented improvement in the scores attained on a posteducation test when compared to the preeducation test?" To achieve the goal of this project, a well-structured education program was imperative.

Section 3 will focus on the collection and analysis of the data for the DNP project. The following subsections will be included: the introduction, practice-focused question,

sources of evidence including analysis and synthesis of the evidence, and in conclusion, the summary.

Section 3: Collection and Analysis of Evidence

Introduction

Although research on the positive impact of palliative care has grown in recent years, palliative care is still underused in practice (Hawley, 2017). The literature indicates that there is a knowledge gap regarding palliative care among nurses (Kirkpatrick et al., 2017). When palliative care is not implemented appropriately, it results in decreased quality outcomes, decreased patient satisfaction, and increased healthcare costs (O'Connor et al., 2017). I identified a lack of nursing knowledge regarding palliative care criteria—the criteria that would lead a nurse to refer a patient to palliative care—and palliative care services at the project site. Therefore, I developed an evidence-based, nursing led education program that incorporates a decision tree to increase nursing knowledge of palliative care criteria. The literature indicates the value of clinical decision tools such as the decision tree in navigating complex healthcare circumstances (Bae, 2014). Patients from many departments could benefit from palliative care services within the facility, but this project was focused on the acute care areas of the facility. Section 3 of the project highlights the collection and analysis of the evidence used to develop the DNP project. This section will describe the practice-focused question, sources of evidence, data analysis and synthesis, and the section summary.

Practice-Focused Question

In talking with staff regarding the development of this project, I discovered a lack of understanding of palliative care along with a lack of awareness of the services available to patients. There are thousands of patients currently identified as high risk on

the CAN report, but few referrals to palliative care are generated every month as a result. The lack of referrals prevents patients from being able to benefit from palliative care and negatively impacts the outcomes for the patient and the facility. Thus, the purpose of this project was to address the gap in knowledge of nurses regarding palliative care and develop a decision tree to assist in their understanding of the criteria. The practice-focused question guiding this DNP project was "Will an education program for acute care staff on the utilization of a decision tree on palliative care criteria increase the knowledge of staff regarding the identification of these patients as evidenced by documented improvement in the scores attained on a posteducation test when compared to the preeducation test?"

The appropriate utilization of palliative care services has been shown to improve quality outcomes and decrease unnecessary healthcare costs and patient suffering. A lack of palliative care knowledge among nurses has a direct impact on patient care, patient outcomes, and patient satisfaction. When the healthcare team does not have a clear understanding of the palliative care program or whether patients could benefit from the program, appropriate care is delayed for the patient. The cooperation of all members of the interdisciplinary team is required for early identification and referrals for palliative care services (Devi, 2011).

Sources of Evidence

The sources of evidence included primary and secondary sources, but mostly secondary sources were used. To answer the practice-focused question, the following sources and databases were searched: EBSCO online journal databases, OVID, Medline,

CINAHL, and PubMed databases; governmental agency websites, organizational websites, published doctorate projects and dissertations, and other articles published in peer-reviewed journals. Other sources utilized during this project included Google Scholar, Walden University library service, U.S. Census Bureau, and course textbooks. Using these databases, the following key search terms were used: *palliative care, nursing knowledge, nursing education, patient outcomes, and decision tree. Additional key phrases included in the search were benefits of palliative care, using a decision tree to improve knowledge, nursing knowledge of palliative care*, and *improving the use of palliative care*. The review was limited to sources from 2010 to present, with most of the literature being published within the past 5 years. This focused timeframe provided the most current and relevant evidence for meeting the purpose of the project and answering the practice-focused question.

The literature indicated that there are multiple benefits to integrating palliative care into the plan of care for patients with a documented need. However, there is a gap in practice with many patients either never being referred to palliative care or being referred late in the course of their care (Hawley, 2017). For example, Price et al. (2017) found that nurses had a lack of confidence in identifying patients who might benefit from palliative care services as well as lack of comfort in initiating the conversations regarding these services. Kirkpatrick et al. (2017) also suggested that there are knowledge gaps in palliative care criteria and a lack of confidence in using palliative care competencies. In a study as recent as 2017, nurses were still reporting feeling under prepared through their formal education programs to competently participate in palliative care (Lippe, Volker,

Jones, & Carter). This gap in nursing knowledge regarding palliative care was consistent with the culture of the project site.

Evidence gathered through the searches of the literature directly impacted the DNP project. This evidence supported the development of the educational program as well as the development of a decision tree. For example, research has indicated that decision tree models can improve critical thinking such as increasing nurses' ability to identify patients at an increased risk for developing pancreatitis (Bohara et al., 2018). This model uses several decision-making points and clinical metrics to correctly identify high-risk patients 97.8% of the time. The educational program and the decision tree did increase nursing knowledge of palliative care. Following approval by Walden University IRB and the organization's education department, staff knowledge was evaluated through an examination before and after the education program. Staff perceptions of the program were collected using a program evaluation tool following the completion of this education program.

A review of evidence-based research information supported the need for exploration of this DNP project practice-focused question. The evidence supported the development of an educational program to increase nursing knowledge of palliative care and implementation of a decision tree to improve the decision-making process related to complex care. Rogers's diffusion of innovation model was also used to help answer the practice-focused question. The plan for carrying out this project is described in terms of participants, procedures, and protections.

Participants

The participants in this project included the registered nurses on the medical-surgical unit within the project site. The unit has a total of 30 registered nurses. This unit was selected to pilot the program because the nurses have contact with over 90% of the patients admitted to the facility, providing the largest opportunity for these nurses as a function of number of patients seen.

Procedures

The procedures for this DNP project will be described in this section terms of knowledge, persuasion, decision, implementation, and confirmation, which was guided by Rogers's diffusion of innovation model. Prior to the knowledge stage, an educational program was developed in collaboration with the education department, including the application for CEUs to increase participation. I developed a teaching plan and made the necessary arrangements, including the development of a PowerPoint, room arrangements, and obtaining all necessary printed materials. A flyer (Appendix E) was posted on the medical–surgical bulletin board and e-mailed to registered nurses who would initially be participating in the program following IRB and department chief approval. Further, a decision tree model (Appendix B) was developed in collaboration with palliative care staff based on a literature review to provide all nurses a tool that can be utilized to assist in the decision-making process for palliative care referral. The decision tree was reviewed by doctorate-prepared healthcare providers with knowledge of palliative care at the project site to evaluate its validity. The decision tree was printed to be utilized by the nurses during the education program. Lastly, based on the literature, the End of Life

Nursing Education Consortium, and subject matter experts at the clinical site, a pre and posteducation test (Appendix A and C) was developed to evaluate nurses' knowledge regarding palliative care. All materials were reviewed prior to distribution by the palliative care team members and the education department chair of the project site.

During the knowledge stage, the educational program was presented to the nursing staff on the medical–surgical unit. There will be future sessions planned to provide adequate offerings for all registered nurses to be educated. The educational session started with a preeducation exam (see Appendix A), included the educational program, explanation of the decision tree (see Appendix B), and a posteducation exam (see Appendix C). At the conclusion of the educational program, a survey was completed by the attendees evaluating the content and effectiveness of the program (see Appendix D).

During the persuasion stage staff from the medical-surgical floor influenced each other and nurses from other areas who had not yet received the education program. Now that the program has been found to be effective, it will be offered to all current staff and will be included in the orientation plan for all nurses upon hire. I received both written and verbal administrative authorization from the medical center director and the education department to integrate this program into hospital orientation following a successful pilot. The staff who participated in the education program will have their decision tree as a tool to persuade other staff regarding its value.

During the decision stage, based on the posteducation exams, the educational program was adopted, and full implementation was planned. During the implementation,

the educational program was integrated into practice and adopted as an essential component of nursing orientation. The confirmation phase began at implementation and is ongoing. There will be constant evaluation of the value of the education program using the posteducation examination and periodic evaluation of its continued value and relevance. The comparison of the pre and posteducation test data were analyzed and utilized to answer the practice-focused question "Will an education program for acute care staff on the utilization of a decision tree on palliative care criteria increase the knowledge of staff regarding the identification of these patients as evidenced by documented improvement in the scores attained on a posteducation test when compared to the preeducation test?"

Protections

It is important for all evidence-based projects to be conducted with ethical awareness. This staff educational program was provided to nursing staff members. Participants were informed about the educational program using a flyer. Participation was voluntary and offered during regular work hours for the nursing staff. There was no patient involvement in this project. Form A was submitted to Walden University's IRB for approval based on the staff educational model following committee approval of the proposal. A letter of cooperation from the clinical facility was obtained in support of this project. The content of this project led to enhanced practice in this facility and this supports the value of project completion (Hull, 2017). All staff surveys were anonymous. The pre and posttest did not include the participant names. The attendance log and CEUs are maintained by the education department at the project site according to the directive

for document maintenance. These documents will be stored for a period of three years and then be appropriately destroyed. The DNP student analyzed the exam data and survey input for inclusion in the project results.

Analysis and Synthesis

I used a pre and posteducation examination to collect the data for this DNP project. Although the educational program was not mandatory for staff on the selected unit, an 80% participation rate was achieved. Prior to the program, a preeducation exam was completed by all participants and scored to provide a baseline. The exam consisted of questions developed to assess the overall knowledge of the participants prior to the educational program. The exam was comprised of a combination of test questions based on the literature. Upon completion of the educational program, a posteducation examination was completed and scored to assess the participant's acquired knowledge of palliative care as compared to the preeducation exam scores. Pretest and posttest scores were calculated and reported in narrative and table format. Descriptive statistics were utilized in the form of mean, mode and median for reporting test scores. At the completion of the education program, I documented an increase in the knowledge of palliative care by all participants. The education department maintained all attendance logs (see Appendix F) and CEUs to maintain the integrity of all protected personal information. A representative from the education department assisted in the evaluation of the exam scores to provide an un-biased evaluation. A posteducation evaluation survey was also completed by all participants as required for the CEU process (see Appendix D). This feedback will be considered in future educational offerings. Upon final evaluation

and analysis of the project, findings will be distributed to the project site and reported in section four of the project.

Summary

A review of the literature validated a lack of knowledge regarding palliative care that contributes to decreased referrals to palliative care resulting in poor patient outcomes, decreased patient satisfaction, and higher healthcare costs. Nurses across the nation report a lack of overall confidence in their palliative care competence despite the realization that palliative care provides value to both patients and families (Price, 2017). Specifically, nurses acknowledge a lack of confidence in identifying those patients that might benefit from palliative care services as well as comfort in initiating the conversations regarding these services (Kirkpatrick et al., 2017). The purpose of this DNP project was to determine whether an educational program can increase the knowledge of nursing staff regarding palliative care. Currently this DNP site has identified thousands of patients that might be appropriate for palliative care with very few referrals. Following IRB approval, development and implementation of the educational program at the DNP project site was implemented and the outcome was evaluated.

Section 4 of the project will elaborate on the data collected and analyzed in section three in order to report the actual project findings and offer recommendations for the DNP project. The following subsections will be included in section four: the introduction, findings and implications, recommendations, strength and limitations of the project, and finally the chapter summary.

Section 4: Findings and Recommendations

Introduction

A clear understanding of palliative care services by the nurses was an identified gap in nursing knowledge at the project site. Decreased quality outcomes, decreased patient satisfaction, and increased healthcare costs are the result of palliative care not being implemented appropriately (O'Connor et al., 2017). The practice-focused question guiding this DNP project was "Will an education program for acute care staff on the utilization of a decision tree on palliative care criteria increase the knowledge of staff regarding the identification of these patients as evidenced by documented improvement in the scores attained on a posteducation test when compared to the preeducation test?" The purpose of developing this educational program was to address the gap in knowledge of nurses regarding palliative care and develop a decision tree to assist in their understanding of the criteria.

The sources of evidence for this project were the pretest and posttest used to objectively assess the knowledge of the participants. The preeducation exam was given to the participants prior to the education program to determine a baseline of knowledge, and the posteducation exam was given following the education program. There was no identifying information collected on the exams. The exam scores were documented in an Excel spreadsheet and analyzed in terms of mean, median, and mode.

Section 4 will highlight the findings and recommendations of the completed DNP project. This section will describe the following topics: findings and implications, recommendations, strengths and limitations of the project, and the section summary.

Findings and Implications

There were 20 nurses who completed the education program. All participants reviewed the Walden University consent form for anonymous questionnaires prior to the start of the program. The pretest was completed before the start of the education program. The pretest scores ranged from 17-100 (see Table 1); the mean score was 58.35 with a median and mode of 50. Following completion of the education program, the posttest was completed independently by each participant without assistance of any references or handouts. The posttest scores ranged from 67-100 with a mean of 92.4; the median and mode were 100. The data indicated an increase in the mean score from 58.35 to 92.4 from the pretest to the posttest. As a result of the education program, the average score on the exam increased by 58%. The range or variation in the scores decreased from 83 to 33, with the posttest scores being 50 points higher than the pretest scores, suggesting increased consistency among the knowledge of the group regarding palliative care. The narrow range supports increased knowledge within the group. Fifty percent of the participants scored 50% or less on the pretest, whereas 50% of the participants scored 100% on the posttest.

Table 1

Pre and Posttest Scores of Participants of the Education Program

Pretest scores	Posttest scores
100	100
67	100
50	100
67	100
83	67
50	100
50	100
50	100
50	83
67	83
33	83
33	100
67	100
50	83
50	100
17	83
100	100
33	83
67	83
83	100
Mean	
58.4	92.4
Mode	
50	100
Median	
50	100

The graph in Figure 2 indicates an increase in the scores achieved on the posttest versus the pretest.

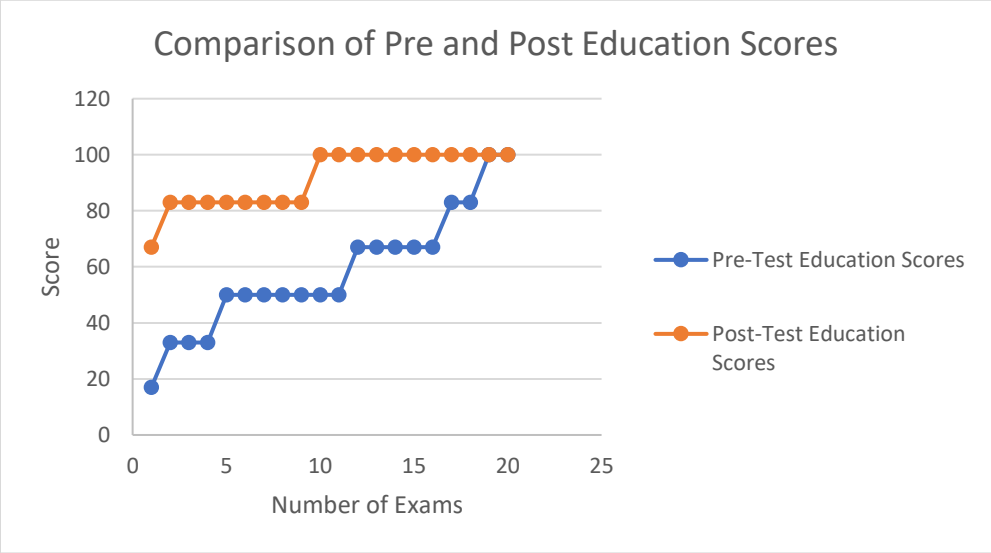


Figure 2. Comparison of preeducation exam versus posteducation exam scores.

The posteducation survey was provided to all participants following the completion of the education program. One hundred percent of the surveys collected revealed that the participants felt that the education was valuable. Subjectively, they also confirmed that their knowledge had increased. They proposed that this education be available in additional sessions and be provided to all staff nurses at this facility. They confirmed that they will use this knowledge in their everyday practice. In the week immediately following the education program, I received an email stating that three of the 20 nurses who participated in the education program had referred patients for palliative care services. As a result of this education program, three patients at this facility may benefit from palliative care interventions. By increasing knowledge and awareness, empowering nurses to make a difference, and providing them the tools, this facility will

improve care to its patients. The implications of this EBP change includes improved staff and patient satisfaction, improved patient outcomes, and decreased waste in healthcare costs at this facility. Through dissemination to other clinical sites, there is potential for a shift in how healthcare is delivered across the nation. Palliative care supports the direction of patient-centered care, aligning healthcare goals to what matters most to the patient.

Recommendations

This education program was provided to 20 registered nurses. After review of the data and initial feedback, additional education sessions are recommended with a goal of educating 100% of the registered nurses. This education should also be incorporated into new nurse orientation. It is recommended that refresher sessions be offered quarterly to update previously trained staff on criteria or unanticipated changes. The decision tree (see Appendix B) will be distributed to all departments after the training has been completed so that all nurses have access to it. It has been suggested that the scenarios that were reviewed during the education program be revised so they are more challenging and more accurately reflect the complexity of the patients at this clinical site.

Initial results of this DNP project were increased knowledge and an immediate increase in palliative care referrals. It would be beneficial to monitor the trend in palliative care consults, especially those placed by registered nurses to document the long-term value of this DNP project. The initial review of the data indicates that the DNP project was successful in increasing knowledge of palliative care.

Strengths and Limitations of the Project

The strength of this project was its methodology and structure. The project was well-developed to meet its objectives. The project materials included a pretest, education plan, decision tree, practice scenarios, posttest and program evaluation. Continuing education credit was offered increasing the appeal for staff. The program was able to be completed in two and one-half hours which improves the likelihood of attendance. With the use of the developed materials, the education program can be replicated and sustained. The project resulted in a 58% increase in the overall test scores indicating increased knowledge among the nurses who participated in this education program. Three patient referrals for palliative care were placed in the week following the education by the nurses who participated. Program evaluation findings indicated that participants found the education program valuable, felt that they would make changes in their practice based on it, and believed that by participating in the program their knowledge of palliative care increased.

The identified limitations of the project include a small sample size and a limited timeframe for implementation. The education program was trialed with a group of 20 nurses. The facility currently has over 400 nursing staff. This reflects a very small sample size of the total nurses at the facility. It was decided that the class size should be limited to allow for more interaction among the group during the scenarios and decision tree discussions. The program was implemented and evaluated during the timeframe allowed for this DNP project. The long-term impact on palliative care referrals cannot be adequately evaluated in only a few months. Ongoing evaluation of the referral trends

could provide valuable insight into the long-term impact of this project. The methodology of this project could be replicated for other identified knowledge gaps involving complex decision-making.

Summary

The education program resulted in a documented increase in the knowledge of palliative care which addresses an identified knowledge gap at the clinical site. This gap in practice was addressed through implementation of the EBP project. Using a decision tree, the participants successfully navigated complex decision-making scenarios. The overall increase in knowledge of the 20 nurses that participated in the program was 58% when comparing pretest scores to posttest scores. The EBP project is successfully having an early impact on practice at the clinical site. Section 5 of the project will elaborate on the dissemination plan following the completion of the project as well as provide an analysis of self and final summary.

Section 5: Dissemination Plan

Introduction

The purpose of this DNP project was to increase nursing knowledge by implementing an education program. The results of this project have validated an increase in knowledge of the participants following the education program. However, the responsibility of the DNP student does not end at implementation. The DNP scholar must develop a dissemination plan to share the results among the nursing profession. Section 5 of this project will provide the dissemination plan, an analysis of self, and a summary.

I will be sharing the results of my DNP project through a number of methods. I have presented my results to the executive leadership team and a decision has been made to continue to offer this education program to additional nursing staff and to incorporate it into the nursing education curriculum for all new nurses. This site also has a quarterly quality fair to allow for dissemination of projects that have occurred or are ongoing. I will develop a poster presentation for display at the next quality fair. Additionally, my completed project will be published in ProQuest. I am also planning to disseminate my results to the other facilities that are in the same network as my project site during an upcoming executive leaders conference. The content of this project is applicable to all registered nurses who have direct patient contact and need to develop a better understanding of the patients' circumstances, goals, and overall health. There will be value in applying the project results to many diverse settings such as acute care, ambulatory care, home care, and long-term care.

Analysis of Self

As I near completion of this doctoral journey, I am seeing evidence of my transition in the way I think, speak, write, and ask questions. Through the development of this EBP project I have evolved as a leader, a problem-solver, a project-manager, and a scholar. In my current role as a nursing leader, these characteristics have enhanced my ability to be effective and have prepared me for future leadership roles and the future of healthcare. As I prepare for graduation from this doctoral program, I see myself evolving into a nursing leader who is innovative, confident, and empowered to drive change.

The completion of this EBP project has also given me a sense of pride and purpose. Every step has provided me with challenges and the opportunity to grow as a scholar. For instance, I spent many months revising the practice-focused question. But I have seen the impact of my hard work and have shared the value of this process with other nurse leaders.

I have also become more proficient in reviewing literature and translating evidence into practice, both of which are necessary skills for any nurse leader. According to the American Organization of Nursing Leadership (2019), one of the core competencies of the nurse leader includes knowledge of the healthcare environment, which is based on ability to translate evidence into practice, be a change leader, and impact healthcare policy and practice. I learned tenacity and perseverance, which are valuable characteristics of a change agent. For example, the CEU application was a new process but allowed me to utilize some of the skills I learned during my master's in nursing education. The implementation phase was the most rewarding, as I was able to

witness the value of my project and proposed practice change. The completion of this project has fostered my development as a scholar and a nursing leader who can make change and spread innovation.

Summary

In closing, the impact of this DNP project has been a documented increase in knowledge of palliative care criteria by nurses. This project has resulted in a practice change that will continue to positively impact the staff and patients at this clinical site. Through dissemination, I hope to impact practice beyond the project site. By implementing a plan to close the knowledge gap of nurses regarding palliative care, I have been able to improve nursing practice and empower nurses with the goal being to improve patient care.

References

Achora, S., & Labrague, L. (2019). An integrative review on knowledge and attitudes of nurses toward palliative care. *Journal of Hospice and Palliative Nursing, 21* (1), 29-37. https://doi.org/10.1097/njh.0000000000000481

Aizstrauta, G., Ginters, E., & Eroles, M. (2017). Applying theory of diffusion of innovations to evaluate technology acceptance and sustainability. *Procedia Computer Science, 43,* 69-77. https://doi.org/10.1016/j.procs.2014.12.010

American Organization of Nursing Leadership. (2019). *Nurse executive competencies.* Retrieved from https://www.aonl.org/nurse-executive-competencies

Bae, J.-M. (2014). The clinical decision analysis using decision tree. *Epidemiology and Health, 36,* e2014025. http://doi.org/10.4178/epih/e2014025

Bohara, T., Laudari, U., Parajuli, A., Rupakheti, S., & Joshi, M. (2018). Prospective validation of a decision tree model for prediction of severity in acute pancreatitis. *Journal of Nepal Health Research Council, 16* (2). Retrieved from https://www.nepjol.info/index.php/JNHRC/article/view/20318

Dailey, E. (2016). The evidence behind integrating palliative care into oncology practice. *Clinical Journal of Oncology Nursing, 20*(4), 368-370. https://doi.org/10.1016/j.procs.2014.12.010

Devi, P. S. (2011). A timely referral to palliative care team improves quality of life. *Indian Journal of Palliative Care, 17*(Suppl), S14-S16. http://doi.org/10.4103/0973-1075.76233

End of Life Nursing Education Consortium. (n.d.). Retrieved from:

https://www.wehonorveterans.org/elnec-%E2%80%93-veterans-updated-curriculum

Glare, P. (2013). Early implementation of palliative care can improve patient outcomes. *Journal of the National Comprehensive Cancer Network, 11*(3). Retrieved from http://www.jnccn.org/content/11/suppl_1/S-3.full

Green, S., & Markaki, A. (2018). Interprofessional palliative care education for pediatric oncology clinicians: An evidence-based practice review. *BMC Research Notes, 11*(797), 1-11. https://doi.org/10.1186/s13104-018-3905-5

Hawley, P. (2017). Barriers to access to palliative care. *Palliative Care,* 1. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5398324/

Hull, E. (2017). Conducting research in your own backyard. *Teaching and Learning in Nursing*, *12,* 232-233. https://doi.org/10.1016/j.teln.2017.06.011

Kansas Health Matters. (2019). Demographics dashboard. Retrieved from http://www.kansashealthmatters.org/indicators/index/dashboard?module=indicators&controller=index&action=dashboard&id=1318722795191608 03&card=0&localeId=138987

Kirkpatrick, A., Cantrell, M., & Smeltzer, S. (2017). A concept analysis of palliative care nursing: Advancing nursing theory. *Advances in Nursing Science, 40*(4), 256-369. Retrieved from https://insights.ovid.com/pubmed?pmid=28990964

Knickman, J. R., & Snell, E. K. (2012). The 2030 Problem: caring for aging baby boomers. *Health Services Research, 37*(4), 849-884. http://doi.org/10.1034/j.1600-0560.2002.56.x

Lippe, M., Volker, D., Jones, T., & Carter, P. (2017). Evaluating end of life care education within nursing programs: A method for targeted curriculum evaluation. *Journal of Hospice and Palliative Nursing, 19*(3), 266-274. Retrieved from https://journals.lww.com/jhpn/Abstract/2017/06000/Evaluating_End_of_Life_Care_Education_Within.14.aspx

Meier, D. E. (2011). Increased access to palliative care and hospice services: Opportunities to improve value in health care. *The Milbank Quarterly, 89*(3), 343-380. http://doi.org/10.1111/j.1468-0009.2011.00632.x

National Institute of Nursing Research. (2017). *Palliative care: The relief you need when you have a serious illness.* Retrieved from https://www.ninr.nih.gov/sites/files/docs/palliative-care-brochure.pdf

National Palliative Care Research Center. (2013). *Why is palliative care research needed?* Retrieved from http://www.npcrc.org/

O'Connor, N., Junker, P., Appel, S., Stetson, R., Rohrbach, J., & Meghani, S. (2017). Palliative care consultation for goals of care and future acute care costs: A propensity-matched study. *American Journal of Hospice and Palliative Medicine, 35*(7), 966-971. https://doi.org/10.1177/1049909117743475

Pashaeypoor, S., Ashktorab, T., Rassouli, M., & Majd, H. (2017). Experiences of nursing students of evidence-based practice education according to Roger's diffusion of innovation model: A directed content analysis. *Journal of Advances in Medical Education & Professionalism, 5*(4), 203-209. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/28979915

Pinderhughes, S., Lehn, J., Kamal, A., Hutchinson, R., O'Neill, L., & Jones, C. (2018). Expanding palliative care medicine across care settings: One health system experience. *Journal of Palliative Medicine, 21*(9), 1272-1277. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/29957094

Price, D., Strodtman, L., Montagnini, M., Smith, H., Miller, J., Ziebert, J., . . . Ghosh, B. (2017). Palliative and end of life care education needs of nurses across inpatient care settings. *The Journal of Continuing Education in Nursing, 48*(7), 329-336. https://doi.org/10.3928/00220124-20170616-10

Rangachari, D., & Smith, T. (2015). Integrating palliative care in oncology. *Cancer Journal, 19*(5), 373-378. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4005332/

Rolden, H., Bodegom, D., & Wenstgendorp, R. (2014). Variation in the costs of dying and the role of different health services, socio-demographic characteristics, and preceding health care expenses. *Social Science and Medicine, 120*, 110-117. https://doi.org/10.1016/j.socscimed.2014.09.020

Ruiz, J. G., Priyadarshni, S., Rahaman, Z., Cabrera, K., Dang, S., Valencia, W. M., & Mintzer, M. J. (2018). Validation of an automatically generated screening score for frailty: the care assessment need (CAN) score. *BMC Geriatrics, 18*(1), 106. https://doi.org/10.1186/s12877-018-0802-7

Sahin, I. (2006). Detailed review of Rogers' diffusion of innovations theory and educational technology-related studies based on Rogers' theory. *Turkish Online Journal of Education Technology, 5*(2), 14-23. Retrieved from https://www.researchgate.net

Schaeffer, M., Sandau, K., & Dierick, L. (2012). Evidence-based practice models for organizational change: Overview and practical applications. *Journal of American Nursing, 69*(5), 1197-1209. https://doi.org/10.1111/j.1365-2648.2012.06122.x

U.S. Census Bureau. (2017). QuickFacts: Sedgwick County, Kansas. Retrieved from https://www.census.gov/quickfacts/fact/table/sedgwickcountykansas,US/PST045218

U.S. Department of Veterans Affairs. (2017). *Palliative care.* Retrieved from https://www.va.gov/GERIATRICS/Guide/LongTermCare/Palliative_Care.asp

U.S. Department of Veteran Affairs. (2018). *Definition of veteran.* Retrieved from https://www.va.gov/vetdata/

Ward, C. (2015). A decision tree model for postoperative pain management. *MedSurg Nursing, 24*(2), 77-88. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/26306364

World Health Organization. (2019). *Definition of palliative care.* Retrieved from https://www.who.int/cancer/palliative/definition/en/

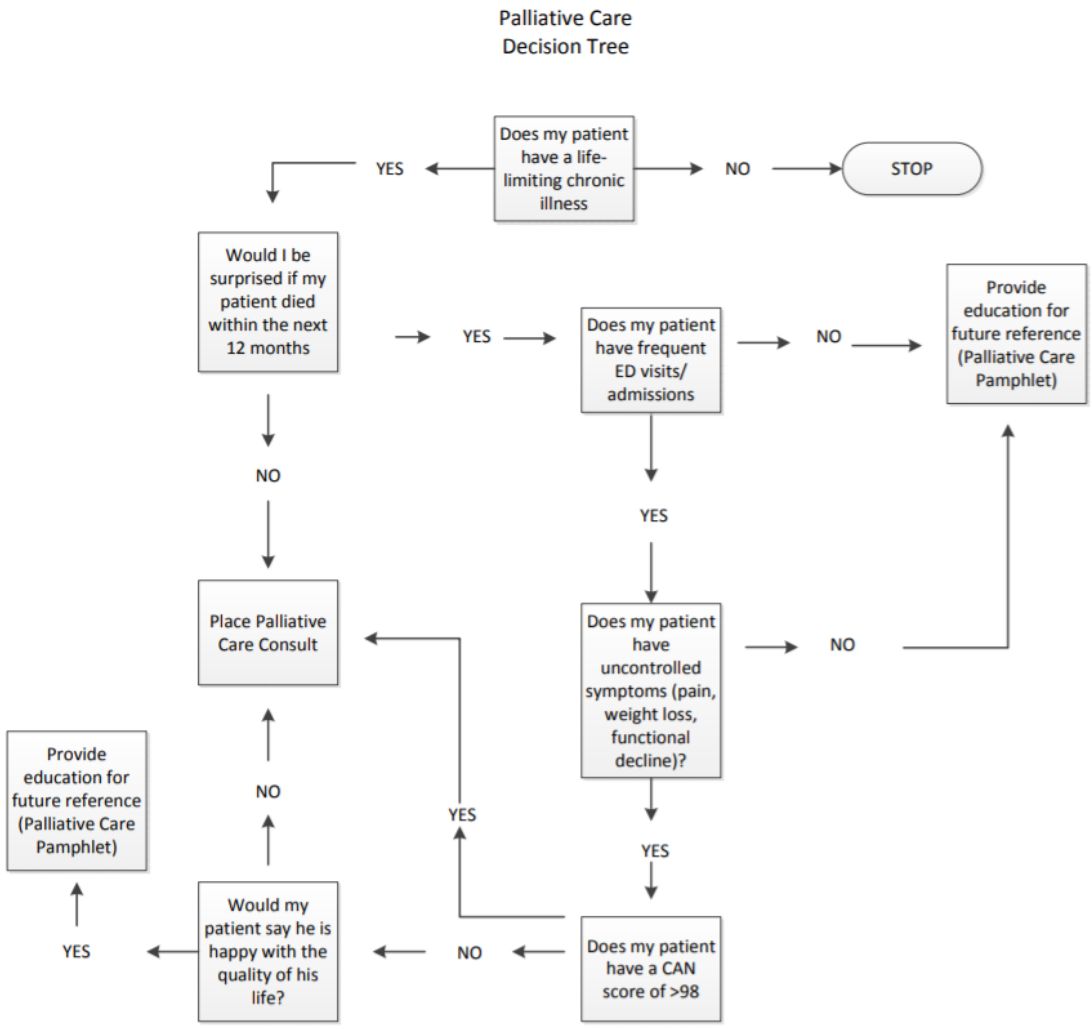
Appendix A: Preeducation Exam

1. The nurse knows that a referral for palliative care services should be considered for a patient who meets the following criteria.
    a. Less than six months life expectancy
    b. Chronic pain
    c. Uncontrolled nausea and vomiting
    d. All of the above
    e. b and c
2. When evaluating the Care Assessment Needs (CAN) score, the nurse knows that a score of > 98 may indicate the need for a palliative care referral because _____.
    a. the patient will likely die in the next 6 months
    b. the patient's care will be too expensive otherwise
    c. the patient will have a low satisfaction score
    d. the patient will likely be admitted to the hospital or die in the next 12 months.
3. The nurse is discussing palliative care with a patient that she has identified as someone that might benefit from a palliative care plan. The nurse assesses the patient's understanding of the conversation. Which descriptive word would indicate the patient understands the rationale for palliative care services?
    a. End-of-life
    b. Therapeutic
    c. Supportive
    d. Critical
4. Provide your best definition of palliative care.

5. Provide 3 examples of symptoms that could be managed through palliative care.
    a. _____
    b. _____
    c. _____
6. The CAN score is an indication of the patient's _____ and likelihood of _____ and/or _____.
    a. mood, happiness, depression
    b. age, falls, injury
    c. frailty, hospitalization, death
    d. satisfaction, complaints, compliments

Total Score _____

Appendix B: Decision Tree



Developed in collaboration with the hospice and palliative care team and after reviewing guidelines found on the following webpages: National Hospice and Palliative Care Organization (https://www.nhpco.org/palliativecare), End of Life Nursing Education Consortium (https://www.wehonorveterans.org/elnec-%E2%80%93-veterans-updated-curriculum), and the Hospice Nurses Association (https://advancingexpertcare.org).

Appendix C: Posteducation Exam

1. The nurse knows that a referral for palliative care services should be considered for a patient who meets the following criteria.
    a. Less than six months life expectancy
    b. Chronic pain
    c. Uncontrolled nausea and vomiting
    d. All of the above
    e. b and c
2. When evaluating the Care Assessment Needs (CAN) score, the nurse knows that a score of > 98 may indicate the need for a palliative care referral because _____.
    a. the patient will likely die in the next 6 months
    b. the patient's care will be too expensive otherwise
    c. the patient will have a low satisfaction score
    d. the patient will likely be admitted to the hospital or die in the next 12 months.
3. The nurse is discussing palliative care with a patient that she has identified as someone that might benefit from a palliative care plan. The nurse assesses the patient's understanding of the conversation. Which descriptive word would indicate the patient understands the rationale for palliative care services?
    a. End-of-life
    b. Therapeutic
    c. Supportive
    d. Critical
4. Provide your best definition of palliative care.

5. Provide 3 examples of symptoms that could be managed through palliative care.
    a. _____
    b. _____
    c. _____
6. The CAN score is an indication of the patient's _____ and likelihood of _____ and/or _____.
    a. mood, happiness, depression
    b. age, falls, injury
    c. frailty, hospitalization, death
    d. satisfaction, complaints, compliments

Total Score _____

Appendix D: Educational Program Evaluation

PROGRAM EVALUATION

PROGRAM: Palliative Care Decision Tree
DATE & TIME: September 18, 2019 12:00pm-2:30pm
INSTRUCTOR(S): Julie Cotton

PARTICPANT: Your opinion of the workshop's content and instruction is important to us. Please help in evaluating the program you have participated in today.

Please evaluate how well the following objectives were met:	**Poor**	**Fair**	**Average**	**Good**	**Excellent**
1. Understand the criteria for palliative care.					
2. Discuss three benefits of palliative care.					
3. Explain the use of the decision tree model.					
4. The presenter: ***Julie Cotton, MSN, RN*** was prepared.					
5. Demonstrated expertise and level of knowledge.					
6. Quality of briefing and speaker's ability.					
7. Responded to participant's discussion needs.					
8. The overall environment was conducive to learning.					
9. Audio-visual materials enhanced your learning and were of good quality.					
10. How would you rate this program?					

11. What are the three most significant things you learned today?

12. How will you apply the knowledge/skills you have gained to the work setting:

13. What other information would make this program more helpful?

14. Other comments:

Appendix E: Education Program Flyer

Course Offering:

Using a Decision Tree to Identify Palliative Care Criteria

DATE & TIME: September 18, 2019

12:00 p.m. - 2:30 p.m.

PLACE: PEC Conference Room

REGISTRATION: None required

INSTRUCTOR: Julie Cotton, MSN, RN

PARTICIPANTS: RN's

CLASS CREDIT: 2.5 hours CNE

PROGRAM DESCRIPTION:

This class will introduce the learner to the basics of palliative care criteria, palliative services at this facility, and the use of a decision tree in complex decision-making. At the conclusion of this class, the learner should be able to define palliative care, describe appropriate criteria and effectively use a decision tree.

CONTINUING NURSING EDUCATION: The Medical Center is approved as a provider of education by the Kansas State Board of Nursing. This course offering is approved for contact hours applicable for RN licensure renewal. Kansas State Board of Nursing Provider No.: LT0083-0927

Appendix F: Attendance Log

		Title: Using a Decision Tree to Identify Palliative Care Criteria		
		Date: September 18, 2019		
		Instructor(s): Julie Cotton MSN, RN		
KSBN Provider No: LT0083-0927				
CNE Program Coordinator:		Contact Hours: 2.5 CNE		PAGE # 1

TRAINING RECORD

NAME (PLEASE PRINT)	SIGNATURE	LICENSE#	DATE	HRS AWARDED
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				