

2020

# Nurse Perception of Pain and Innovative Approaches to Pain Management

Tracey-Ann Nichole Knight  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [Nursing Commons](#)

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Nursing

This is to certify that the doctoral study by

Tracey-Ann Knight

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. Cynthia Fletcher, Committee Chairperson, Nursing Faculty

Dr. Joan Hahn, Committee Member, Nursing Faculty

Dr. Patti Urso, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost  
Sue Subocz, Ph.D.

Walden University  
2020

Abstract

Nurse Perception of Pain and Innovative Approaches to Pain Management

by

Tracey-Ann Knight

MS, Walden University, 2017

BS, New York City College of Technology, 2014

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2020

## Abstract

Insufficient assessment and management of pain among the patient population during their hospital stay may result in ineffective delivery of care, increased length of stay, poor clinical outcomes, and decreased patient satisfaction. The quality report at a local facility showed compliance scores of 78% for administration of pain medication and 79% for reassessment of pain. These scores and the weekly patients' satisfaction survey results suggested a substandard adherence to the facility's pain management guidelines. One identified barrier to properly managing patients' pain was nurses' lack of knowledge and understanding of the theoretical foundation of pain management. The purpose of this DNP project was to develop a staff education program to increase the nurses' understanding of acute pain management according to current evidence-based practice and the facility's guidelines. Knowles' adult learning theory guided the development of this project. Nineteen medical-surgical staff nurses participated in the education program and completed a pretest prior to participating in the program and a posttest after the program. Descriptive statistics were used to determine the difference between the tests. The average posttest score was 40% higher than the average pretest score indicating that the nurses' knowledge increased after participating in the education program. Findings support the recommendation to present the program to all nurses during orientation to improve their pain management practices and promote their adherence to the facility's pain management guidelines. Increasing nurses' knowledge about pain management has the potential to empower nurses to better manage their patients' pain to improve care outcomes and increase patient satisfaction.

Nurse Perception of Pain and Innovative Approaches to Pain Management

by

Tracey-Ann Knight

MS, Walden University, 2017

BS, New York City College of Technology, 2014

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2020

## Dedication

This work is dedicated to my family, who supported me through the many months of study.

## Acknowledgments

I would like to thank the many individuals whose guidance and suggestions I could not have done without, particularly, my mentor, Dr. Fletcher, Dr. Hahn and members of the DNP faculty at Walden University. In addition, I also extend thanks to my Chief Nursing Officer, Jose Hernandez, Senior Director, Sandra Thompson and colleague managers at the hospital where I work in Brooklyn. Special thanks to Dr. Fabienne Ulysse, my clinical practice mentor, Epi Quimson and Julie Maravel. Last, but not least my family, Errol, Danielle, Leah, Korel and my mom Carol.

## Table of Contents

List of Tables .....	iii
List of Figures .....	iv
Section 1: Nature of the Project .....	1
Problem Statement .....	2
Purpose.....	4
Nature of the Doctoral Project .....	5
Significance.....	6
Summary .....	8
Section 2: Background and Context .....	9
Concepts, Models and Theories .....	10
Relevance to Nursing Practice .....	11
Local Background and Context .....	14
Role of the Doctor of Nursing Practice Student .....	15
Summary .....	18
Section 3: Collection and Analysis of Evidence.....	19
Practice-Focused Question.....	19
Sources of Evidence.....	20
Evidence Generated for the Doctoral Project .....	21
Participants.....	21
Procedure .....	21
Formulation of Specific Learning Objective .....	23



Protection of Participants .....	24
Analysis and Synthesis .....	25
Summary .....	25
Section 4: Findings and Recommendations .....	27
Findings and Implications .....	28
Recommendations .....	30
Strength and Limitation of the Project .....	31
Section 5: Dissemination Plan .....	33
Analysis of Self .....	33
Summary .....	34
References .....	36

List of Tables

Table 1. Pre- and Posttest Percentage .....30

Table 2. Pre- and Posttest Results .....30

List of Figures

Figure 1. Descriptive analysis graph for staff education .....31

## Section 1: Nature of the Project

Pain management continues to be a concern to clinicians and providers as it is a multidimensional issue that impacts patients, families, nurses, and providers (Chang & Ibrahim, 2017). Pain is unpleasant and may be emotionally and physically draining, impacting patients' behavior and requiring adjustment in treatment approach (Corley, Lake, Brockopp, & Moe, 2015).

Breakthrough pain, which is severe pain that flares up despite the patient already being medicated for pain, is a global issue, and understanding and recognition of patients who experience breakthrough pain remains lacking. Insufficient understanding of the theoretical foundation of pain management may hinder the nurse's ability to reduce pain and help the patient achieve a state of comfort. Pain control for patients is a common issue for health care providers (Tracy & DiNapoli, 2010). It is imperative that this issue is addressed, as poor pain management, which includes breakthrough pain, will negatively impact patients and their loved ones (Chang & Ibrahim, 2017).

Nurses play a critical role in alleviating and managing pain; hence, the nurse's knowledge about pain assessment principles is significantly associated with their understanding of managing a patient's pain. Nurses' understanding of pain and pain-relieving strategies are essential to guide pain management practices (Kizza, Muliira, Kohi & Nabirye, 2016). Effective pain management will result in a reduction of pain and suffering, increase comfort, and improve patient satisfaction.

### **Problem Statement**

Nurses and providers are often hesitant to medicate patients appropriately for pain control. Literature reveals that insufficient assessment and management of pain among the patient population during their hospital stay may result in ineffective delivery of care, increased length of stay, poor clinical outcomes, and decreased patient satisfaction (Gorawara-Bhat, Wong, Dale & Hogan, 2017). Nurses' lack of awareness regarding pain assessment and treatment may also result in inadequate pain control leading to impaired social functioning (Lewis et al., 2015).

Pain management requires experience and understanding of the healing process, which is a theory-driven approach (Gray, Grove & Sutherland, 2017). Using a quasi-experimental pre-/postintervention design, the American Society for Pain Management Nursing conducted an educational assessment of nurses' documentation of pain based on knowledge and bias; a small percentage of nurses responded incorrectly regarding pain relief interventions (Kraft, Wiechula & Conroy, 2015).

Patients sometimes fear requesting more medication for pain, as this meant that their illness was getting worse; therefore, they were reluctant to request pain relieving medication (Driscoll et al., 2018). Patients may also fear the increased side effects resulting from the medication (Driscoll et al., 2018)). In such cases, the patients may not report the true intensity of their pain. Some patients do not take their medication as they feared being addicted to drugs (Chang & Ibrahim, 2017). The participants in Chang and Ibrahim's (2017) study believed that if they requested pain medication at the time of pain, this would build up resistance, which would reduce the benefits of future medication. It

is essential that health care providers understand that effective management of pain will improve patient outcomes and increase patient satisfaction. This calls for consistent assessment, reassessment, and innovative strategies for pain management (Glowacki, 2015).

The importance of recognizing and responding to pain in a swift and nonjudgmental manner is important, as providers need to separate their perception of what pain should be versus what the patient is experiencing. There are incidences where the health care providers were made aware of patients' history of drug abuse, which made them hesitant to prescribe opioids or any other pain-relieving drug (Chang & Ibrahim, 2017). It is essential that health care providers know that inadequate pain relief may lead to an exacerbation of side effects (Chang & Ibrahim, 2017).

Educational programs increase nurses' knowledge, willingness, and motivation to effectively manage patients' pain (Chang & Ibrahim, 2017). Providing nurses with an educational program will fill the gap in knowledge regarding pain management by increasing their knowledge of the theoretical foundation of pain management. This may increase their sensitivity to respond to patients' pain. The clinical guidelines of the local facility in the Northeastern United States require adherence to management of pain; however, based on the weekly quality report and the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores, there was an average compliance rate of 78%-79% over the past 2 years for administration of pain medication according to the parameters established by the institution's guidelines and 79% for the reassessment of a pain score within the established parameters after medication has been administered.

## **Purpose**

The purpose of this DNP project was to develop a staff education program to increase the nurses' understanding of acute pain management according to current evidence-based practice and the facility's guidelines. The educational program will be used to evaluate the difference between the nurses' knowledge prior to the education and their understanding after participating in the educational program.

At the local facility in the Northeastern United States, the weekly pain report indicates that nurses are not adhering to the pain management guidelines set by the institution. The weekly pain management quality report indicates a 78%-79% compliance of administering medication according to the institution's policy. The institution's medication administration policy requires 100% compliance. The clinical guidelines of the local facility require that the nurses recognize patients' request for pain relieving medication in a timely manner. Germossa, Sjetne and Hellesco, 2018, stated that nurses' knowledge and attitude play an essential role in providing strategies for improving pain control.

In this report, I addressed the following practice-focused question:

PFQ: Will a pain educational program on acute pain management increase nurses' knowledge of pain management on a medical-surgical unit according to the facility's pain management guidelines?

Educating nurses about pain management could fill the gap of noncompliance of medication administration and help nurses reassess responses to complaints of pain by increasing their knowledge of the theoretical foundation of pain management. Effective

management of patients' pain will be evident in the HCAHPS scores reflecting patients' satisfaction with pain management. Increasing nurses' knowledge about pain management has the potential to increase their sensitivity in responding to patients' pain. Pain control for patients is a common issue for healthcare providers (Tracy & DiNapoli, 2010). Nurses' understanding of pain and pain-relieving strategies are essential to guide pain management practices. Insufficient understanding of the theoretical foundation of pain management may hinder the nurse's ability to reduce pain and help the patient accomplish a state of comfort. Breakthrough pain remains a global issue and understanding and recognition of this issue remains lacking (Tracy & DiNapoli, 2010).

### **Nature of the Doctoral Project**

The purpose of this educational project was to determine the effectiveness of a pain educational program to increase the nurses' understanding of acute pain management according to the facility's guidelines. I collected information from Walden Library database, the National Institute of Health (NIH) Pain website, HCAHPS scores, the facility's weekly pain management quality report, the facility's weekly patients' experience report, and the organization's pain management specialist regarding pain management. Additionally, I analyzed the results of a pre- and posttest after presenting the pain management educational program to staff nurses on an inpatient medical-surgical unit.

The setting of this doctoral project was on a medical-surgical, inpatient unit at a medical center in Northeastern United States. The goal of this project was to educate the nurses about pain management. I obtained permission from nursing administration at the



facility. I developed the educational program, and key stakeholders completed a formative review to evaluate content and usability. I obtained permission to post the recruitment flyer by the nurses' station and the lounge. I administered the educational program to nurses on one unit in the facility. They completed a pretest before participating in the program and a posttest after participating in the program. I compared the difference between the pre- and posttest using descriptive statistics to determine if there was an increase in the nurses' knowledge after participating in the program. The project was anticipated to fill the gap of nurses' noncompliance of medication administration and help nurses reassess their responses to complaints of pain that are reported in the organization's weekly quality improvement (QI) reports. It is important that providers separate their perception of what pain levels should be versus what the patient is experiencing. A pain management educational teaching plan will assist nurses to recognize signs and symptoms of acute pain and provide effective therapies and treatments. This will result in their recognizing and responding to pain in a swift and nonjudgmental manner (Harrison, Lagisetty, Sites, Guo & Davis, 2018).

### **Significance**

Nurses' understanding of pain and pain -relieving strategies are essential to guide pain management practices. Insufficient understanding of the theoretical foundation of pain management may hinder the nurse's ability to reduce pain and help the patient achieve a state of comfort. Breakthrough pain remains a global concern as understanding and recognition of this issue remains lacking (Tracy & DiNapoli, 2010). Pain control for patients is a common issue for health care providers.

At this local facility, the weekly pain report indicated that nurses were not adhering to the pain management guidelines set by the institution. This report generated by the Nursing Quality Department is reviewed with the nurse managers and frontline nurses on a weekly basis. The clinical guidelines of the local facility require that nurses recognize patients' request for pain relief in a timely manner. In addition, the report identifies that nurses were not responding in a sensitive manner to the patients' requests for pain relief. Germossa et al., 2018, stated that nurses' knowledge and attitude play an essential role in providing strategies for improvement pain control.

The creation of an educational program will increase nurses' knowledge of pain management and promoting adherence to the organization's pain management policies and medication administration regimen. This project supports the mission of Walden University through education and empowerment of nurses as well as promotion of positive change through reduction of pain, increased comfort levels of patients, and the potential to decrease suffering experienced by patients. The results of this project have the potential to impact positive social change. Nurses will utilize the knowledge obtained from the educational program to tailor care delivery and QI to manage pain. Nurses will be more confident in their engagement with patients about pain management. They will have the knowledge to educate patients and provide them with the understanding to participate in their pain management regimen (Harden, Price, Duffy, Galunas & Rodgers, 2017). The results of this project will also have a positive impact on the local institution. Glowacki (2015) stated that the achievement of adequate pain management is a universal requirement of the health care arena. Effective pain management results in improved

patient outcomes as well as improved patient satisfaction. It is important for the promotion of ongoing research and for a focus plan for acute and chronic therapy.

### **Summary**

The education program addresses the gap in practice relating to nurses insufficient understanding of the theoretical foundation of pain management, which results in their decreased sensitivity to and ineffective management of their patients' pain. The scores on the institution's weekly quality report that identify the nurses' sensitivity to patients' complaint of pain and their adherence to the pain management clinical guidelines were compared before and after participating in the education program. The potential for positive social change will result in improved nurse competency in managing their patients' pain.

This project was implemented to educate the nurses about pain management. A comparison of the nurses' adherence to the pain management clinical guidelines as reflected on the local facility's pain management quality report before and after their participating in the education program was done. In Section 2, I discussed Knowles's theory of adult learning and its relevance to nursing practice, the local background and context of the gap in practice, and my role in the project.

## Section 2: Background and Context

There is a need for appropriate pain management in the acute care setting. Inappropriate pain management may result in patients experiencing hours to days of severe pain, which can lead to reduced quality of life. Providing adequate medication as well as the correct dosage constitutes an optimal pain management plan (Lakkakula, Sahoo, Verma, & Lakkakula, 2018). It is therefore essential that nurses understand the etiology of pain management and pain perception and the mechanisms underlying acute or chronic pain to provide appropriate pain management (Lakkakula et al., 2018). The purpose of this project was to determine the effectiveness of a pain educational program in an acute care setting at a local facility in the Northeastern United States by evaluating the nurses' understanding and knowledge of pain management after participating in the educational program.

Pain management guided by evidence-based interventions has the potential to effectively decrease patients' pain and provide comfort (Chen, Chen, & Kuo, 2014). Nurses play a vital role in alleviating and managing pain, and their input about pain assessment is critical in improving patients' outcome as well as patient satisfaction (Chen et al., 2014). A system-wide approach to education and training on pain management is crucial in developing effective responses and approaches for treating pain. Educating nurses about evidence-based pain management will equip them with the knowledge to establish a clear pain management plan of care for patients based on appropriate measured evaluation and outcomes (Chen, et al., 2014).

I addressed the following practice-focused question for this project:

PFQ: Will an educational program on acute pain management increase nurses' knowledge of pain management on a medical-surgical unit according to the facility's pain management guidelines?

In this section, I present the concept models of Knowles' (1984) adult learning theory. I also consider the relevance of this project to nursing practice, provide local background, and discuss my role in conducting this project.

### **Concepts, Models and Theories**

I used Knowles' (1984) adult learning theory as a guide in developing this project. The theory became influential during the 1970s and 1980s but remains relevant in today's health care arena. Knowles' theory applies six principles for considering diverse settings and their meaning and applicability to a learning situation (Twaddell, 2019). Its principles highlight the adult's need to be knowledgeable and understand their reason for learning (Twaddell, 2019). Adults also have a need to self-direct, being responsible for their own decision making as well as the consequences of these decisions. The adult's life experiences serve as a platform for new learning, therefore motivating them to learn through intrinsic and extrinsic factors (Twaddell, 2019).

Knowles' adult learning theory is based on the individual's need to know, self-concept, readiness to learn, and motivational model (Twaddell, 2019). Adult learning is associated with life's impact and the factors needed for learning. Learners move at their own pace, which supports reflective learning and a better understanding for developing strategies for implemented learning protocols (Twaddell, 2019). It is important to note that learners are constantly learning, expanding their knowledge through discussions and

other learning methods. Therefore, a collaborative approach that reflects and recognizes the value of the learning context should be used. Learning theories align with the different types of desired learning as well as the transformational process and outcomes (Franco, 2019).

I also used the Analysis, Design, Development, Implementation and Evaluation (ADDIE) model to guide this project. This model allows learners to actively engage in building their knowledge through discovery and a guided learning approach through evidence-based theories. The ADDIE model promotes effective communication, collaboration, and critical thinking skills (Nadiyah & Faaizah, 2015).

A resolution to learning drives the learning and relearning process as adaptation and willingness to transform the process is ongoing. This is relevant to the nursing practice in that adult learners need to understand the meaning of their experiences as well as the elements involved in the process of an educational program or design (Twaddell, 2019). In fostering a learning experience, a change in behavior and attitudes should create a meaningful reflection. In implementing change, it is essential for nurses to recognize their own motivation by participating in activities that result in an improvement in practice (Franco, 2019). The educational program at the local institution included strategies to guide the nurses in understanding the foundation of pain management as well as adhering to the clinical guidelines set by the institution.

### **Relevance to Nursing Practice**

The struggle of healthcare providers to manage pain in an effective manner has been an issue for decades at one local healthcare facility in the Northeast. Pain is the

oldest problem that affects people in a physical and psychosocial manner (Vadivelu, Mitra, Hines, Elia, & Rosenquist, 2012). Strategies for pain management have developed over the years. However, there is still little understanding of how to appropriately manage this ailment. Even with new treatments, most patients in the United States report high levels of pain associated with their care (Vadivelu et al., 2012). Pain is a difficult clinical issue that requires astute assessment. Verbal reports from patients as well as their perception of pain may present as valuable tools during the assessment process.

Untreated pain impairs patients' autonomy and increases their fear and anxiety (Vadivelu et al., 2012). This remains a problem despite numerous pain protocols, guidelines, and available literature about the knowledge and skill sets required for assessment and management of pain. At the target institution, the nursing leadership team changed the computer system to make the nurses' aware of the need to address patient pain; however, according to the monthly QI report, adequate pain management is still not being addressed.

Misconceptions and myths of pain management are frequently based on "common sense" over time (Vadivelu et al., 2012). Using an evidence-based approach to educate nurses to recognize and implement effective pain management interventions has the potential to strengthen their role as a strong advocate for the delivery of patient care to ensure pain relief and increased comfort (Vadivelu et al., 2012). Poor pain management has created major challenges in the health care arena. Some patients might be unable to identify the initial cause of pain which may contribute to the continued inadequacy of diagnosis and treatment; this has given rise to clinical and practical health concerns for

pain sufferers (Mishriky, Stupans & Chan, 2019). There is currently an international call to improve pain management education as well as studies that define specific pain management learning and objectives that result in increased quality of life for the patient and a decreased mortality rate (Shipton et al., 2018).

It is essential for nurses to have a clear understanding of patients' complaints of pain and develop management strategies. However, one identified barrier to properly managing patients' pain is a lack of knowledge. Educational strategies are key in enhancing learning experiences as well as changing attitudes towards pain assessment and management (Romero-Hall, 2015). Pain is often reported as a symptom; hence, suffering and distress often result in various responses depending on the cultural norms, which may vary by ethnic group. Pain assessment, therefore, requires monitoring of changes in behaviors and posture and awareness of verbal cues. It is vital that nurses develop a clear understanding of experienced pain and strategies to provide a clinical approach that efficiently utilizes current knowledge and treatment approaches (Romero-Hall, 2015). The International Association for the Study of Pain describes pain as unpleasant and emotionally draining (McKune, 2012). A structured assessment is necessary in evaluating pain and response to therapy. Effective tools are recommended for efficient data collection for the provision of a logical approach for assessing pain (McKune, 2012).

It is important that clinicians separate their perceptions of what pain should be verses what the patient is experiencing. This will result in their recognizing and responding to pain in a swift and nonjudgmental manner (Harrison et al., 2018). An



implication for positive social change from this educational project is that it may increase the nurses' knowledge of pain management, creating adherence to the institution's pain management guidelines for medication administration, and improving patient pain outcomes. This educational program supports the mission of Walden University to promote the education and empowerment of nurses and further positive change through the reduction of pain and suffering and increased comfort levels of patients. Nurses may use the knowledge obtained from the program to tailor care delivery and QI to manage pain.

The results of this educational project have the potential to influence positive social change for nurses, patients, and the local institution. Increasing nurses' knowledge about pain management will increase their level of competence to design pain management plans of care for their patients. More effective pain management for patients in the facility will improve patient outcomes and satisfaction. An increase in patients' satisfaction may also reflect positively on the institution's reputation in the community.

### **Local Background and Context**

The review of rates that measure compliance with pain management guidelines and policies was a trigger to address the need for an education program to improve pain management practice at one local facility in the Northeastern United States. According to the facility's weekly (QI) report, the institution falls below its established benchmark in providing appropriate pain management relief for patients. The weekly report indicated that the nurses are not adhering fully to the pain management guidelines set by the

institution and were not reassessing the effectiveness of pain-relieving medication in a timely manner.

The clinical guidelines in this local facility requires adherence to management of pain, however, based on the monthly quality report, nurses are not adhering to the guidelines. In addition, the report identifies that nurses are not responsive to the patients' complaints of pain. The quality department generates weekly (QI) report at this local institution as well as a weekly pain management QI report that shows that many patients are not receiving adequate management of pain. The QI report shows a downward trend of nurses talking to their patients about pain. The first quarter for 2019 showed the overall unit's rating of 38.9% patient satisfaction, with a decline of 6.5%; the second quarter showed more decline of 32.4%; and the current, third quarter results show 29.4% patient satisfaction in one inpatient unit at the local facility.

### **Role of the Doctor of Nursing Practice Student**

As a DNP student, my role as the researcher is to review evidence-based literature related to pain management. I also review the HCAHPS and weekly pain management scores as evident in the facility's report. I also spend time with the nurses talking about pain management and their roles in alleviating pain and providing comfort to patients. As the leader of this project, I facilitate the project development of a teaching plan, coordinate activities with the nursing leaders and staff nurses. As the facilitator, I am responsible for presenting the education to the staff nurses on one medical-surgical nursing unit. As the evaluator, I am responsible for evaluating the effectiveness of the teaching program using the results from the pre and posttest.

I have been a registered nurse since 2007 and have worked in the acute care setting since then. Over the years I have seen providers and nurses, including myself, struggle to provide the appropriate pain relief for patients. I have also witnessed patients and family members being dissatisfied with the prescribed pain regimen as well as the nurses' lack of attentiveness in relieving pain in a prompt manner.

In 2017 a close family member underwent an emergency surgery and experienced tremendous pain for days on a post-surgical unit. During that time, I became an advocate, acting in the capacity of a loved one, receiving care instead of rendering care. It was apparent to me that the nurses were reluctant to administer the prescribed pain medication as I would often hear the nurse say, "This is a strong medication, do you really need it"? Another nurse stated, "I will wait to give the prn because the standing pain medication was administered three hours ago". These statements caused an alarm for me as my family member was feeling tremendous pain, was vulnerable, and feeling helpless.

I was motivated by this experience to educate nurses about the pain experience and its impact on patients and their family members. As a nurse manager, I coached and mentored nurses regarding the importance of relieving pain for our patients.

Unrelieved pain causes human suffering and may be missed or overlooked during assessment. Efficient assessment is critical in providing patient with the correct relieving agent. Nurses, patients, and their loved ones have the potential to benefit, as effective pain management allows patient to return to functional status more quickly. I will develop the pain management education program in a PowerPoint presentation. This

program is congruent with the American Association of College of Nursing (AACN) Essentials (i.e., Essentials V, VI & V111) of Doctoral Education for Advanced Nursing Practice. Essential V relates to health care policies created through governmental actions, organizational standards and decision making. This creates a framework that addresses health care needs related to issues of health care concerns and quality of care. Essential VI refers to the collaboration of interprofessional teams that impact performance changes by employing practice models and guidelines and other scholarly interventions. Essential V111 prepares the DNP graduate to design, implement and evaluate evidence-based interventions which are based on nursing science for optimal patient care and outcomes. The DNP graduate is also prepared to guide, mentor, and support other nurses to gain excellence in nursing practice (AACN, 2006). I provided current evidence-based information to increase nurses' knowledge about pain management principles and the guidelines established by the facility. This information had the potential to increase their sensitivity in responding to patients' pain and adherence to the standards set by the facility (Standard V). I collaborated with the administrative team in the facility to develop and implement the education program to increase the nurses' knowledge about pain management (Standard VI). I functioned as a researcher, leader, and evaluator during the development and implementation of the evidence-based education program, to empower the nursing staff with the information needed to effectively manage their patients' pain (Standard VII).

### Summary

Inadequate treatment of pain is a global issue, which is causing significant patient suffering as well as the use of increased resources that escalate health care costs. In addition to this issue, there is also a lack of adequate instruction in nursing programs on pain management. The incorporation of educational programs and the development of an approach that focuses on pain management will allow health providers to consider pain as an emergent condition that requires immediate attention. The burden of untreated pain may lead to unanticipated readmission to hospitals as well as patient morbidity (Vadivelu et al., 2012). Pain, if left untreated, takes a negative toll on patients, families, and society on a whole. By instilling an early understanding of pain management and empathy for pain, future clinicians may be willing to treat pain in an enhanced manner (Vadivelu et al., 2012).

The proposed educational program will address the gap in practice related to nurses' insufficient understanding of the theoretical foundation of pain management. The lack of effective strategies has resulted in decreased sensitivity and ineffective management of their patients' pain. It is important that nurses understand the etiology of pain management and pain perception, as an understanding of the mechanisms underlying acute or chronic pain is needed for appropriate pain management.

### Section 3: Collection and Analysis of Evidence

The struggle to manage pain has been an issue for decades at one local healthcare facility in the Northeast. There has been little understanding of how to appropriately manage pain at this acute care facility. There have been numerous reports from patients about the mismanagement of their pain as providers and clinicians struggle to find and use an evidence-based approach for favorable outcomes. Given the nature of the pain, it might be simple or difficult to manage depending on a variety of skills and techniques that are used to treat it. In relieving pain, individuals trust that caregivers are transparent about having current knowledge of best practice (Colloca et al., 2019). Effective pain management may be achieved through assessment, diagnosis, and an active, realistic plan that is designed to reduce the pain, improve functioning, and positively impact the quality of the patient's well-being (Pal, Paul, Thatkar, & Pal, 2016).

In section 3, I restated the practice focused question, source of evidence, and analysis and synthesis of evidence.

#### **Practice-Focused Question**

At the local facility in the Northeastern United States, the weekly pain report indicates that nurses are not adhering to the pain management guidelines set by the institution. The clinical guidelines of the local facility require that the nurses recognize the patient's request for pain relieving medication in a timely manner. Germossa et al., 2018 stated that nurses' knowledge and attitude play an essential role in providing strategies for improving pain control. The clinical guidelines of the local facility require adherence to a pain management protocol; however, based on the monthly QI reports,

nurses were not adhering to the guidelines. The report identified that nurses were not responding in a sensitive manner to the patient's request for pain relief.

The following practice-focused question was addressed:

PFQ: Will an educational program on acute pain management increase nurses' knowledge of pain management on a medical-surgical unit according to the facility's pain management guidelines?

The purpose of this DNP project was to develop a staff education program to increase the nurses' understanding of acute pain management according to current evidence-based practice and the facility's guidelines.

### **Sources of Evidence**

The standards for the Centers for Disease Control, CDC Guidelines (Dowell, Haegerich & Chou, 2016) and the American Association Society for Pain Management Nursing (ASPMN) (Cooney et al., 2013) were the sources of evidence used to design an evidence-based educational program that would provide nurses with new knowledge for pain management. The search engines I used were CINAHL, Medline, and the Walden Library database. The key terms included *pain management* and *nursing adherence*. The literature review includes information from 2006 to 2019. I found a total of 55 publications; after further review 32 were specific to my practice focus question and were used to guide the development of the project.

The nurses completed a pretest prior to participating in the education program and a posttest after the program. I used the differences in the scores to determine the change in the nurses' knowledge of pain management. The increase in the nurses'

evidence-based knowledge of pain management should increase their sensitivity and timely response to their patients' requests for pain relief.

### **Evidence Generated for the Doctoral Project**

In this section, I discussed the participants, the procedure, formulation of specific objectives, protection of participants, and analysis and synthesis.

#### **Participants**

Participants for this educational program were 19 registered nurses on one inpatient medical-surgical unit. The nurses worked on the medical-surgical unit at the acute care facility and were responsible for pain management of the patients on the unit. The charge nurse agreed to post a recruitment flyer on the nursing bulletin board at the nurses' station and the breakroom. The nursing administration agreed that the educational program would be presented during the nurses' work hours. Time was allotted for the nurses to attend.

#### **Procedure**

I discussed my DNP project with the director of nursing education and the vice president of nursing. They both agreed with the plan to educate the nurses about pain management with the patients admitted to one medical-surgical unit. The proposed educational program addressed the gap in practice related to the nurses not adhering to the facility's clinical pain management guidelines as reported on the HCAHPS report, which indicated a lack of timely response to the patients' requests for pain management. Patients reported that nurses do not respond in a timely manner and are not sensitive to



their request for pain medication. Following the approval from Walden University Institutional Review Board (IRB), the plan was to conduct the following steps:

- The stakeholders of the organization including the nursing educator, nurse manager, and one staff nurse completed a formative evaluation that validated content and usability.
  - They reviewed the objectives, PowerPoint presentation, and the pre- and posttest.
  - I revised the plan according to the recommendations of the stakeholders. The revisions were resubmitted and evaluated. The teaching plan was finalized after all parties agreed on the recommendations and contents of the plan.
- I finalized with nursing administration regarding their commitment to the project and posted the recruitment flyer on the department's bulletin board, nursing station, and breakroom on the selected unit. The letter and flyer specified the purpose of the teaching program and who could participate.
- The educational sessions were held during the work hours of the nurses.
  - The director of nursing education communicated that the sessions were mandatory for the nurses on this unit.
  - The teaching sessions were offered on 9 different days, once per shift, to accommodate the nurses during their shift. Nurses attended these sessions according to the assigned schedule by their nurse manager.

- I presented the educational sessions. The overall outcome of the evidence-based project educated the nurses regarding appropriate pain management according to the protocols set by the organization.
  - At the beginning of each session, I reviewed the purpose of the program and what the nurses were expected to do.
  - I informed the nurses that although participating in the educational program was mandatory per their administration, the pre- and posttest were voluntary. They were advised that if they choose not to take the pre- and posttest, this would not affect their employment with the organization.
  - The presentation lasted for approximately 40 minutes, including the pre- and posttest.
- At the end of the program, participants completed an evaluation of the program.

### **Formulation of Specific Learning Objective**

The nurse educational program is tailored to educate staff nurses about the adherence to evidence-based pain management practices and the guidelines set by the institution. The overall goal of the educational program was to increase the nurses' knowledge of pain management strategies on one inpatient unit of a local hospital in the Northeast. After completion of the educational program, nurses will be able to:

1. recognize the signs and symptoms manifested in patients with acute pain;
2. identify evidence-based pain management as defined by the American Association of Pain Management;

3. identify the process for a patient-centered approach to pain assessment and management;
4. assess effectiveness of current therapy and or treatment;
5. assess the risks and benefits associated with treatment strategies as well as potential risk of dependency, addiction, and abuse; and
6. recognize the need for additional, specialized, pain management referrals.

### **Protection of Participants**

Prior to presentation and implementation, the project was reviewed and approved by Walden University IRB (approval # 08-17-20-0537614) and the chief nursing officer of the facility. The nurses responded to the questions on scantrons. The scantrons were numbered; the nurses' names did not appear on the scantrons. This ensured that participants were not connected to any information that they provided. Participants were also informed that the results of the questionnaires would be summarized and reported as means and percentages; no individual scores would be reported, and no names would be attached to the scores. At the end of the session, participants completed an evaluation of the session. In addition, the project adhered to the Health Insurance Portability and Accountability Act of 1996 (HIPAA), which dictates the privacy and security of health information (Gillard, 2020).

The staff educational program includes components related to pain management, assessment of nurses' knowledge of pain management and adherence to the institution's guidelines for pain management. The risks associated with the presentation of the

educational program to the nurses of the local facility were minimal, no greater than risks associated with usual education.

The privacy of the nurses who participated in the training was protected. The pre- and posttests were completed anonymously with no requirement for identification of the participants. Names were not linked to the answers provided. Codes were assigned to avoid using the names of the nurses. I administered the pretest before the PowerPoint presentation. I administered the posttest immediately after the PowerPoint presentation. All responses were aggregated. All data, including the teaching plan and pre- and posttest will be kept in a secure location on my personal computer; I alone have access to this information.

### **Analysis and Synthesis**

I used descriptive statistics to analyze the results of the pre- and posttest using the Excel statistical program. I determined the percentage difference between the pre- and posttest results. The results of the statistical analysis were used to determine if there was an increase in the nurses' knowledge after participating in the educational program.

### **Summary**

The evolution of pain management practices in the United States has a long history involving providers' and clinicians' care and support. Pain management involves previously treated pain, timing, changes, and outcomes for patients with chronic or acute pain. Effective pain management is important, and clinicians strive to identify safe pain management options for patients (McDonald & Barri, 2015). The practice-focused question indicated the intent to increase the nurses' knowledge about evidence-based pain

management approaches and the pain management policies and procedures in the facility. I sought to improve the nurses' adherence to the policy and guidelines of pain management. The educational program was developed from current literature for an evidence-based approach that was geared towards an adult learning approach. The process of implementing this project required the facility's agreement to participate as well as the identification of key stakeholders to evaluate the use of this educational program for their nurses. Stakeholders evaluated the program using the stated review question with Likert-type responses. The framework included Knowles' theory of adult learning. This project adhered to the Walden University IRB's guidelines for protection of participants. I obtained IRB approval.

In section 4, I discuss the findings and implementation of the project, describe the recommendations for the project's future usage, and address the strengths and any gaps that were identified during implementation.

#### Section 4: Findings and Recommendations

Practitioners' struggle to manage their patients' pain has been an issue for decades at one local facility in the Northeastern United States. As communicated by clinicians, there has been little understanding of how to appropriately manage pain at this acute care facility. According to the monthly patient satisfaction survey as well as daily leadership rounds report, there have been numerous reports from patients about the mismanagement of their pain, as providers and clinicians struggle to find and use an evidence-based approach for favorable outcomes. The purpose of this project was to determine the effectiveness of a pain education program to increase the nurses' understanding of acute pain management according to the facility's guidelines. The practice-focused question was:

PFQ: Will an educational program on acute pain management increase nurses' knowledge of pain management on a medical-surgical unit according to the facility's pain management guidelines?

I obtained evidence from four sources: (a) articles retrieved from CINAHL, Medline, and the Walden Library databases using key terms *pain management* and *nursing adherence* and reviewing literature from 2014 to 2019; (b) the Centers for Disease Control (CDC) Publications; (c) the American Society for Pain Management Nursing (ASPMN); and (d) data from the Nursing Quality Department. I used information from these sources to design an evidence-based educational program related to pain management that was provided to the nurses on the medical-surgical inpatient unit. I used descriptive statistics to evaluate the difference between the nurses'

knowledge prior to their participating in the education program and after participating in the educational program.

### **Findings and Implications**

The DNP staff educational project was presented to 19 nurses who work on a medical-surgical inpatient unit. The mean score on the pretest was 60% ( $N = 12$ ), and after participating in the education program, the mean score was 100% (see Table 1). Table 2 includes the total scores for participants on pre- and posttests. These findings suggest that the nurses gained knowledge about how to manage patients' pain in an acute care setting after the education. Twelve nurses scored 60% or less on the pretest (see Table 2).

The outcome of the educational program showed a potential for positive social change in that timely and appropriate pain management interventions may be beneficial for several groups: providers and clinicians, patients and family members, the institution, and the community on a whole. Eighteen of the 19 nurses who participated in the education program scored 100% on the posttest. These findings showed that participants were able to meet the educational objective. With new knowledge, these nurses may be more compliant with the guidelines. Patients and family members would be expected to benefit from the anticipated improved nurses' adherence to the institution's pain management guidelines to effectively decrease pain and suffering. Effective pain management interventions by nurses will empower patients in recognizing acceptable levels of pain relief as well as help nurses balance patient ethical and cultural beliefs that shape the patients' experiences and understanding of pain (Mendes, de Almeida

Clemente Ferrito & Goncalves, 2018). This should be reflected by an increase in the HCAHPS scores.

Table 1

*Pre- and Posttest Percentage*

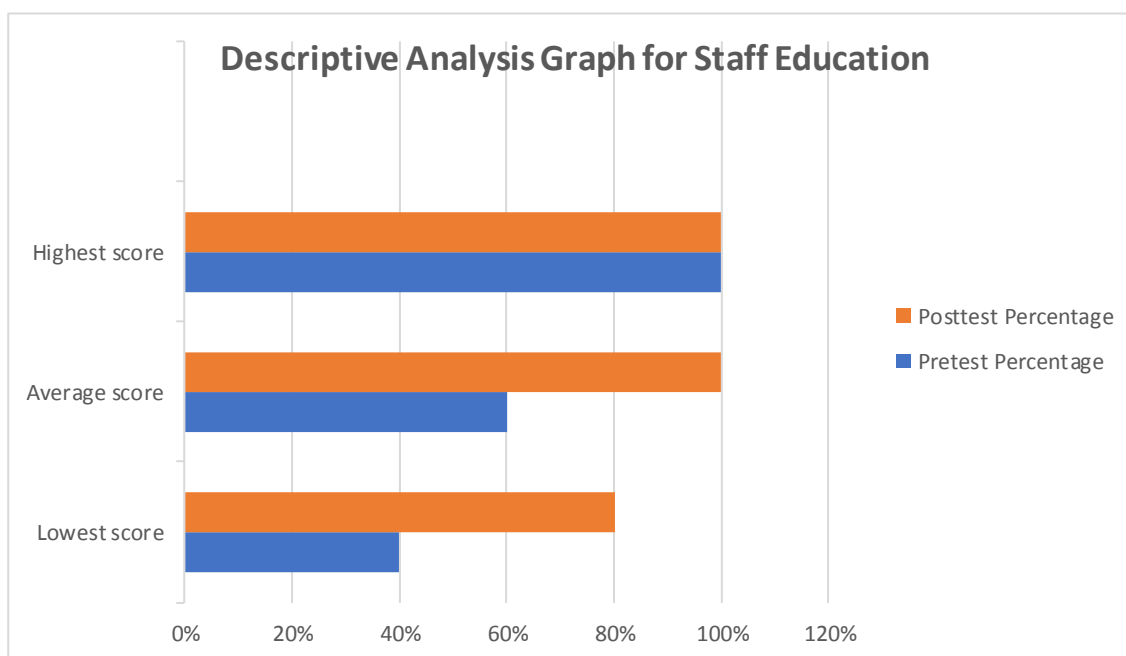
	Pretest percentage	Posttest percentage
Lowest Score	40%	80%
Average Score	60%	100%
Highest Score	100%	100%

Table 2

*Pre- and Posttest Results*

	Pretest scores	Posttest scores
1	60%	100%
2	60%	100%
3	60%	100%
4	40%	100%
5	60%	100%
6	60%	100%
7	40%	100%
8	40%	100%
9	60%	100%
10	80%	100%
11	80%	100%
12	40%	100%
13	80%	100%
14	60%	100%
15	100%	100%
16	60%	100%
17	100%	100%
18	80%	80%
19	100%	100%





*Figure 1.* Descriptive analysis graph of scores for staff education.

### **Recommendations**

The results of the study revealed that there was an increase in the knowledge level of the nurses after participating in the education program. Based on these results as well as the potential of the educational program to address the gap in practice as related to pain management, I recommend the following:

- Present the education program to the nurses on the medical-surgical units. The nurses who are assigned to these units encounter patients who experience pain, and the program will provide them with the information needed to effectively manage their patients' pain.
- Reinforce the knowledge gained from the educational program by including the discussion of the effectiveness of pain management for each patient during daily interdisciplinary rounds.

- Hold team meetings between the primary nurses and medical providers when the expected pain management results fall below the accepted benchmark. I recommend that this meeting be held at the patient's bedside and that it includes the patient to further explore causative factors for the problem and identify the best pain-relieving regimen tailored to the patient's pain needs.
- Provide online access to pain management modules and updates for the staff.

### **Strength and Limitation of the Project**

Strengths exhibited through the educational project were the positive results of the teaching program, which showed an average increase of 40% in knowledge gained after participating in the education program. The nurses were engaged and interactive during the teaching session. They provided accurate feedback to questions related to assessment and intervention of pain related issues. The following limitations prevented the nurses from paying full attention during the education program. Firstly, the nurses were faced with limited time as well as insufficient coverage for their patients when they went off the unit to attend the classes. Secondly, some of the nurses did not have sufficient time to review the pain management in-service package. Thirdly, the nursing classroom was not easily accessible, as it was located on the ground floor, a distance away from the fifth-floor nursing unit.

For future projects, to increase the educational benefit for the nurses, I recommend role play of scenarios using case studies of patient care issues during the teaching session. I also recommend providing the teaching session twice. It may be more feasible for leadership to provide coverage for the staff while they are in the session

if there was more than one offering. In addition, the education program could be presented using SurveyMonkey. The staff would be able to participate in the pre- and posttest and the PowerPoint presentation at a time and place convenient to them.

### Section 5: Dissemination Plan

Upon successful implementation of my DNP project, it will be presented to the upper nursing leadership team at the institution's weekly Nurse Leaders Conference, outlining the results as well as a proposed plan to disseminate the education to the entire medical-surgical division for incorporation into daily nursing practice. Dissemination of scholarly project outcome is an important aspect of the DNP endeavor. The development of knowledge from the DNP scholarly project is essential for the 21st century health arena. Nursing processes and creativity enable nurses to implement effective and sustainable changes in the healthcare environment (Christenbery & Latham, 2013). The DNP teaching project is uniquely designed to improve nurses' knowledge through staff education. I will present the findings from this project to the key stakeholders on the unit and at the facility. I am a member of the American Nurses Association and the American Organization of Nursing Leadership, and I plan to submit an abstract for a podium presentation. The American Organization of Nursing Leadership strives to advance nurses in their professional development through innovative and competency-based learning experiences. Dissemination of the project will be beneficial to the patient population, nurses, the institution, and the community on a whole.

#### **Analysis of Self**

As a nurse manager of an acute care, inpatient, medical-surgical unit where most, if not all, of the patient population experience some sort of pain, it is essential that I ensure that pain management updates and guidelines are disseminated among the nurses on the unit. As an educator and evaluator of the teaching program, I am also responsible

for presenting the education to the staff nurses on the medical-surgical nursing unit. As the evaluator, I am responsible for evaluating the effectiveness of the teaching program using the results from the pre and posttest. This will enable the nurses to respond with enhanced knowledge to manage their patients' pain. Guiding and teaching the nurses about pain management has been a tremendous experience for me, as I provided them with the information that will empower them to independently assess and intervene using current evidence-based information to effectively manage patients' pain.

On the inpatient, medical-surgical unit where the project was disseminated, the nurses were faced with limited time as well as insufficient coverage for their patients as they participated in the education project. Execution of the teaching program on other medical-surgical units will be challenging, but with the support of upper leadership in granting hospital business for the educational session, this could be accomplished. As I progress in my career as a DNP prepared nurse leader, I will be a change agent for my facility, the community, and the profession on a whole. This journey and the rigors of scholarship and enquiry has inspired curiosity to engage in deeper explorations.

### **Summary**

The DNP is focused on preparing nurses for advanced specialized nursing practice. It is essential that nurses have the competencies to improve health outcomes through translating evidence into practice. Leadership roles in QI initiatives and continuous approach through systematic and logical processes are vital in this effort. In following a QI project, it is important to address issues that affect patient outcomes (Roush & Tesoro, 2018).

If left untreated, pain takes a negative toll on patients, families, and society as a whole. With an early understanding of pain management and empathy for pain, future clinicians may be willing to treat pain in an improved manner (Vadivelu et al., 2012). By empowering nurses with the most current evidence-based practices relating to pain management, they will be able to effectively assess and manage their patient's pain to increase the patient's quality of life. The practice-focused question was designed to lead to increasing the nurses' knowledge about evidence-based pain management approaches and the pain management policies and procedures in the facility.

The statistical analysis showed that the nurses' knowledge about pain management increased after participation in the educational program. The analysis also provided information for the development and incorporation of different pain management strategies for the reduction of pain.

## References

- Abranhamson, K., Hass, Z., Morgan, K., Fulton, B., & Ramanujam, R. (2016). The relationship between nurse-reported safety culture and the patient experience. *Journal of Nursing Administration, 46*(12), 662–668.  
doi:10.1097/nna.0000000000000423
- American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. Washington, DC: Author. Retrieved from <https://www.aacnnursing.org/Portals/42/DNP/DNPEssentials.pdf>
- Beringer, C., Jonas, D., & Kock, A. (2013). Behavior of internal stakeholders in project portfolio management and its impact on success. *International Journal of Project Management, 31*(6), 830–846. doi:10.1016/j.ijproman.2012.11.006
- Carlson, E. A., Staffileno, B. A., & Murphy, M. P. (2018). Promoting DNP-PhD collaboration in doctoral education: Forming a DNP project team. *Journal of Professional Nursing, 34*(6), 433–436. doi:10.1016/j.profnurs.2017.12.011
- Chang, F., & Ibrahim, S. (2017). Perceptions of community-dwelling patients and their physicians on OxyContin ®: Discontinuation and the impact on chronic pain management. *Pain Research & Management, 2017*, 1–11.  
doi:10.1155/2017/5402915
- Chen, J.-L., Chen, S.-F., & Kuo, H.-C. (2014). Clinical assessment and management of patients with National Institute of Health categories IIIA and IIIB chronic prostatitis/chronic pelvic pain syndrome. *Tzu Chi Medical Journal, 26*(4), 151–156. doi:10.1016/j.tcmj.2014.07.008

- Christenbery, T. L., & Latham, T. G. (2013). Creating effective scholarly posters: A guide for DNP students. *Journal of the American Academy of Nurse Practitioner*, 25(1), 16-23. doi:10.1111/j.1745-7599.2012.00790.x
- Chu, T. L., Wang, J., Lin, H. L., Lee, H. F., Lin, C. T., Chieh, L. Y., ... Lin, Y. E. (2019). Multimedia-assisted instruction on pain assessment learning of new nurses: A quasi-experimental study. *BMC Medical Education*, 19(1), 68.
- Colloca, L., Eun Lee, S., Luhowy, M. N., Haycock, N., Okusogu, C., Soojin, Y., Raghuraman, N., Goodfellow, R., Murray, R. S., Casper, P., Lee, M., Scale, T., Fouche, Y., & Murthi, S. (2019). Relieving acute pain (RAP) study: A proof-of-concept protocol for a randomized, double-blind, placebo-controlled trial. *BMJ Open*, 9(11), 1.
- Cooney, M. F., Czamecki, M., Dunwoody, C., Eksterowicz, N., Merkel, S., Oakes, L., & Wuhrman, E. (2013). American Society for Pain Management nursing position statement with clinical practice guidelines: Authorized agent controlled analgesia. *Pain Management Nursing*, 14(3), 176-187. doi:10.1016/j.pmn.2013.07.003
- Dowell, D., Haegerich, T. M., & Chou, R. (2016). CDC guideline for prescribing opioids for chronic pain – United States, 2016. *JAMA*, 315(15), 1624-1645. doi: 10.1001/jama.2016.1464
- Driscoll, M. A., Knobf, M. T., Higgins, D. M., Heapy, A., Lee, A., & Haskell, S. (2018). Patient experiences navigating chronic pain management in an integrated health care system: A qualitative investigation of women and men. *Pain Medicine*, 19(Suppl 1), S19-S29. doi:10.1093/pm/pny139



- Franco, M. S. (2019). Instructional strategies and adult learning theories: An autoethnographic study about teaching research methods in a doctoral program. *Education, 139*(3), 178.
- George, T. P., Murphy, P. F., DeCristofaro, C., & Hucks, J. M. (2019). Student perceptions regarding collaborative intraprofessional nursing education. *Nurse Educators, 44*(4), 226–230. doi:10.1097/nne.0000000000000584
- Germossa, G. N., Sjetne, I. S., & Helleso, R. (2018). The impact of an in-service educational program on nurses' knowledge and attitude regarding pain management in an Ethiopian university hospital. *Frontiers in Public Health, 6*. doi:10.3389/fpubh.2018.00229
- Gillard, K. W. (2020). Student's privacy rights: Where HIPPA and FERPA intersect. *APTA Magazine, 12*(8), 10-15.
- Glowacki, D. (2015). Effective pain management and improvements in patients' outcomes and satisfaction. *Critical Care Nurse, 35*(3), 33–41. doi:10.4037/ccn2015440
- Gorawara-Bhat, R., Wong, A., Dale, W., & Hogan, T. (2017). Nurse's perceptions of pain management for older-patients in the emergency department: A quantitative study. *Patient Education and Counseling, 100*(2), 231–241. doi:10.1016/j.pec.2016.08.019
- Gray, J. R., Grove, S. K., & Sutherland, S. (2017). *Burns & Grove's The practice of nursing research: Appraisal, synthesis, and generation of evidence* (8th ed.). St Louis, MO: Saunders Elsevier.

- Harden, k., Price, D., Duffy, E., Galunas, L., & Rodgers, C. (2017). Palliative care: Improving nursing knowledge, attitude, and behaviors. *Clinical Journal of Oncology Nursing, 21*(5), e232–e238. doi:10.1188/17.cjon.e232-e238
- Harrison, J. M., Lagisetty, P., Sites, B. D., Guo, C., & Davis, M. A. 7. (2018). Trends in prescription pain medication use by race/ethnicity among US adults with noncancer pain, 2000-2015. *American Journal of Public Health, 108*(6), 788. doi:10.2105/ajph.2018.304349
- Kizza, I.B., Muliira, J. K., Kohi, T. W., & Nabirye, R. C. (2016). Nurses' knowledge of the principles of acute pain assessment in critically ill adult patients who are able to self-report. *International Journal of Africa Nursing Sciences, 4*(20), 20–27. doi:10.1016/j.ijans.2016.02.001
- Kraft, L., Wiechula, R., & Conroy, T. (2015). The effectiveness of acute pain management for opioid dependent patients: A systematic review protocol. *JBIR Database of Systematic Reviews & Implementation Reports, 13*(9), 120–135. doi:10.11124/jbisrir-2015-1743
- Lakkakula, B. V. K. S., Sahoo, R., Verma, H., & Lakkakula, S. (2018). Pain management issues as part of the comprehensive care of patients with sickle cell disease. *Pain Management Nursing, 19*(6), 558–572. doi:10.1016/j.pmn.2018.06.004
- Leppin, A. L., Fernandez, C., & Tiburt, J. C. (n.d.). Missed opportunity: A mixed-method analysis of CAM discussions and practices in the management of pain in

oncology. *Journal of Pain and Symptom Management*, 52(5), 719–726.

doi:10.1016/j.jpainsymman.2016.05.025

Lewis, C., P., Corley, D. J., Lake, N., Brockopp, D. B., & Moe, K. (2015). Overcoming barriers to effective pain management: The use of professionally directed small group discussions. *Pain Management Nursing*, 16(2), 121–127.

doi:10.1016/j.pmn.2014.05.002

McDonald, D. D., & Barri, C. (2015). The pain management life history calendar: A pilot study. *Pain Management Nursing*, 16(4), 587–594.

doi:10.1016/j.pmn.2014.11.002

McKune, C. M. (2012). The cornerstone of pain management: Pain assessment. *Advances in Small Animal Medicine & Surgery*, 25(4), 1–3.

doi:10.1016/j.asams.2012.03.001

Mendes, D. I. A., de Almeida Clemente Ferrito, C, C. R., & Goncalves, M. I R. (2018). Nursing interventions in the enhanced recovery after surgery: Scoping review. *Revista Brasileira de Enfermagem*, 2824-2832. doi:10.1590/0034-7167-2018-0436

Mishriky, J. Stupans, I., & Chan, V. (2019). Expanding the role of Australian pharmacists in community pharmacies in chronic pain management – a narrative review.

*Pharmacy Practice*, 17(1), 1410. doi:10.18549/pharmpract.2019.1.1410

Nadiyah, R. S., & Faaizah, S. (2015). The development of online project based collaborative learning using ADDIE Model. *Procedia – Social and Behavioral Sciences*, 195, 1803–1812. doi:10.1016/j.sbspro.2015.06.392

- Pal, R., Paul, S. K., Thatkar, P. V., & Pal, S. (2016). Pain management: An ignored medical issue. *BLDE University Journal of Health Sciences, 1*(1), 28-32.  
doi:10.4103/2456-1975.183282
- Price, D. M., Buch, C. L., & Hagerty, B. M. (2015). Measuring confidence in nursing graduates within the framework of the AACN Essentials. *Nursing Education Perspectives (National League for Nursing), 36*(2), 116.
- Romero-Hall, E. (2015). Pain assessment and management in nursing education using computer-based simulations. *Pain Management Nursing, 16*(4), 609.
- Roush, K., & Tesoro, M. (2018). An examination of the rigor and value of final scholarly projects completed by DNP nursing students. *Journal of Professional Nursing, 34*(6), 437.
- Sheeba, R. P., Vinitha, R., Angelin, E. A., Emily, S. I., Mythily, V. S. C., Anuradha, R., & Selva, T. C. (2019). Nursing student's perception and practice related to academic integrity. *International Journal of Nursing Education, 11*(3), 51.
- Shipton, E. E., Bate, F., Garrick, R., Steketee, C., Shipton, E. A., & Visser, E. J. (2018). Systematic review of pain medicine content, teaching and assessment in medical school curricula internationally. *Pain and Therapy, 7*(2), 139–161.  
doi:10.1007/s40122-018-0103-z
- Tick, H., Nielsen, A., Pelletier, K. R., Bonakdar, R., Simmons, S., Glick, R., ...Zador, V. (2018). Original research: Evidence-based nonpharmacologic strategies for comprehensive pain care. The consortium pain task force white paper. *Explore, 14*, 177.

Tracy, S. M., & DiNapoli, P. (2010). Exploring the theory of integral nursing with implications for pain management practice. *International Journal for Human Caring*, 16(1), 26–31. doi:10.20467/1091-5710.16.1.26

Twaddell, J. W. (2019). Educating parents about Vitamin K in the newborn using Knowles' theory of adult learning principles as a framework. *Critical Care Nursing Quarterly*, 42(2), 205–207. doi:10.1097/cnq.0000000000000256

Vadivelu, N., Mitra, S., Hines, R., Elia, M., & Rosenquist, R. W. (2012). Acute pain in undergraduate medical education: An unfinished chapter! *Pain Practice*, 12(8), 663-671. doi:10.1111/j.1533-2500.2012.00580.x