KNOWLEDGE AND ATTITUDE OF NURSES IN A NEW RN GRADUATE RESIDENCY PROGRAM REGARDING PAIN MANAGEMENT

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

Of Doctor of Nursing Practice

By

Kathryn Lee Wampole

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Lynchburg, VA

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Scholarly Project Chair Approval:

Dr. Cynthia Goodrich, EdD, MSN, RN, CNE, Professor of Nursing, Chair, October 1, 2018

ABSTRACT

Most people have encountered pain at some point in their lives. It is a very common complaint nurses hear from patients. When assessing patients, nurses are taught to take what the patient says as his or her pain level as fact. Pain is not a vital sign that can be measured with medical equipment like temperature or blood pressure. Therefore, many nurses find assessing pain challenging. Adding to the complexity of pain management is the current opioid crisis. To help combat some of these issues, the project leader worked with healthcare administrators at a regional teaching hospital in the southeastern United States to create pain assessment and pain management classes for nurses in the new hire nurse residency program. The purpose of the scholarly project was to measure at least 20 registered nurses' knowledge and attitudes in a new RN graduate residency program regarding pain management. The study was conducted using a quasi-experimental approach to collect and analyze the results of the pre-test and post-test data. A modified version of the "Knowledge and Attitudes Survey Regarding Pain" (KASRP) by the *City of Hope* was used as the tool to collect data from the participants. There were 32 participants who completed the study. Using descriptive statistics and *t*-test comparison of the pre-test and post-test data, it can be concluded the educational session was beneficial to the nurses and helped improve their knowledge and attitudes about pain management. The data also supports the need to disseminate the educational sessions to all nurses within the healthcare system.

Keywords: pain management, pain assessment, opioid crisis, opioid epidemic, pain management curriculum

Acknowledgements and Dedication

First and foremost, I want to thank God for giving me the strength, persistence, and opportunity to attain my Doctor of Nursing Practice degree. Without Him, none of this would have been possible. I want to thank everyone who prayed for me as I embarked on this journey.

I dedicate this project to my mom who is in Heaven. You are the reason I became a nurse. I wanted to follow in your footsteps since I was a little girl and saw you dressed in your nursing attire, so you could go to work to care for patients. When you were diagnosed with cancer, I knew God had called me to be a nurse, so I could also have a positive impact on patients' lives. While you are not on earth any more, I am reminded of you every day and know that I will see you again. You are my hero!

I want to thank my grandmother who has been my biggest supporter and cheerleader through my nursing school journey. Thank you for always believing in me and loving me. To my sister, thank you for reminding me why I am a nurse and to never give up.

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List of Abbreviations

Associates Degree in Nursing (ADN)

Bachelor of Science in Nursing (BSN)

Center for Disease Control (CDC)

Collaborative Institute Training Initiative (CITI)

Doctor of Nursing Practice (DNP)

Evidenced-based Practice (EBP)

Institutional Review Board (IRB)

Knowledge and Attitudes Survey Regarding Pain (KASRP)

National Council Licensure Examination for Registered Nurses (NCLEX-RN)

Nurse Residency Program (NRP)

Statistical Package for the Social Sciences (SPSS)

SECTION ONE: INTRODUCTION

Registered nurses are facing more challenges today with managing patients' pain than any other time in history. Most people have encountered pain at some point in their lives. Nurses commonly hear patients report about pain. When assessing patients, nurses are taught to take what the patient says as his or her pain level as fact. Pain is not a vital sign that can be measured with medical equipment like temperature or blood pressure. Therefore, because of its subjective nature, many nurses find assessing pain challenging. Adding to the complexity of pain management is the current opioid crisis. To help combat some of these issues, the project leader worked with healthcare administrators at a regional teaching hospital in the southeastern United States to create pain assessment and pain management classes for nurses in the new hire nurse residency program (NRP).

Background

Almost daily, there is a news story about the current opioid crisis. In fact, in 2012, the Center for Disease Control (CDC) said the United States was in an opioid epidemic and it was the worst opioid epidemic in history (Krashin, Murinova, & Sullivan, 2016). The opioid epidemic or crisis is thought to be a result of several things. For instance, pain is now considered "the fifth vital sign" and healthcare accrediting agencies started including pain management on patient surveys which has generated an overprescribing of opioids, so patients will provide satisfactory survey results (Wolfe, Bouffard, & Modesto-Lowe, 2016).

Problem Statement

The opioid crisis has adversely affected patients with acute and chronic pain due to inappropriate assessment and inconsistent prescribing. Sadly, many patients that have a true need for opioid pain medications are being denied the needed prescriptions or given inadequate

amounts (Rothstein, 2017). Guidelines need to be in place to help nurses properly manage patients with acute and chronic pain. Proper pain assessment and pain management is difficult for many nurses. There was a need for curriculum on pain assessment and pain management at the healthcare facility.

Purpose of the Project

The current opioid crisis and the negative implications that have surfaced around it prompted the purpose of the scholarly project, which was to create classes on pain assessment and management for the NRP at a regional teaching hospital in the southeastern United States. There are challenges faced by nurses when caring for patients with acute and chronic pain. Having nurses who are educated on pain assessment and pain management, based on evidence-based practice, will help guide nurses as they manage patients. In addition, it is vital that nurses be educated on the opioid crisis, but also on the need to carefully assess each patient's pain because many patients are being underassessed and undertreated.

Clinical Question

The questions were developed using the PICO format, which stands for population, intervention, comparison, and outcome.

- Population: Nurses in the nurse residency program at a regional teaching hospital in the southeastern United States.
- Intervention: Pain management and pain assessment classes based on evidence-based practice guidelines.
- Comparison: There was no comparison group.

- Outcomes: Will the pain management curriculum improve the nurse's knowledge and attitudes based on pre-test and post-test data? Will the organization continue to use the pain management curriculum on an ongoing basis?

Does introducing a pain management curriculum in the new hire nurse residency program improve the nurse's knowledge and attitude when caring for patients in pain? Will introducing a pain management curriculum in the new hire nurse residency program result in a permanent change in the curriculum for the residency program?

SECTION TWO: LITERATURE REVIEW

Search Strategy

A systematic search was conducted for articles and journals published in the English language dated within the last five years. The following databases were included in the search: CINAHL, EBSCO, Google Scholar, and MEDLINE Complete. The search contained the following keywords: pain, pain management, acute pain, chronic pain, opioid crisis, opioid epidemic, pain assessment, nurse knowledge, nurse attitude, pain education, pain outcomes, pain management curriculum, pain management training and pain policies.

The initial search included 1,308 articles. The number of articles was reduced to 47 articles dated within the last five years, and then further reduced to 15 peer reviewed, scholarly articles relating to pain management curriculum, nurse's knowledge about pain management and the opioid crisis and its impact on nurse's knowledge and attitude. The literature was analyzed using Melnyk's Framework to level the evidence for evidence-based practice (Melnyk & Fineout-Overholt, 2015). The 15 articles included one Level I systematic review, two Level III quasi-experimental studies, three Level IV cohort studies, two Level V qualitative studies, three Level VI single descriptive studies, and four Level VII opinion of authorities. The literature

review allowed for inferences to be made from identified knowledge deficits and attitudes of nurses regarding pain assessment and pain management, the challenges of the opioid crisis for nurses caring for patients in pain, and the need for more education on pain management.

Critical Appraisal and Synthesis

A wealth of current literature discusses the importance of decreasing the number of opioid prescriptions in an attempt to slow the current opioid crisis. Contrarily, less research exists to support the need for nurses to adequately manage patients with acute and chronic pain. The groups described by the research can be placed into two broad categories: those who have a history of opioid abuse and those who do not.

A qualitative study by St. Marie (2016) suggests that nurses have difficulties caring for patients in acute or chronic pain who have a history of opioid abuse. The study provides valid dilemmas faced by nurses when caring for this patient population. In a systematic review, Voon, Karamouzian, and Kerr (2017) suggested patients with a history of opioid abuse have a greater chance of misusing opioids for chronic, non-cancer pain. Sadly, this puts more pressure on the nurses to properly assess the patient's pain, while ensuring the patient is not abusing the medications. Nurses' opinions vary on this subject as to need versus misuse.

Andrews et al. (2013) argued that it may be beneficial for healthcare facilities to have a pharmacist-led consulting service to help with prescribing narcotics to patients who have a history of opioid abuse. The results of this cohort study indicated there was a decrease in opioid use when pharmacists were consulted for prescribing needs. Additionally, an article by Dever (2017) suggests healthcare facilities have guidelines for properly managing patients that have acute and chronic pain and a history of opioid abuse.

A study by Mundt-Leach (2016) suggests that many patients who are at the end of life and are addicted to narcotics have poor dying experiences because nurses are not trained on properly caring for this patient population. Slatyer, Williams, and Michael (2015) said nurses felt disempowered when caring for patients in severe pain. They suggested pain management training for nurses will help improve their self-confidence and make them feel empowered (Slatyer et al., 2015). It is imperative for nurses to be trained on end of life care in patients addicted to opioids.

The results of a quasi-experimental study by Keen et al. (2017) indicate the importance of pain management education for nurses, suggesting that pain management education not only improves nurses' knowledge regarding pain management, it also improves their attitude. A similar study by Gustafsson and Borglin (2013) concurs that nurses' attitudes and knowledge about cancer pain management improved with an educational session on the topic. Furthermore, Nageshwar et al. (2017) suggested that the nurse's experience, in addition to training in pain management, helps improve the nurse's clinical decision-making skills.

Paice and Coyne (2017) suggested that patients with life-threatening conditions such as cancer are receiving unintended consequences from the decrease in the equitable distribution of opioids. Many of these patients, even though they have no history of opioid abuse, are not receiving the quantity of narcotics needed to treat the pain from their life-threatening illness (Paice & Coyne, 2017). Patients and their family members are taking great measures to try to cope with the pain such as buying illegal drugs like heroin.

Research presented by Shinde, Gordon, Sharma, Gross, and Davis (2015) makes a distinction between the suggested treatment for those with a history of abuse and those without a history. Strayer, Motov, and Nelson (2017) argued that opioid addicted patients who have acute

and chronic pain are best treated with alternatives to opioids in conjunction with addiction help. The findings of Shinde et al. (2015) further argue that patients prescribed adjuvant, non-opioid medications, along with opioid medications, have improvement in controlling pain. This study was useful in the scholarly project because it provided details of using non-opioid analgesics paired with opioids for pain management.

Since there is no standard protocol for prescribing opioids, inconsistencies exist in their use to care for acute and chronic pain patients (Krashin et al., 2016). Additionally, according to a study by Kizza and Muliira (2015), nurse workload and poor documentation are barriers to pain management and assessment for critically ill patients. Costello and Thompson (2015) pointed out that multimorbities are yet another challenge to critical care nurses when caring for elderly patients in pain. It is imperative that nurses have the assessment skills necessary to determine how to properly manage this patient population.

The review of literature reveals the need for pain management training for nurses. With the current opioid epidemic, nurses feel more stress caring for patients with acute and chronic pain. This is further complicated when the patient also has a history of opioid misuse. Providing education about how to properly care for patients in pain will help improve nurse's self-confidence and attitude when caring for patients in pain.

Conceptual Framework

The Iowa Model was the conceptual framework used in this scholarly project. According to Polit and Beck (2014), the Iowa Model focuses on triggers for an evidence-based practice (EBP) project. Seven steps are followed when using the Iowa Model, which are: selection of the topic, formation of a team, evidence retrieval, critique of literature, EBP standard development, EBP implementation, and evaluation (Iowa Model Collaborative, 2017).

For an EBP project to be successful, the seven steps of the Iowa Model must be followed. Identifying the triggers and selection of a topic is the first step in the Iowa Model (Iowa Model Collaborative, 2017). The triggers for this scholarly project came from the current opioid crisis and lack of confidence many nurses have when caring for acute and chronic pain patients. Due to the negative implications of the opioid crisis, many patients in acute and chronic pain are being mismanaged and inappropriately assessed (Tse & Ho, 2014).

The next step in the Iowa Model is determining if the topic is top priority (Iowa Model Collaborative, 2017). This topic was a top priority for the hospital system. Following the determination of the trigger as a priority, a team formed (Iowa Model Collaborative, 2017). The Doctor of Nursing Practice (DNP) student was the lead person for the study and consulted with the DNP scholarly project chair frequently.

A systematic search for literature was done, followed by critiquing the literature and moving forward to the development of an EBP standard (Iowa Model Collaborative, 2017). After a thorough literature review was done and enough evidence gathered, new pain assessment and pain management classes were developed to be used in the NRP. The pain management classes were approved by the healthcare administrators and educational sessions were provided to nurses in the nurse residency program. This step, in the Iowa Model, is known as EBP implementation (Iowa Model Collaborative, 2017).

Finally, an evaluation of the EBP was done on the pilot. The results of the study were positive and healthcare administrators gave approval to move forward with the new pain management classes to be included in the nurse residency program. Later, the classes will be disseminated throughout the entire healthcare system. Dissemination of the EBP project is the final step in the Iowa Model (Iowa Model Collaborative, 2017).

Summary

Since 2012, the United States has been in an opioid epidemic or crisis when the CDC said more people were dying from opioid overdoses and becoming addicted to opioids more than any other time in history; however, the crisis has been occurring since 1996 (Wolfe et al., 2016). An unintended consequence of the opioid crisis is patients with acute and chronic pain being mismanaged and inadequately assessed. Nurses need more training on pain management, and policies need to be created to help manage this patient population. This scholarly project was to study how nurses at a regional teaching hospital in the southeastern United States rated their knowledge and attitude when caring for patients with acute and chronic pain, as well as how they assessed patients' pain. One of the goals of the project was to create pain assessment and pain management classes and provide training to nurses in the new nurse residency program. Further, a more permanent goal was to have the pain management curriculum adopted as part of the new nurse residency program, as well as used throughout the healthcare system to teach nurses about pain management. The healthcare system has adopted the pain management curriculum to be used in the new nurse residency program and plans to disseminate the curriculum throughout the healthcare system.

SECTION THREE: METHODOLOGY

Design

The design of a study is vitally important to its success (Roush, 2015). The scholarly project uses the Iowa Model of EBP algorithm and is evidence-based. A pilot study was conducted in the nurse residency program. The evidence-based project used a quasi-experimental design to gather and analyze data. Mateo and Foreman (2014) defined a quasi-experimental study as a pre-test, followed by an intervention, and then a post-test is given to

measure the impact of the intervention. Data was analyzed and compared from the quasi-experimental study to determine if there was a change.

Measurable Outcomes

A modified version of the Knowledge and Attitudes Survey Regarding Pain (KASRP) tool was used for the pre-test and post-test. Permission to use and modify the KASRP tool was received and is included in Appendix E. The survey given to the nurses is provided in Appendix G, and the answer key is provided in Appendix H. The scholarly project included providing education to nurses about the importance of pain assessment and pain management. According to Eaton, Meins, Mitchell, Voss, and Doorenbos (2015), it is crucial the project be evidenced-based and disseminated to appropriate healthcare staff. Another goal of the project was for the nurse's knowledge and attitude to improve when caring for patients in pain. The hope was the educational sessions about pain assessment, pain management, and the opioid crisis would help increase the nurse's knowledge and attitude when caring for patients in pain.

Setting

The project was piloted in the nurse residency program at a regional teaching hospital in the southeastern United States. The scholarly project focused on nurses in the nurse residency program. The nurses in the NRP were new graduate nurses that had graduated from nursing school within the last 12 months. The project aligns with the organization's mission, values, and strategic plan by adding value to the nurse's knowledge, so nurses can continue to provide excellence in health to the patients served and improve patient outcomes. A copy of the healthcare facility's letter of support is provided in Appendix C.

Population

The participants of the project included registered nurses who were in the nurse residency program. The nurses who were in the NRP were new graduate nurses with less than one year of experience. All new graduate nurses were in the NRP for their first year of employment at the healthcare system. The nurses worked on various units in the healthcare system and were part of the NRP. The minimum sample size was $n = 20$ with an actual sample size of $n = 32$. A convenience sample was used in the scholarly project. The study was performed during one of the scheduled NRP education days. The participants were informed of the study and given the option of participating. There were 45 NRP nurses; 13 opted out of the study and 32 participated in the study. All participants were active registered nurses and had passed the National Council Licensure Examination for Registered Nurses (NCLEX-RN). Seventy-five percent of the study participants were 29 years of age or younger. Eighty-four percent of the participants were female. The mix of education of the study participants was 44% Associates Degree prepared nurses and 56% Bachelor of Science in Nursing prepared nurses.

Ethical Considerations

This scholarly project was structured and organized to protect human subjects. The DNP project team, which included the DNP student and the DNP project chair, both completed research ethics training through Collaborative Institutional Training Initiative (CITI) to ensure the protection of human subjects. The DNP student's CITI training certificate is provided in Appendix B. The DNP student received Institutional Review Board (IRB) approval from both Liberty University and the identified healthcare system. A copy of the IRB approvals are provided in Appendices I and J respectively. Further, prior to the actual study, participants were read and provided an informed consent about the study and given the opportunity to opt out at

any time. The surveys were kept secure in a locked cabinet in the DNP project leader's office. The data will be kept for three years following the end of the study to abide by federal law, and at the end of the three years the data will be destroyed using a shredder.

Data Collection

Data was collected using written surveys. The first survey was given to the participants prior to an educational session on pain assessment and pain management. Following the educational session, another written survey was given to the same participants. For both surveys, the participants were asked to omit any personal identifiers such as their name and date of birth. After all surveys were completed and placed in the envelopes, the envelopes were collected by the DNP student conducting the study. The surveys were kept confidential, in a locked file cabinet, at the project leader's office.

Tools

Surveys were the primary tools used to evaluate the phenomenon of interest. A modified version of Betty Ferrell and Margo McCaffrey's The Knowledge & Attitudes Survey Regarding Pain (KASRP) tool created in 1987 and revised in 2014 by the *City of Hope* was used. The survey and answer key are included in Appendices G and H respectively. The *City of Hope* has given a blanket permission to use the KASRP tool, as well as given permission to modify the tool to fit the needs of the project. The KASRP survey has been used in many studies and found to be a valid tool when measuring nurses' attitudes and knowledge when caring for patients in pain (Measurement Instrument Database for the Social Sciences, n.d.). In fact, from its use by pain experts and other healthcare providers for many years, the reliability of the tool scored with an alpha of $r > .70$ (Measurement Instrument Database for the Social Sciences, n.d.).

Nurses in the NRP at the healthcare facility were given a survey prior to an educational session on pain assessment and pain management. Once the educational session was completed, the same survey was given to the nurses with an additional question asking if the pain assessment and management class improved their knowledge and self-confidence for dealing with patients in acute and chronic pain.

Intervention and Data Collection

The intervention for the scholarly project was creating curriculum on a variety of topics related to pain science to be included in the NRP. Prior to developing the pain assessment and pain management class, approval was secured from healthcare administration. Content for the pain science education class was prioritized based on the current literature and collaboration with the organization's nurse leader over the NRP. Next, a thorough literature review was conducted on pain management. Approval from Liberty University's and the healthcare facility's IRBs were pursued and secured. The project intervention consisted of three phases:

1. Pre-test survey
2. Educational session on pain assessment and pain management
3. Post-test survey

The aforementioned KASRP survey was used for the study. The KASRP survey was modified to include 17 questions of the available 37 questions. Several questions were removed from the KASRP survey that were more specific to the pediatric patient population and for purposes of saving time. The DNP student added questions about demographics and specific questions about the nurses' perception of caring for patients in pain. A total of 24 questions were included in the pre-test and post-test.

Pre-test process. Once approval from Liberty University's and the identified healthcare system's IRBs were secured, the DNP project leader conducted the pilot study during one of the monthly nurse residency program cohorts. The cohort had 45 nurse residency program students in it, but only 32 nurses completed the study. A minimum sample size of $n = 20$ was hoped for with an actual sample size of $n = 32$.

Intervention. Once the pre-tests were collected and placed in a large manila envelope individually and anonymously by the participants, the DNP project leader started the educational session on pain assessment and pain management using a PowerPoint presentation. Topics included in the educational session were how to properly assess patients in pain, the different types of pain scales used and why, alternative therapies for managing pain, and adjuvant therapies used in combination with opioid therapy. The educational session lasted approximately 30 minutes with time for questions and comments at the end. An outline of the pain education provided to the participants of the study is found in Appendix F.

Post-test process. Directly following the pain education presentation, a post-test survey was given to the participants. The participants were asked to leave off any personal identifiers and to complete the post-test survey and place the survey in the manila envelope at the front of the classroom once they were finished. The questions were identical for the pre-test and the post-test.

Data collection and team members. For both the pre-test survey and the post-test survey, the participants were instructed to place their completed surveys in the manila envelope at the front of the classroom. The surveys did not include any identifiers and the participants individually and anonymously placed their surveys in the manila envelopes. The first manila envelope was put at the front of the room for the participants to place their pre-test surveys in

and was labeled “Pre-test Surveys” by the DNP project leader. A second manila envelope was placed at the front of the classroom to collect the post-test surveys from the participants and it was labeled “Post-test Surveys.” To avoid any confusion, the pre-test survey envelope was removed from the front of the classroom before the PowerPoint presentation was conducted. The post-test survey envelope was then placed at the front of the classroom to collect the post-test surveys once completed. A total of $n = 32$ participants answered both the pre-test and post-test surveys. The data was analyzed using a *t*-test comparison of the pre-test and post-test data.

No additional team members were needed for the scholarly project. However, the DNP project leader did confer with nursing administration at the healthcare facility where the project was implemented about what needs they had in the nurse residency program. In addition, the DNP project chair was available to answer any questions from the DNP project leader.

Feasibility analysis. The scholarly project was feasible to the identified organization. Since the participants of the project were a convenience sample from nurses in the NRP and the educational sessions were done during their scheduled NRP times, there was no costs associated with staff salaries. Furthermore, the scholarly project was part of the educational requirements of the DNP student at Liberty University and the student was not paid to do the project. The resources required for the project were a large classroom with a projector and computer hook ups, manila envelopes, personal computer, data software including Microsoft Office software, Statistical Package for the Social Sciences (SPSS), telephone, scanner, printer, copying machine, lockable file cabinet, office space, and the modified KASRP survey.

The scholarly project was a starting point for the healthcare organization to begin addressing nurses’ knowledge and attitudes regarding pain assessment and pain management. While there was much that could be included in the pain science curriculum, the information was

narrowed down by the DNP project leader and the nursing administrator of the NRP to save time. Polit and Beck (2014) stated surveys need to be concise because if they are too long, the data can be skewed.

Data Analysis

The SPSS was used for the data analysis of the scholarly project. Since a quasi-experimental approach to collect and analyze data was performed for the EBP project, a *t*-test comparison was used in the statistical analysis to compare the differences between the pre-test and the post-test. The DNP project leader used descriptive analysis to show the differences between the mean and the standard deviations for this project. No surveys were incomplete; therefore, all $n = 32$ surveys were included in the data analysis. The minimum number of participants needed for the project was $n = 20$.

Measurable Outcome 1. Will the pain management curriculum improve the nurse's knowledge and attitudes based on pre-test and post-test data? A *t*-test was performed on the data with an alpha set at 0.05. Paired sample statistics were run on the total correct answers comparing the total pre-test answers to the total post-test answers. The pre-test showed ($m = 13.81$, $SD = 1.575$) while the post-test showed ($m = 14.31$, $SD = 1.491$). The mean score for the pre-test and post-test did increase which indicated the pain management curriculum improved the nurse's knowledge and attitudes. Furthermore, 100% of the participants said the pain management curriculum was helpful and improved their knowledge and attitudes for caring for patients in acute and chronic pain. However, the paired samples test did not show statistical significance by $t(31) = 1.739$, $P = 0.092$ with an alpha set at 0.05. This may be due to the smaller sample size of only $n = 32$.

Measurable Outcome 2. Will the organization continue to use the pain management curriculum on an ongoing basis? The healthcare organization wants to continue using the pain management curriculum in the NRP. There are no statistics related to this outcome. The DNP project leader has been asked by the NRP administrator at the healthcare facility to continue to teach the pain management curriculum to the NRP cohorts. The DNP project leader has agreed and will continue to work with hospital administrators to disseminate the pain management curriculum throughout the healthcare system.

SECTION FOUR: RESULTS

Descriptive Statistics by Age Groups

There were six age groups included in the survey. Sixteen nurses were in the 20-25 years age group which equated to 50% of the study participants and was the largest group. Eight nurses, which equated to 25%, were in the 26-29 years age group and was the second largest group in the study. Four participants were in the 30-35 years age group, which equated to 12.5% and the third largest group in the study. Two nurses, or 6.3%, were in the 36-39 years of age group. There was one nurse, 3.1%, in both the 40-45 years age group and the 46-49 years age group. Table 1 shows the breakdown of age for the participants of the project.

Table 1

Age Demographics of Participants

Age	Frequency	Percent	Valid Percent	Cumulative Percent
20-25	16	50.0	50.0	50.0
26-29	8	25.0	25.0	75.0
30-35	4	12.5	12.5	87.5
36-39	2	6.3	6.3	93.8
40-45	1	3.1	3.1	96.9
46-49	1	3.1	3.1	100.0
Total	32	100.0	100.0	

Descriptive Statistics of Highest Level of Education

The survey also included demographics on highest level of education of the study participants from Diploma of Nursing to DNP. Only two degree types were specified by participants in the study. Fourteen nurses indicated their highest level of education was an Associate's Degree in Nursing (ADN) which represented 44% of the participants. The remaining 18 study participants were Bachelor of Science in Nursing (BSN) prepared nurses which equated to 56%. Table 2 shows the demographic information discussed above regarding the education level of the participants.

Table 2

Highest Level of Education of Participants

Degree	Frequency	Percent	Valid Percent	Cumulative Percent
AND	14	43.7	43.7	43.7
BSN	18	56.3	56.3	100.0
Total	32	100.0	100.0	

Note. Associates Degree in Nursing (ADN); Bachelor of Science in Nursing (BSN).

Descriptive Statistics by Gender

The majority of the study participants were female. Of the 32 participants, 27 or 84% were female. The remaining five participants were male which equated to 16% of the nurses who participated in the study. Table 3 below shows the breakdown of gender for the study.

Table 3

Gender of Study Participants

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	5	15.6	15.6	15.6
Female	27	84.4	84.4	100.0
Total	32	100.0	100.0	

Descriptive Statistics of the Total for the Pre-Test and Post-Test

The total mean score comparing the pre-test to the post-test increased from 13.81% to 14.31%. This is a 0.5 percent increase from the pre-test to the post-test. The standard deviation for the pre-test was 1.575 and the post-test was 1.491 (see Table 4).

Table 4

Mean Pre-Test and Post-Test Data Comparison

Survey	Mean	N	Std. Deviation	Std. Error Mean
Pre-Test	13.81	32	1.575	.278
Post-Test	14.31	32	1.491	.263

SECTION FIVE: DISCUSSION

Implication for Practice

This EBP project's purpose was to determine if pain management curriculum improved the nurse's knowledge and attitudes. While the study was only piloted in the new hire nurse residency program, the need for pain management education for nurses is evident from the data gathered in the study and from the thorough literature review conducted by the DNP project leader. The data analysis performed in the study showed an increase in the nurse's knowledge and attitudes when caring for patients in acute and chronic pain.

Study limitations include the small sample size of 32 nurses who participated in the study. In addition, only one NRP cohort was included in the study due to the time limitations of the project. Further, the study was piloted in the NRP which only includes nurses with less than one year of nursing experience.

Sustainability of Practice Change

The practice change of including pain management curriculum in the NRP has already been adopted by the healthcare facility. As more cohorts of the NRP go through the program, there will be more data available to study the pain management curriculum's effectiveness. The

healthcare system wants the nurses to have the tools necessary to care for patients, which include education as needed.

Dissemination Plan

Recommendations for future practice include disseminating the pain management curriculum throughout the healthcare system to incorporate both experienced and inexperienced nurses. Provide pain management classes during yearly competencies to ensure nurses have a thorough understanding of pain management and assessment. Include pain management questions in discharge surveys to measure the effectiveness of how the nurses assessed and managed the patient's pain while hospitalized. Grand rounds should incorporate questions about pain management and how well the patient feels his or her pain is controlled. Continue enhancing the pain management curriculum as new studies emerge and to stay current with evidence-based practice. Create nursing newsletters to include results from grand rounds, surveys and evidence-based practice changes. Promote a question and answer forum for nurses to participate in either in person or online. Finally, in light of the opioid crisis, information on the crisis should be included in the pain management curriculum so nurses will have a better understanding of how the opioid crisis impacts patients. Further research should be done showing how acute and chronic pain patients are affected by the opioid crisis and how nurses can promote positive outcomes for this patient population with proper training and education on pain management.

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Appendix A: Level of Evidence Matrix

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
Andrews, L. B., Bridgeman, M. B., Dalal, K. S., Abazia, D., Lau, C., Goldsmith, D. F., & John, D. S. (2013). Implementation of a pharmacist-driven pain management consultation service for hospitalised adults with a history of substance abuse. *International Journal of Clinical Practice*, *67*(12), 1342-1349. doi:10.1111/ijcp.12311	To identify the need for a consulting service led by pharmacists to help guide prescribing narcotics	250-bed, community-teaching hospital in Trenton, NJ	Cohort Study	During the pilot study and after, there was a significant decrease in opioid use	Level of Evidence: Level IV	Not randomized, not generalizable	Yes, it may be beneficial to have a consulting service that is pharmacist led to help guide prescribing narcotics to patients with a history of drug abuse
Dever, C. (2017). Treating acute pain in the opiate-dependent patient. *Journal of Trauma Nursing*, *24*(5), 292-299. doi:10.1097/JTN.0000000000000309	Healthcare provider's (nurses, MDs, etc…) training, setting guidelines to manage pain, both chronic	Opioid abuse or addicted patients with acute pain	Single descriptive study	There are no set guidelines to address treatment of acute pain in opioid-	Level VI	Not generalizable, review of literature was based on the Centers of Disease	Yes, one of the priorities of healthcare systems, healthcare staff and patients is pain

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence Use Melnyk Framework	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
	and acute in the opioid-addicted patient			addicted patients. The CDC has set guidelines to address treatment of chronic pain in the opioid-addicted patients. Policies and procedures need to be created that deal with acute and chronic pain patients that are		Control guidelines	management in the hospitalized patient

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				addicted to opioids. Pain management training needs to be done for physicians and nurses working with opioid-addicted patients and proper pain management.			
Keen, A., McCrate, B., McLennon, S., Ellis, A., Wall, D., & Jones, S. (2017). Influencing nursing	Improving nursing attitudes and knowledge can	Nurses from three medical-surgical units in large	Quasi-Experimental Design	There was improvement in nurse's	Level III	Small sample size, not randomized, not	Yes, even though the sample size was small,

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
knowledge and attitudes to positively affect care of patients with persistent pain in the hospital setting. *Pain Management Nursing*, *18*(3), 137-143. doi:10.1016/j.pmn.2017.04.002	have a positive impact on patient's care regarding pain management within the hospital setting.	midwestern teaching hospital		attitudes and knowledge of pain management with the targeted pain education program		generalizable, may be subject to bias as only highly motivated nurses participated in the study.	evidence suggests nurse education about pain management helps improve nurse's knowledge and attitude regarding pain management.
Nageshwar, V., George, A., Nayak, B. S., Jose, T. T., Noronha, J. A., Nileshwar, A., & ... Valsaraj, B. P. (2017). Nurses' perception of clinical decision making ability: A cross-sectional survey. *Nursing Journal of India*, *108*(4), 152-156.	To determine the perception of nurse's clinical decision making ability	Nurses working surgical units in a tertiary care hospital	Cohort Study	Nurses noted a need for training in pain management of post-operative patients.	Level IV	Small sample size, not generalizable	Yes, training, experience, awareness and knowledge are all part of nurse's clinical decision making skills.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				The age of the nurse had a significant influence on his or her ability to make clinical decisions. Gender and educational level did not have a significant impact.			
Paice, J. A., & Coyne, P. (2017). Justice in America: Ethical issues in cancer pain control. *Journal of Hospice & Palliative Nursing*, *19*(6), 508-515. doi:10.1097/NJH.0000000000000384	Identify ethical issues regarding controlling pain in cancer patients.	Healthcare providers (nurses, MDs, etc…) who care for patients with life-threatening	Opinion of authorities	In addition to the need for pain management training, time	Level VII	An opinion of authorities.	Yes, even though it is an opinion of authorities, it does provide facts that will be useful in the project.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
		illnesses such as cancer		restraints, and limited access to experts, the opioid epidemic is creating unintended consequences. These consequences are equitable distribution of opioids to this patient population.			

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
St. Marie, B. (2016). The experiences of advanced practice nurses caring for patients with substance use disorder and chronic pain. *Pain Management Nursing, 17*(5), 311-321. doi:10.1016/j.pmn.2016.06.001	Identifying nurse's experience when caring for patients that are addicted to opioids and also have acute and chronic pain.	20 APRNs caring for patients with drug addiction and also have acute and chronic pain.	Qualitative study	Many healthcare providers feel uncomfortable caring for patients that have coexisting opioid addiction and pain.	Level V	Small sample size, not generalizable	Yes, this study gives the dilemmas that APRNs and RNs face when caring for drug addicted patients that also have acute and chronic pain.
Shinde, S., Gordon, P., Sharma, P., Gross, J., & Davis, M. P. (2015). Use of non-opioid analgesics as adjuvants to opioid analgesia for cancer pain management in an inpatient palliative unit: does this improve pain control and reduce opioid requirements? *Supportive Care in Cancer, 23*(3), 695-	Does the use of non-opioid analgesics for cancer pain management as adjuvants help control pain and lower opioid requirements?	Patients admitted to the palliative care unit at the Cleveland Clinic between January 1, 2012 to March 31, 2012 who had a diagnosis of cancer, opioids were	Cohort study	Out of the 77 patients in the cohort study, 84% were prescribed adjuvant medications to help with pain manageme	Level IV	Small sample size, not generalizable	Yes, this study will provide details on using non-opioid analgesics when caring with patients with cancer pain and may be helpful to

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
703. doi:10.1007/s00520-014-2415-9		used for pain management and the patient could indicate their pain score verbally.		nt. The most common adjuvant medicatio n prescribed to this patient population was gabapenti n (70%). The study found that there was no improvem ent in pain control for the patients who received			add to the proposed policy on pain management.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				adjuvant medications compared to those who were just prescribed opioids.			
Slatyer, S., Williams, A. M., & Michael, R. (2015). Seeking empowerment to comfort patients in severe pain: A grounded theory study of the nurse's perspective. *International Journal of Nursing Studies, 52*(1), 229-239. doi:10.1016/j.ijnurstu.2014.06.010	Determining if empowerment when caring for patients in severe pain helps nurses improve the self-efficacy.	Nurses and patients in four acute care units in a 610-bed Australian hospital	Qualitative study	The nurses felt a sense of disempowerment when caring for patients in severe pain. The nurses felt distressed and exhausted from the	Level VI	Small sample size, not generalizable	Yes, this study discusses how nurses need to feel empowered by having the education and tools necessary to care for patients in severe pain.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				disempowerment.			
Strayer, R. J., Motov, S. M., & Nelson, L. S. (2017). Something for pain: Responsible opioid use in emergency medicine. *American Journal of Emergency Medicine, 35*(2), 337-341. doi:10.1016/j.ajem.2016.10.043	Emergency medicine healthcare providers can influence the use of opioids	Healthcare providers that specialize in emergency medicine.	Opinion of authorities	Healthcare providers that specialize in emergency medicine have the opportunity to help decrease opioid addiction while also properly treating patients that have acute and chronic pain.	Level VII	An opinion of authorities.	Yes, opioid addicted patients that have acute and chronic pain are best treated with alternatives to opioids while also encouraging getting help for the opioid addiction.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
Voon, P., Karamouzian, M., & Kerr, T. (2017). Chronic pain and opioid misuse: a review of reviews. *Substance Abuse Treatment, Prevention & Policy*, *12*1-9. doi:10.1186/s13011-017-0120-7	A review of opioid misuse in chronic pain patients.	18 systematic reviews about patients with chronic pain and the use of opioids.	Systematic review	Chronic non-cancer pain patients with psychiatric comorbidity have a higher prevalence of misuse of opioids. Patients with a history of opioid abuse have a greater chance of misusing opioids	Level I	Publication bias, variability in criteria for exclusion, inclusion and outcome measures through the reviews.	Yes, this study discusses how certain patient populations are more at risk of opioid abuse than other populations.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				for chronic non-cancer pain.			
Costello, M., & Thompson, S. (2015). Preventing opioid misuse and potential abuse: The nurse's role in patient education. *Pain Management Nursing, 16*(4), 515-519. doi:10.1016/j.pmn.2014.09.008	Identifying how nurses assess pain in critically ill older adult patients.	Critical care nurses caring for patients in critical care units that are in pain	Opinion of authorities	Nurses in critical care units face challenges when dealing with elderly patients in pain because of multimorbilities	Level VII	Since it is an opinion of authorities, it is subject to bias.	Yes, even though this is an opinion of authorities, the information in the article will be helpful in the scholarly project.
Kizza, I., & Muliira, J. (2015). Nurses' pain assessment practices with critically ill adult patients. *International*	To determine the barriers and enablers in pain assessment for nurses caring	170 nurses working in a Ugandan hospital	Single descriptive study	Workload was the main barrier to proper pain	Level VI	Only one hospital, not generalizable.	No, this study was in Uganda and the scholarly project is based on

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
Nursing Review, *62*(4), 573-582. doi:10.1111/inr.12218	for adult critically ill patients.			assessment. Other barriers were communication and poor documentation.			nurses in the United States.
Krashin, D., Murinova, N., & Sullivan, M. (2016). Challenges to treatment of chronic pain and addiction during the "opioid crisis". *Current Pain & Headache Reports*, *20*(12), 65.	To identify challenges faced by healthcare providers when caring for chronic pain patients and addicted patients during the opioid crisis.	Healthcare providers caring for patients with chronic pain and those addicted to opioids.	Opinion of authorities	Primary care providers need more training on how to care for patients with chronic pain and addicted to opioids.	Level VII	Since it is an opinion of authorities, it is subject to bias.	Yes, even though it is an opinion of authorities, the study will provide meaningful information to the scholarly project about caring for patients addicted to opioids but who also

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
							have chronic pain.
Gustafsson, M., & Borglin, G. (2013). Can a theory-based educational intervention change nurses' knowledge and attitudes concerning cancer pain management? A quasi-experimental design. *BMC Health Services Research*, *13*(1), 328. doi:10.1186/1472-6963-13-328	Can an education about pain management help RNs improve their knowledge and attitudes with cancer pain management?	40 RNs from 2 surgical units in southern Sweden.	Quasi-experimental	The study indicated that nurse's knowledge and attitude regarding cancer pain improved after the educational session.	Level III	Small sample size, not generalizable.	No, the study was done in Sweden and the scholarly project is based on RNs in the United States.
Mundt-Leach, R. (2016). End of life and palliative care of patients with drug and alcohol addiction. *Mental Health Practice*, *20*(3), 17-21.	Identify nurse's knowledge for caring for patients at end of life who are addicted to pain medication.	Review of literature for patients at end of life who are addicted to opioids.	Evidence from systematic reviews of descriptive and qualitative studies.	There is little research done on patients addicted to pain medications and end	Level V	Subject to bias, not generalizable.	No, this study is about European patients and the scholarly project is based on

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence Use Melnyk Framework**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				of life care. Training healthcare workers on how to recognize end of life in these patients may help the patient have a better dying experience.			United States patients.

Appendix B: CITI Program Certificate of Completion

CITI PROGRAM

Completion Date 11-Oct-2016
Expiration Date 11-Oct-2019
Record ID 21125124

This is to certify that:

Kathryn Wampole

Has completed the following CITI Program course:

Biomedical Research - Basic/Refresher (Curriculum Group)
Biomedical & Health Science Researchers (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Liberty University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w143cdc96-c7dd-412c-96e0-624b893a28d6-21125124

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2
COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Kathryn Wampole (ID: 5897775)
- **Email:** kwampole@liberty.edu
- **Institution Affiliation:** Liberty University (ID: 2446)
- **Institution Unit:** Nursing

- **Curriculum Group:** Social & Behavioral Research - Basic/Refresher
- **Course Learner Group:** Social & Behavioral Researchers
- **Stage:** Stage 1 - Basic Course
- **Description:** Choose this group to satisfy CITI training requirements for investigators and staff involved primarily in Social/Behavioral Research with human subjects.

- **Report ID:** 21610828
- **Completion Date:** 05-Dec-2016
- **Expiration Date:** 05-Dec-2019
- **Minimum Passing:** 80
- **Reported Score*:** 96

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Liberty University (ID: 15111)	11-Oct-2016	No Quiz
Populations in Research Requiring Additional Considerations and/or Protections (ID: 16680)	10-Oct-2016	5/5 (100%)
Belmont Report and CITI Course Introduction (ID: 1127)	10-Oct-2016	3/3 (100%)
History and Ethical Principles - SBE (ID: 490)	05-Dec-2016	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	05-Dec-2016	5/5 (100%)
The Federal Regulations - SBE (ID: 502)	05-Dec-2016	5/5 (100%)
Assessing Risk - SBE (ID: 503)	05-Dec-2016	5/5 (100%)
Informed Consent - SBE (ID: 504)	05-Dec-2016	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	05-Dec-2016	5/5 (100%)
Unanticipated Problems and Reporting Requirements in Social and Behavioral Research (ID: 14928)	05-Dec-2016	3/5 (60%)
Research and HIPAA Privacy Protections (ID: 14)	10-Oct-2016	5/5 (100%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: https://www.citiprogram.org/verify/?f34b1baa-0b80-4d1f-b2e6-671c78e5d300

CITI Program
Email: support@citiprogram.org
Phone: 888-529-5929
Web: https://www.citiprogram.org

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 2 OF 2
COURSEWORK TRANSCRIPT**

** NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Kathryn Wampole (ID: 5897775)
- **Email:** kwampole@liberty.edu
- **Institution Affiliation:** Liberty University (ID: 2446)
- **Institution Unit:** Nursing

- **Curriculum Group:** Social & Behavioral Research - Basic/Refresher
- **Course Learner Group:** Social & Behavioral Researchers
- **Stage:** Stage 1 - Basic Course
- **Description:** Choose this group to satisfy CITI training requirements for investigators and staff involved primarily in Social/Behavioral Research with human subjects.

- **Report ID:** 21610828
- **Report Date:** 05-Dec-2016
- **Current Score**:** 94

REQUIRED, ELECTIVE, AND SUPPLEMENTAL MODULES	MOST RECENT	SCORE
Liberty University (ID: 15111)	11-Oct-2016	No Quiz
History and Ethical Principles - SBE (ID: 490)	05-Dec-2016	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	05-Dec-2016	5/5 (100%)
Belmont Report and CITI Course Introduction (ID: 1127)	10-Oct-2016	3/3 (100%)
The Federal Regulations - SBE (ID: 502)	05-Dec-2016	5/5 (100%)
Assessing Risk - SBE (ID: 503)	05-Dec-2016	5/5 (100%)
Informed Consent - SBE (ID: 504)	05-Dec-2016	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	05-Dec-2016	5/5 (100%)
Research and HIPAA Privacy Protections (ID: 14)	10-Oct-2016	5/5 (100%)
Unanticipated Problems and Reporting Requirements in Social and Behavioral Research (ID: 14928)	05-Dec-2016	3/5 (60%)
Conflicts of Interest in Research Involving Human Subjects (ID: 488)	11-Oct-2016	4/5 (80%)
Populations in Research Requiring Additional Considerations and/or Protections (ID: 16680)	10-Oct-2016	5/5 (100%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid independent Learner.

Verify at: https://www.citiprogram.org/verify/?f34b1baa-0b80-4d1f-b2e6-671c78e5d300

Collaborative Institutional Training Initiative (CITI Program)
Email: support@citiprogram.org
Phone: 888-529-5929
Web: https://www.citiprogram.org

Appendix C: Letter of Support from Healthcare Facility

February 2, 2018

Kathryn Wampole, MSN, RN, DNP Student, has permission to do her scholarly project at [redacted] in the Nurse Residency Program

Simulation Center Manager | Nursing Administration

Appendix D: Permission to Use The Iowa Model

Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

[redacted] - University of Iowa Hospitals and Clinics <noreply@qualtrics-survey.com>

Mon 11/27/2017 8:43 PM

To: Wampole, Kathryn <kwampole@liberty.edu>;

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care.* Click the link below to open.

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

Citation: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing, 14(3), 175-182. doi:10.1111/wvn.12223*

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Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

Appendix E: Permission to Use Knowledge and Attitudes Survey

July 2014

The "Knowledge and Attitudes Survey Regarding Pain" tool can be used to assess nurses and other professionals in your setting and as a pre and post test evaluation measure for educational programs. The tool was developed in 1987 and has been used extensively from 1987 - present. The tool has been revised over the years to reflect changes in pain management practice.

Regarding issues of reliability and validity: This tool has been developed over several years. Content validity has been established by review of pain experts. The content of the tool is derived from current standards of pain management such as the American Pain Society, the World Health Organization, and the National Comprehensive Cancer Network Pain Guidelines. Construct validity has been established by comparing scores of nurses at various levels of expertise such as students, new graduates, oncology nurses, graduate students, and senior pain experts. The tool was identified as discriminating between levels of expertise. Test-retest reliability was established (r>.80) by repeat testing in a continuing education class of staff nurses (N=60). Internal consistency reliability was established (alpha r>.70) with items reflecting both knowledge and attitude domains.

Regarding analysis of data: We have found that it is most helpful to avoid distinguishing items as measuring either knowledge or attitudes. Many items such as one measuring the incidence of addiction really measures both knowledge of addiction and attitude about addiction. Therefore, we have found the most benefit to be gained from analyzing the data in terms of the percentage of complete scores as well as in analyzing individual items. For example, we have found it very helpful to isolate those items with the least number of correct responses and those items with the best scores to guide your educational needs.

Enclosed for your use is a copy of our instrument and an answer key. You may use and duplicate the tool for any purpose you desire in whole or in part. References to some of our studies which have included this tool or similar versions are included below. We have received hundreds of requests for the tool and additional use of the tool can be found in other published literature. We also acknowledge the assistance of several of our pain colleagues including Judy Paice, Chris Pasero, and Nessa Coyle in the revisions over the years. If using or publishing the tool results please cite the reference as **"Knowledge and Attitudes Survey Regarding Pain" developed by Betty Ferrell, RN, PhD, FAAN and Margo McCaffery, RN, MS, FAAN, (http://prc.coh.org), revised 2014.**

We hope that our tool will be a useful aid in your efforts to improve pain management in your setting.

Sincerely,

Betty R. Ferrell, RN, PhD, FAAN
Research Scientist

Margo McCaffery, RN, MS, FAAN
Lecturer and Consultant

Appendix F: Pain Assessment and Pain Management Curriculum Outline

Pain Assessment and Pain Management Curriculum

- The current opioid crisis and its impact on healthcare
- Nurses need to be able to properly assess and manage patients in pain
    - Proper pain assessment based on the patient's age and developmental status
- Patients should be able to participate in their care whenever possible
- Patients have rights to receive the best care possible, including pain management
- Nurses need to be able to educate the patient and their family about pain management
- Pain can be chronic, acute or both
- Pain management will be guided by the type of pain and the reason for the pain
- Management of pain
    - Pharmacologic
        - Opioid analgesics
        - Non-opioid analgesics
    - Routes of delivery for pharmacologic analgesics
    - Non-Pharmacologic
        - Massage therapy
        - Art therapy
        - Music therapy
        - Pet therapy
        - Heat or cold therapy
        - Transcutaneous nerve stimulation (TENS)
        - Acupuncture
    - Combination of pharmacologic and non-pharmacologic
- Pain menu

Appendix G: Knowledge and Attitudes Survey Regarding Pain

True/False – Circle the correct answer.

T F 1. Vital signs are always reliable indicators of the intensity of a patient's pain.

T F 2. Patients who can be distracted from pain usually do not have severe pain.

T F 3. Patients may sleep in spite of severe pain.

T F 4. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases.

T F 5. Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months.

T F 6. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent.

T F 7. Opioids should not be used in patients with a history of substance abuse.

T F 8. Elderly patients cannot tolerate opioids for pain relief.

T F 9. Patients should be encouraged to endure as much pain as possible before using an opioid.

T F 10. Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity.

T F 11. Patients' spiritual beliefs may lead them to think pain and suffering are necessary.

T F 12. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.

T F 13. If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain.

T F 14. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.

T F 15. Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regiment.

T F 16. The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief.

T F 17. Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.

T F 18. Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression.

Additional Questions

19. Have you or a family member been prescribed an opioid for pain management in the last five years?

Yes or No

20. Rate how you feel it is for you to help assist patients define a realistic pain goal. (Please circle one)

1- Extremely Difficult

2- Moderately Difficult

3- Not too difficult and not too easy

4-Moderately Easy

5-Extremely Easy

21. Do you think you are able to properly manage patient's pain? (Circle One)

Yes or No

22. What age group are you in? (Circle One)

20-25 25-29 30-35 36-39 40-44 45-49 50+

23. Highest level of nursing education you have? (Circle One)

Diploma ADN BSN MSN PhD DNP

24. What gender are you? (Circle One)

Male Female

Appendix H: Answer Key to Knowledge and Attitudes Survey Regarding Pain

True/False – Circle the correct answer.

F 1. Vital signs are always reliable indicators of the intensity of a patient's pain.

F 2. Patients who can be distracted from pain usually do not have severe pain.

T 3. Patients may sleep in spite of severe pain.

F 4. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases.

T 5. Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months.

T 6. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent.

F 7. Opioids should not be used in patients with a history of substance abuse.

F 8. Elderly patients cannot tolerate opioids for pain relief.

F 9. Patients should be encouraged to endure as much pain as possible before using an opioid.

F 10. Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity.

T 11. Patient's spiritual beliefs may lead them to think pain and suffering are necessary.

T 12. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.

F 13. If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain.

F 14. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.

T 15. Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regiment.

T 16. Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.

T 17. The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief.

T 18. Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression.

Questions 19 through 24 there are no right or wrong answers

Appendix I: Liberty University Institutional Review Board Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

June 5, 2018

Kathryn Wampole
IRB Exemption 3309.060518: Knowledge and Attitude of Nurses in a New RN Graduate Residency Program Regarding Pain Management

Dear Kathryn Wampole,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

> (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
> (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

LIBERTY
UNIVERSITY.
Liberty University | Training Champions for Christ since 1971

Appendix J: Institutional Review Board Approval of Healthcare System

[redacted]

OFFICE OF RESEARCH COMPLIANCE
Institutional Review Board

[redacted]

NOTICE OF EXEMPT APPROVAL

DATE:	August 1, 2018	
TO:	Kathryn Wampole, MSN, RN, DNP Student	
RE:	IRB ID #	Pro00081090
	Protocol Title:	**"Knowledge & Attitude of Nurses in a New RN Graduate Residency Program Regarding Pain Management" :** "Knowledge & Attitude of Nurses in a New RN Graduate Residency Program Regarding Pain Management"
REVIEW TYPE:	Exempt	
APPROVAL DATE:	8/1/2018	
APPROVAL INCLUDES:	• "Knowledge & Attitude of Nurses in a New RN Graduate Residency Program Regarding Pain Management" Protocol • Informed Consent Document • Knowledge and Attitudes Survey for Pain Management • IRB New Study Application	

Dear Ms. Kathryn Wampole:

Thank you for submitting ***"Knowledge & Attitude of Nurses in a New RN Graduate Residency Program Regarding Pain Management"*** for review.

This is to certify that the research study, was reviewed in accordance with 45 CFR 46.101, the study received an exemption from Human Research Subject Regulations. No further action or Institutional Review Board (IRB) oversight is required, as long as the study remains the same. However, the Principal Investigator must inform the Office of Research Compliance of any changes in procedures involving human subjects. Changes to the current research study could result in a reclassification of the study and further review by the IRB.

Because this study was determined to be exempt from further IRB oversight, consent document(s), if applicable, are not stamped with an expiration date.

All research related records are to be retained for at least six (6) years after termination of the study.

Sincerely,

[redacted]

OFFICE OF RESEARCH COMPLIANCE
Institutional Review Board

[redacted]

[redacted]

Appendix K: Consent Form

The Liberty University Institutional Review Board has approved this document for use from 6/5/2018 to --
Protocol # 3309.060518

CONSENT FORM

Knowledge and Attitude of Nurses in a New RN Graduate Residency Program Regarding Pain Management

Principal Investigator: Kathryn Wampole, MSN, RN, DNP Student
Liberty University
School of Nursing

You are invited to be in a research study that will measure the knowledge and attitude of nurses related to understanding/developing pain management training. You were selected as a possible participant because you are a registered nurse in the nurse residency program at Spartanburg Regional Healthcare System. Please read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Kathryn Wampole, MSN, RN, DNP Student

Background Information: The purpose of this study is to create classes on pain assessment and management for the nurse residency program at a regional teaching hospital in the southeastern United States. There are challenges faced by nurses when caring for patients with acute and chronic pain. Having nurses who are educated on pain assessment and pain management that is based on evidence-based practice, will help guide nurses as they manage patients. In addition, it is vital that nurses be educated on the opioid crisis, but also on the need to carefully assess each patient's pain because many patients are being underassessed and undertreated.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Take a modified version of "The Knowledge & Attitudes Survey Regarding Pain" (KASRP) (Pre-test) (10 mins)
2. Place the pre-test (survey) in an envelope (provided by the DNP project leader) which will be at the front of the classroom (1 min)
3. Listen to an educational session on pain assessment and pain management (1 hour)
4. Take a modified version of "The Knowledge & Attitudes Survey Regarding Pain" (KASRP) (Post-Test) (10 mins)
5. Place the post-test (survey) in an envelope (provided by the DNP project leader) which will be at the front of the classroom (1 min)
6. Complete each question to the best of your ability, based on the knowledge you currently have. Do not leave questions blank.

Risks and Benefits of being in the Study: The risks are no more than you would encounter in everyday life.

Participants should not expect to receive a direct benefit from their participation in this research. However, this study may help with the identification of the effectiveness of the intentional evidence-based practice / research interventions introduced into the nursing curriculum.

The Liberty University Institutional Review Board has approved this document for use from 6/5/2018 to --
Protocol # 3309.060518

Compensation: There is no compensation for your participation in this study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. Any hard copies of the survey and results will be kept in a locked file in the primary investigator's office. Any electronic documentation will be kept on the primary investigator's laptop computer with password protection. All data related to the study will be destroyed after three years. Electronic data will be deleted from the laptop and any hard copies will be shredded. There will be no identifying information requested on the survey so as a result no responses can be directly connected to you as an individual. Any reporting of results will be done so as aggregate (group) data.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relationship with [redacted] or Liberty University. If you decide to participate, you are free to withdraw at any time without affecting those relationships. Due to the anonymous nature of the research, once a survey is submitted it cannot be withdrawn.

How to Withdraw from the Study: If you choose to withdraw from the study, please inform the project leader that you wish to discontinue your participation prior to submitting your study materials. Your responses will not be recorded or included in the study.

Contacts and Questions: The project leader conducting this is Kathryn Wampole. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact Kathryn at [redacted] The faculty chair for this project is Dr. Cynthia Goodrich and she may be reached at [redacted]

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher *(s),* **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Green Hall Suite 1887, Lynchburg, VA 24502 or email at irb@liberty.edu.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. By participating in the surveys, I consent to participate in the study.