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# Nurses' Knowledge of Pain Assessments and Reassessments Impacts Hospitalized Patients' Reporting of Pain

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# Walden University

College of Health Sciences

This is to certify that the doctoral study by

Michele Williams

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.

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2016

Abstract

Nurses' Knowledge of Pain Assessments and Reassessments Impacts Hospitalized

Patients' Reporting of Pain

by

M Michele Potter Williams

MSN, University of Phoenix, 2010

BSN, Stevenson University, 2006

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2016

## Abstract

Ineffective pain management can prolong a patient's length of stay and increase cost of care. Inadequate pain control decreases the patient's quality of life and contributes to poor health outcomes. A recent record audit showed that documentation of pain reassessments occurred only 20% of the time within an hour after administering pain medication. Furthermore, nurses may have insufficient knowledge regarding pain assessments and reassessments or hold irrational fears about addiction leading to inadequate treatment of pain. The purpose of this quality improvement project was to evaluate the effectiveness of an educational program for acute care nurses for the assessment and management of the adult hospitalized patient experiencing pain. Guided by Knowles theory of adult learning, nurses' knowledge regarding pain, assessments, and pain reassessments were evaluated before and after the pain management education program using the Knowledge and Attitude toward Pain Survey (KAPS). A convenience sample of 34 nurses completed the KAPS before and after an educational program addressing pain assessments. Results of the *t*-test analysis revealed a statistically significant ( $t = -15.8$ ,  $df = 33$ ,  $p < 0.00$ ) increase in KAPS scores, from an average pretest score of 70% to an average posttest score of 94%. The results of this project are consistent with the literature, and they illustrate the importance of improving nursing practice by providing nurses with education regarding pain assessments and reassessments as a strategy to improve the management of patients' pain and, resultantly, increase patients' quality of life.

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## Dedication

Completion of this project would not have been possible without the support of my family. I would like to thank them for their patience, support and understanding of the times I have had to miss family functions related to the time required to complete this DNP project. I would also like to thank the staff where I completed my practicum for their commitment to improved quality of life for palliative care patients in the community. I would also like to acknowledge a special friend, Peter Libby for his support and encouragement through my DNP journey. He was my coach and mentor and friend and I would not have made it through this journey without him. Peter passed away way too soon and he did not live to see me complete my project. I know if Peter could have been here at the end of my DNP journey he would be proud of this accomplishment. I know that he is looking down from heaven with a smile on his face. I share this accomplishment with Peter because I could not have finished it without his support and encouragement.

## Acknowledgments

I would like to acknowledge Dr. Eileen Fowles, my chairperson, for her guidance and support every step of this journey; her dedication to lifelong learning has been a true inspiration to me. She has spent many hours mentoring me through the process; she is a dedicated and caring person. I appreciate her support and guidance. I would also like to acknowledge the roles of my committee member, Dr. Paula Stechschulte and my University Research Reviewer, Dr. Allison Terry. Thank you all for your guidance in assisting me to achieve this goal.

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## Section 1: Nature of the Project

### **Introduction**

The aim of this project was to determine how nurses' knowledge of pain assessments and reassessments impacts hospitalized patients' reporting of pain and perception of their pain management regimen. Ineffective and uncontrolled pain can increase a patient's length of stay in the hospital, leading to increased cost for the health care system. Nurses' knowledge and ability to intervene appropriately and in a timely manner to a patient by assessing, managing, and re-assessing that patient's pain is important. Prolonged and poorly managed pain can lead to decreased patient satisfaction (McCaffery & Pasero, 1999), while proper pain management reduces morbidity, and increases patient satisfaction and quality of life (The Joint Commission, 2001). Ineffective communication and collaboration between clinicians and patients is a barrier to effective pain management. An increase in nurses' knowledge in the area of pain assessments, reassessments, pharmacological and non-pharmacological management improves patient outcomes (Al Shaer et al., 2011). To promote quality care for patients, nurses must possess the skills needed to adequately address pain management issues (Stanley & Pollard, 2013).

Result of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS, 2011) survey demonstrate that only 63-74% of hospitalized patients nationwide reported that their pain was controlled. Pain, as defined by the American Pain Society (2003), is "an unpleasant subjective sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage." This

definition indicates that pain directly impacts health-related quality of life (HRQOL) including emotional and spiritual dimensions. Nurses need to understand that pain is what the person says it is (McCaffery & Pasero, 1999). The patient satisfaction results for discharged patients at the rural hospital where I conducted my project revealed inadequate pain management and a lack of confidence in the nurses' capability to manage the pain should it intensify in severity from baseline. This quality improvement project consisted of an education program. I designed this program to ensure that nurses properly assess and reassess patients' pain. This educational program could be implemented as an annual, intra-net-based competency focusing on pain management, assessment, and re-assessment for hospitalized patients experiencing pain. When the quality improvement project is established, the mission identification, program, goals, clarification of myths and misconceptions will be communicated to system-wide core nursing staff in a one-time educational presentation. According to the Joint Commission (2001), proper management of pain reduces morbidity and increases patient satisfaction and health-related outcomes. HRQOL focuses on the impact health status has on quality of life, with the goal of improving health and well-being for all individuals related to physical, mental, emotional, and social functioning (Healthy People 2020, 2010).

### **Background and Context**

Ineffective pain management can prolong a patient's length of stay and increase cost of care. Nurses are important members of the health care team who have an opportunity to evaluate, assess, and monitor pain and its treatment. Nurses' lack of knowledge regarding pain management and documentation of pain assessments are

barriers to effective pain management. According to Gregory, Van Horn, and Kaprielian (2008), chart audits are an important part of a quality improvement initiative and can assist in identifying exactly what elements of nursing care to measure. I identified documentation of pain reassessments following pain intervention as an opportunity for improvement. Implementing a pain educational program provides nurses with knowledge regarding pain assessments and reassessments.

### **Problem Statement**

Nurses' lack of knowledge regarding pain management and documentation of pain assessments are barriers to effective pain management. Ineffective pain management can prolong the patient's length of stay, which may lead to increased cost of care (Wells, Pasero, & McCaffery, 2008). My inspection of patients Electronic Medical Records (EMR's) on two medical oncology units revealed incomplete and missing documentation regarding pain management reassessments. Nurses were administering pain medications and evaluating their effectiveness, but were not consistently documenting the outcomes. The reasons for this varied from time availability, auto log-out of EMR, lack of familiarity with policy expectations, distractions, and other issues. It was apparent to me that a practice change related to the documentation of pain was necessary.

### **Purpose Statement**

The purpose of this quality improvement project was to evaluate the effectiveness of an educational program for acute care nurses' assessment and management of the adult hospitalized patient experience.

### **Relevance to Practice**

Nurses are inconsistent in documenting pain assessments and reassessments. I found that pain reassessments were not documented within one hour after the administration of pain medications in my project site, a rural hospital located in the mid-Atlantic Regional of the United States. The hospital included in this quality improvement project is located in the mid-Atlantic Region of the United States. Healthcare providers have the responsibility to perform accurate and complete documentation, in order to be reimbursed for their services. According to Kelly (2011), improving outcomes is a component of quality management and identifying barriers and creating change focusing on quality care will increase outcomes and improve quality of life.

### **Project Question**

This project addressed the following question: What is the effect of an educational program on nurses' knowledge regarding pain management principles and policies for the hospitalized adult?

### **Evidence-Based Significance of the Project**

It is important to treat the whole person. This means treating not only the physical needs of the patient, but also their emotional, psychosocial, and the spiritual needs, as well. Treating the whole person includes providing pain relief. According to Kettner, Moroney, and Martin (2013), goals and objectives are the framework to develop a program, provide the timeframe for completion, and monitor the performance, and evaluate the outcomes. Unrelieved pain remains a serious health problem in the United States. Lack of knowledge by healthcare professionals, irrational fears of addiction, and

inadequate assessment are among the more common reasons for under-treatment of pain (American Pain Society, 2003; Foley, 2005). Unrelieved pain can contribute to unnecessary suffering as evidenced by sleep disturbances, hopelessness, loss of control, and impaired social interactions. Pain may actually hasten death by increasing physiological stress, decreasing mobility, and contributing to pneumonia and thromboemboli (Paice & Fine, 2006). Under-treatment of pain is more common in individuals who are unable to speak for themselves (American Pain Society, 2003). Populations that are particularly vulnerable include: infants and children, the elderly, people who speak a different language or whose cultural background differs significantly from the clinician's, and those who are developmentally delayed, cognitively impaired, or severely, emotionally disturbed (American Pain Society, 2003; Pasero, 2002; Kaasalainen, et al., 1998) Special efforts must be taken to ensure adequate assessment and interventions for these populations. The objectives of the project included:

- 1) Random chart audits to reveal documentation of pain assessments and reassessments.
- 2) The administration of a pretest, educational program, and posttest to nurses.

### **Implications for Social Change in Practice**

McCaffery and Ferrell (1997) recommended that to improve pain management, nurses must recognize that they have direct responsibility related to pain assessment and adjustment of opioid analgesics. Education must emphasize the knowledge required to execute these tasks. Because nurses have more regular contact with patients with pain than do other health team members, it is through nurses that most patients have the

greatest opportunity to benefit from an interdisciplinary approach and to receive a high quality of pain management. Nurses must expand their knowledge and be able to educate their patients on the benefits of pain management interventions. My pain management educational program provided nurses with the knowledge to provide improved outcomes and quality of care for their patients. Further, this program has the potential to provide nurses with annual competencies related to pain assessments and reassessments were it to be developed and posted on the healthcare system intranet. My ultimate goal for this project was to improve the quality of life in patients experiencing pain by upgrading nurses' pain management and documentation procedures.

### **Definitions of Terms**

*Chart audit:* An examination of medical records to measure performance (Kaprielian, Gregroy, & Sangvia, 2003).

*Health care quality:* The provision of the right care to the right patient (Institute of Medicine [IOM], 2013).

*Pain:* Defined by the International Association for the Study of Pain (1979) as sensory or emotional experiences, may present with tissue damage (Shaik, Hakim, and Skenker, 2010).

*Program evaluation:* The process of weighing and interpreting data collected from multiple components of educational programming (Billings & Halstead, 2005).

*Educational activity:* A formalized learning session with clear objectives for an individual or group of participants (American Nurses Association, 2000).



### **Assumptions**

According to Wells, Pasero, and MacCaffrey (2008), patient satisfaction with pain management is an important aspect in the evaluation of any pain management program. Mulaski et al. (2008) determined that a numerical rating is no longer adequate to serve as the only target of pain re-assessment. Individuals' responses to interventions should not only be assessed for a change in pain, but also side effects, adverse effects, and impact of pain and treatment on physical and emotional function and quality of life. Nurse participation in this pain management educational program increased their knowledge and expertise in pain assessments and reassessments.

### **Summary**

The foundational frameworks of quality improvement are patient-focused, process-oriented, and data-driven. When quality, safe care results in positive outcomes; word spreads which, in turn, promotes good public relations. Quality improvement means turning what we know into everyday practice and process. Planning, delivery, and evaluation of health care are all functions of quality improvement and patient- and family-centered care (Johnson, 2008). When discussing quality improvement, communication is very important. Clearly and succinctly communicating the depth and scope of the problem(s) and the objectives, methods, and rationale for the chosen plan is imperative. Section 2 offers a review of the literature on needs assessments and chart audits. In it, I present the theoretical framework and explain my use of the Knowles Theory of Adult Learning Model for this specific quality improvement project.

## Section 2: Review of Literature and Theoretical and Conceptual Framework

### **Introduction**

The purpose of this quality improvement project was to evaluate the effectiveness of an educational program for acute care nurses on the assessment, reassessment, and management of the adult hospitalized patient experiencing pain. In Section 2, I will offer a review of literature on pain assessments, needs assessments, chart audits, and educational programs on pain assessments and reassessments.

### **Literature Search Strategy**

I performed an extensive search of literature related to pain assessments and reassessments. I conducted this search electronically using the following databases: CINAHL, Medline, ProQuest, PubMed, and Cochrane Library. I limited the search to articles published within the past 10 years unless they were considered classic or landmark research publications. The key terms I used for the literature search were: *pain*, *pain assessments*, *pain reassessments*, *quality improvement*, *chart audits*, *healthcare*, and *oncology*. I reviewed 45 meta-analytical, randomized-controlled, quasi-experimental, prospective, and retrospective studies using the Johns Hopkins Model of Evidence-Based Practice to appraise the evidence.

### **General Literature**

In a 2007 study, Romano sought to identify the impact that pain has on a patient's quality of life, physical health, interpersonal relationships, and finances. Romano concluded that, persistent pain may affect all body systems, and also causes various other types of pain including physical, psychosocial, spiritual, and emotional. In another study,

Brennan, Carr and Cousins (2007) argued that under-treatment of pain is poor medical practice resulting in such adverse effects as increased heart rate, systemic vascular resistance, and increased risk of myocardial ischemia, stroke, bleeding, and other complications. Unrelieved pain can result in pain syndromes that may present with reduced mobility, loss of strength, disturbed sleep, immune impairment, and increased susceptibility to disease. Brennan, Carr, and Cousins (2007) further point out that the psychological results may be profound.

Patients are entitled to effective pain management. However, Bernhofer (2011) has reported that often, in practice, personal biases about the patient's pain may interfere with performing pain assessments and reassessments. Respect for individuals and their personal healthcare decisions must be maintained regardless of whether the provider agrees. Glajchen (2001) identified that one-third of practitioners reported that they would wait until the patient had less than 6 months to live before starting the maximal tolerated analgesia for severe pain. Zalon, Constantino, and Andrews (2008) reported that pain is subjective and the patient is the only one who can assess the intensity and quality that he or she is experiencing at any given moment. The ethical obligation to manage pain and relieve the patient's suffering is at the core of a healthcare professional's responsibilities. It is important for healthcare providers to properly assess patients for pain and to document every assessment.

In addition to its physical and psychological impacts, pain carries significant financial implications. A prevalence study by Stewart, Ricci, Chee, Morganstein, and Lipton (2003) showed that lost workdays and "reduced-effectiveness" days combined to

produce 36.5 million total lost workdays at an annual cost of \$50-70 billion.

### **Needs Assessments**

Needs assessments are important because they gather information on the needs and perceptions of patients, families, and staff members (Kettner, Moroney, & Martin, 2013). As Hodges and Videto (2011) explained, if participants do not believe there is a problem or understand the scope and depth of the problem, and if the project does not have buy-in from staff members, then development of an action plan outlining costs, timelines for completion, and evaluation methods cannot take place and the project cannot move forward. According to Hodges and Videto (2011), the goal of a needs assessment is to develop an awareness of the extent of the problem, identify the health, educational, and resource needs of a population, and determine if the work needs to be done.

In my project I addressed both staff knowledge and chart auditing. Performance auditing compares evidence against standards or industry norms, company policies, professional standards, best practices, and regulatory standards. This method of auditing provides senior leadership and management information pertinent to whether its plans and intentions are being carried out, and identifies deficient areas (Ealey, 2011). In a performance audit, a comparison is made between industry and national standards, and the organization's system performance and policies. This audit provides real-time information regarding quality, safety, and ranking locally, statewide, and nationally. Ealey (2011) noted that a benefit to auditing is the opportunity to compare standards and best practices while identifying weaknesses. Through proactive chart auditing, areas for

improvement and savings can be identified. Chart audits allow for new and better-defined operational outcomes. For my project, I determined the effectiveness of the educational program by using post-implementation chart audits to determine if documentation of pain assessments, management, and reassessment were more complete. These audits at the rural hospital showed that documentation of pain reassessments within one hour only occurred 20% of the time following patient reports of pain.

According to Gregory, Van Horn, and Kaprielian (2008), chart audits can be performed on any aspect of care that is documented in the medical record. Clinical processes that do not work well are frustrating and time consuming. Chart auditing can be used to identify which step in the process is not working, identify the defect in the process, and suggest strategies for addressing the deficiencies. Chart audits allow for new and better-defined operational outcomes. The effectiveness of an educational program can be determined by subsequent random chart audits to determine if documentation of pain assessments, management, and reassessment is more complete. My pain assessment audit at the rural hospital showed that documentation of pain reassessments within one hour only occurred 20% of the time following the administration of pain medication.

Gregory et al. (2008) have suggested that a beneficial use for a chart audit is to measure quality of care so that it can be improved. Chart audits can be useful tools in improvement and safety efforts as long as certain essentials are clear including: precisely what is to be measured, the criteria by which it will be measured, sample size (which can be chosen informally or determined using a statistically valid means), and a summary of the data in a way that makes sense for the problem being addressed. It is important, “to

act on problems identified and determine a timeline to re-measure to see that implemented changes have made a difference” (Gregory, Van Horn, & Kaprielian, 2008, p.6).

### **Effectiveness of Educational Programs**

For a learning program to be effective, goals must be set at the beginning. I determined that it is important to assess the effectiveness of pain management education programs for improving nurses’ knowledge related to pain management assessments and reassessments (Pi-Chu, Hsiao-Wen, Ting-Ting, & Chyang-Shiong, 2008). Nurse’s need to have continuing education to develop the skills required to assess patient’s pain. According to, Underwood et al. (2004), when nurses receive continuing education, their professional skills are enhanced. In order to determine the effectiveness, success, or failure of an educational program, there must be a process in place to evaluate the learning objectives (Menix, 2007).

### **Theoretical Frameworks**

Knowles Theory of Adult Learning was the framework I used to guide the project and evaluate nurses’ knowledge of pain management, assessment, and reassessment. According to Smith (2002), Knowles made use of relationships in clinical psychology and behavior modification. Knowles identified three reasons why self-directed learning is effective: people who take the initiative to learn retain better; self-directed learning makes one more willing to learn, (Knowles, 1975).

I designed this educational program to compel self-directed leaning, and to encourage nurses to take the initiative to learn so that they learn and retain more.

## **Summary**

Needs assessments are important in that they help identify the extent of the problem and if the population involved has the buy-in and passion to make a change. Chart audits are an important element in quality improvement because they can measure quality of care so it can be improved. The Knowles theoretical framework was instrumental in guiding the project. Section 3 will introduce my design methods, samples, settings, data collection, instruments, procedures, protection of human subjects, data analysis, and project evaluation plan.

## Section 3: Methodology

### **Introduction**

The purpose of the quality improvement project was to educate nurses about the importance of documentation of pain assessments and reassessments. Through a combination of a pretest, an educational program, and a posttest, this project provided and assessed nurses' increased knowledge of pain assessments and reassessments which will promote improved patient outcomes (Al Shaer et al., 2011). Charts audits can be used to evaluate the effectiveness of the educational program on documentation of pain assessment and reassessment in the future.

### **Project Design/Methods**

I used a quantitative design for this quality improvement project. I used a convenience sample composed of registered nurses (RNs) working on the oncology units at a two-system rural community hospital. Participants were over the age of 18, and could read and speak English. The project consisted of a pretest, educational program, and a posttest. The quantitative approach, according to Terry (2012), is used to evaluate outcomes before and after the intervention. My research evaluated nurses' knowledge regarding pain management education before and after the education program.

### **Samplings and Setting**

#### **Sample**

The target sample for this project was 34 RNs working on either a full- or part-time basis on a medical, surgical, or oncology unit. The RNs had either a diploma,



associate degree in nursing, or a baccalaureate degree in nursing. Excluded from the sample were licensed practical nurses and RNs working in nursing administration.

### **Setting**

The hospital included in this quality improvement project was located in the mid-Atlantic Region of the United States. The hospital has American Nurses Credentialing Center's Magnet designation. The hospital system is a 150 bed, acute care hospital located in a moderately-sized rural community comprised largely of an older population. The hospital possesses the expertise and technology to meet the healthcare needs of the more than 100,000 people who live in the mid-shore region, and maintains an average daily census of 138 patients on the inpatient units. The Emergency Department is designed to accommodate 60,000 visits a year. The hospital services include: Acute care inpatient medical and surgical services; obstetrics/gynecology; pediatrics; oncology; renal care; neuroscience; critical care services; operating room services; and a full-range of on-sight and off-sight outpatient services. These off-site services include but are not limited to: Regional Cancer Center, Digestive Disease Center, and Urological services.

### **Data Collection**

I used the Knowledge and Attitude Survey Regarding Pain developed by Ferrell and McCaffery (2005; See Appendix A) to assess the nurses' knowledge of pain management assessment and reassessment. This 38-item survey, consisting of multiple choice and true and false questions, took 20 minutes for nurses to complete. According to Ferrell & McCaffery (2005), the survey has been tested for validity and reliability. Content validity has been established by review of pain experts, and 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. I was granted permission to use the Knowledge and Attitude Survey Regarding Pain. Participants also completed a demographic survey (See Appendix B).

I proceeded with recruitment after receiving approval for the project by Walden's IRB. Recruitment for project volunteers began with a flier announcing the educational program including date, time, location, and my contact information. I also made in-person contacts with nurses to announce the educational program. I obtained informed consent from all of the participants before starting the program. Before they began the educational program, I gave each participant a pre-test. The test had no identifiers on it. The pretests had an "A" in the upper left hand corner, indicating that this was the pretest. After completing the pretest, participants attended a 1-hour educational program on pain assessments and reassessments. Once the program was finished, I provided the participants with a posttest that had a "B" in the upper left hand corner of the test indicating that it was the posttest.

### **Protection of Human Rights**

Walden University Institutional Review Board (IRB #09-11-15-0375273) approved the project. I insured confidentiality of the data ensured by using the following measures: a) a unique study observation number was used; b) data was available only to me and to the director of quality assurance; c) only I and the director of quality assurance had access to hardcopy study data which was kept in a locked file cabinet; d) only I and the director of quality assurance had access to electronic databases that held the study

data. The electronic database was held on a password-protected computer, data was reported in aggregate, and there were no participant names or identifiers on the pretest or posttest to protect privacy and anonymity, and the nurse's participation was voluntary. I conducted this quality improvement project in accordance with ethical principles that are consistent with good clinical practices and the applicable laws and regulations.

### **Data Analysis**

For statistical analysis I used the Statistical Package for the Social Sciences (SPSS) version 21. I coded the data according to developer instructions and entered them into the SPSS. The plan for scoring and analyzing the Knowledge and Attitude Survey's for the pain questionnaires included assigning a score of 1 for every correct answer, and a score of 0 for every incorrect answer. I used descriptive statistics to describe and summarize the demographic data, such as age and gender. To determine if there was a significant difference in scores on the Knowledge and Attitude toward Pain Survey before and after the pain management educational program, I used a *t* test.

### **Project Evaluation Plan**

Hodges and Videto (2011) state, "program evaluation should look at the implementation effectiveness, efficacy, cost-effectiveness and attribution ability of a program" (p. 5). According to Kettner, Moroney, and Martin (2013), an integral part of program development is planning for the evaluation process to determine the expected outcomes. The evaluation process begins with the implementation of the program and occurs throughout the program, it is a journey that ensures that all stakeholders understand the program's purpose.

## Summary

Healthcare requires strong, accountable people that see the value in moving important measures of system-wide quality performance and for aligning resources to achieve successful improvement goals and activities. By accounting for quality and integrity, an aligned program can accomplish performance improvement, reduce of harm, realize reliable processes, and reduce waste (SHM, 2008).

My plan used proven processes and methodology for conducting and evaluating quality improvement activities through appropriate study design that included baseline measurement, development and implementation of appropriate interventions, and re-measurement to determine the impact of the interventions. The quality improvement process impacts care and service by setting goals, comparing indicators to benchmarks, establishing thresholds for the outcomes of required actions, and tracking measures over time. (HipUSA, 2008).

Quality improvement programs are established to periodically measure and monitor multiple levels and degrees of performance and to maintain a major part of the safety and progress for the future of the organization. As Ferrell and Coyle (2008) have noted, “Our ability to relieve pain should be the litmus test of our value as healthcare professionals. It is the core of our contract with society and the mandate of our privilege to be nurses” (p. 54).

## Section 4: Findings and Recommendations for Practice

### Introduction

The purpose of this project was to assess the effectiveness of the pain assessment and reassessment educational program using a pretest and posttest to determine if there was an increase in the knowledge, and change in the attitudes of nurses with minimal training in the area of pain management. In this section, I provide an explanation and analysis of the findings, discuss implications for practice, and offer recommendations and conclusions.

### Findings with Evidence Support

Thirty-four registered nurses volunteered to participate in the educational program. Of these, 29 were female and five were males. Most of the nurses had either a BSN or MSN (See Table 1). Their number of years working as a nurse ranged from 1 to 25 years, and their ages ranged from 20 to 69.

Table 1

*Demographic Information: Number of Participants, Level of Education, Years in Nursing, Gender*

---

Number of Nurses	Education Level	Years in Nursing	Male	Female
(n=34)	14- Diploma	1-5 Years	1	13
	2 Associates	6-8 Years	1	1
	10 BSN	10-18 Years	2	8
	8 MSN	19- 38 Years	0	8

---

Each nurse completed the KAPS before and after the educational program. A score of 1 was assigned for every correct answer on the KAPS and a score of 0 was assigned for every incorrect answer. I totaled the number of correct scores and calculated the percentage of correct answers. I found a significance difference in the scores after the participants had completed the educational program. On the pretest, 50% of the participants scored at or below 70%. After the educational program, the average score on the KAPS increased to 90%. In short, there was a significant increase in scores on the KAPS after the educational program ( $t = -15.8, df = 33, p < 0.00$ ).

My findings regarding the increase in knowledge were similar to those in other recent studies which have demonstrated that following pretests with an educational program and posttest lead to increased scores (Max et al., 2008). According to Linkewich et al. (2007), research has shown that there are knowledge deficits in the area of pain assessments which may contribute to the under-treatment of pain. However, it has been controversial as to whether continuing nursing education has had a positive impact on changing nurses' practices. Research has indicated that continuing educational programs are likely to produce a significant increase in knowledge and a change in attitudes. A meta-analysis of 34 studies by Waddell (1991) suggested that continuing nursing education has a positive effect on practice.

### **Project Strengths and Limitations**

The strengths of the project included the willingness of the nurses to participate in a one-day educational program, the significant increase in the KAPS score from the pretest (average score 70%) to the posttest (average score of 96%), and continuing

improvement after the educational program. The pretest scores of the nurses prior to the educational program were an average score of at or below 70% and when the educational program was provided to the nurses the average score on posttest were an average of 90%. The educational program increased the nurse's knowledge of pain management.

The limitations for the project were the small sample size, the convenience sample of only oncology nurses, and the site location of a rural hospital system. The use of convenience sample, as opposed to a randomized sample, may increase bias. My study's small sample size and rural hospital site may have produced results that cannot be generalized to urban or other areas.

### **Recommendation for Practice**

Recommendations include educating all newly hired nurses in the area of pain assessments and reassessments in their orientation program. Providing education to nurses in their yearly competencies will reinforce and update their knowledge and skills in this subject. According to Al-Shaer et al. (2013), nurses promote positive outcomes for patients if they have knowledge in the area of assessments and reassessments, and understand both pharmacological and non-pharmacological mechanisms.

### **Analysis of Self**

In this section I will reflect on my role as a nurse practitioner, leader, and advocate. It is important for a leader to know how to engage people and how to promote change (Lorenzi and Riley, 2000). The nurse practitioner and the DNP role promote autonomy, leadership, and advocacy. Leaders must have buy-in for change to be successful (Keup, et al., 2001). My DNP role has provided me with the knowledge to

understand evidence-based practice (EBP), and to educate other healthcare providers regarding the importance of EBP. This DNP journey has provided me the opportunity to participate in various research projects and to expand my role as a leader.

There has been a tremendous evolution of the nurse practitioner (NP) role from its beginnings in the 1960s. The role of the nurse practitioner was initially developed to meet the needs of underserved populations, but NPs are now practicing throughout the continuum of healthcare with many different client populations. NPs have the ability to diagnosis, treat, and prescribe medications, including schedule II through schedule V controlled substances (Cowen & Moorehead, 2006). The nurse practitioner journey encouraged me to obtain my DNP.

In my role as a scholar, I am an active member on the research council at the hospital where I am employed. I have conducted research and am in the process of writing a manuscript for my research project. As a promoter of life-long learning, I encourage nurses to return to school.

As a practitioner, I promote professionalism and encourage other nurses to belong to professional organizations. I think it is important to attend face-to face programs as much as possible in order to network with, and learn from others. I am active in the legislative arena at both the state and federal levels, and believe that it is important for nurses and nurse practitioners to be active in legislative issues that impact patient well-being.

As project manager, I am able to effectively communicate with stakeholders, and I understand that buy-in is important from the beginning of the project. Stakeholders are



individuals and organizations who have a vested interest in the program. Stakeholder involvement is key to the success of program planning, implementation, and evaluation (CDC, 2009). If a program is to be successful, it is important for representatives from the target population to be involved in developing the goals and objectives for the program prior to its implementation (Hodges & Videto, 2011).

### **Summary**

This DNP project has inspired me to continue learning while being a mentor and role model for others. It was rewarding to move through the project phases from start to finish, and to be able to disseminate the project.

## Section 5: Scholarly Product

### **Scholarly Product for Dissemination**

Dissemination helps to transform new knowledge into practice. I will disseminate the DNP project using a poster presentation to the stakeholders of the

inpatient and outpatient pain and palliative care services at the rural hospital setting where the project was performed. An abstract and content outline for the poster can be found in Appendix C. Without dissemination, change will not occur (White & Dudley-Brown, 2012). The pain assessment and reassessment pretest, educational program, and posttest will be provided at each new nursing orientation at the practicum site.

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## Appendix A: Knowledge and Attitude Survey Regarding Pain

**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. Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences.  |
| T | F | 3. Patients who can be distracted from pain usually do not have severe pain.   |
| T | F | 4. Patients may sleep in spite of severe pain.   |
| T | F | 5. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases.   |
| T | F | 6. Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months.   |
| T | F | 7. Combining analgesics that work by different mechanisms (e.g., combining an opioid with an NSAID) may result in better pain control with fewer side effects than using a single analgesic agent.   |
| T | F | 8. The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours.   |
| T | F | 9. Research shows that promethazine (Phenergan) and hydroxyzine (Vistaril) are reliable potentiators of opioid analgesics.   |
| T | F | 10. Opioids should not be used in patients with a history of substance abuse.  |
| T | F | 11. Morphine has a dose ceiling (i.e., a dose above which no greater pain relief can be obtained).   |
| T | F | 12. Elderly patients cannot tolerate opioids for pain relief.  |
| T | F | 13. Patients should be encouraged to endure as much pain as possible before using an opioid.   |
| T | F | 14. Children less than 11 years old cannot reliably report pain so nurses should rely solely on the parent's assessment of the child's pain intensity.   |
| T | F | 15. Patients' spiritual beliefs may lead them to think pain and suffering are necessary.   |
| T | F | 16. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.  |
| T | F | 17. Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real.  |
| T | F | 18. Vicodin (hydrocodone 5 mg + acetaminophen 500 mg) PO is approximately equal to 5-10 mg of morphine PO.   |
| T | F | 19. 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 | 20. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.   |
| T | F | 21. Benzodiazepines are not effective pain relievers unless the pain is due to muscle spasm.   |
| T | F | 22. <u>Narcotic/opioid addiction</u> 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. |

## Multiple Choice – Place a check by the correct answer.

23. The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is
- a. intravenous
  - b. intramuscular
  - c. subcutaneous
  - d. oral
  - e. rectal
24. The recommended route administration of opioid analgesics for patients with brief, severe pain of sudden onset such as trauma or postoperative pain is
- a. intravenous
  - b. intramuscular
  - c. subcutaneous
  - d. oral
  - e. rectal
25. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?
- a. codeine
  - b. morphine
  - c. meperidine
  - d. tramadol
26. Which of the following IV doses of morphine administered over a 4 hour period would be equivalent to 30 mg of oral morphine given q 4 hours?
- a. Morphine 5 mg IV
  - b. Morphine 10 mg IV
  - c. Morphine 30 mg IV
  - d. Morphine 60 mg IV
27. Analgesics for post-operative pain should initially be given
- a. around the clock on a fixed schedule
  - b. only when the patient asks for the medication
  - c. only when the nurse determines that the patient has moderate or greater discomfort
28. A patient with persistent cancer pain has been receiving daily opioid analgesics for 2 months. Yesterday the patient was receiving morphine 200 mg/hour intravenously. Today he has been receiving 250 mg/hour intravenously. The likelihood of the patient developing clinically significant respiratory depression in the absence of new comorbidity is
- a. less than 1%
  - b. 1-10%
  - c. 11-20%
  - d. 21-40%
  - e. > 41%
29. The most likely reason a patient with pain would request increased doses of pain medication is
- a. The patient is experiencing increased pain.
  - b. The patient is experiencing increased anxiety or depression.
  - c. The patient is requesting more staff attention.
  - d. The patient's requests are related to addiction.
30. Which of the following is useful for treatment of cancer pain?
- a. Ibuprofen (Motrin)
  - b. Hydromorphone (Dilaudid)
  - c. Gabapentin (Neurontin)
  - d. All of the above

31. The most accurate judge of the intensity of the patient's pain is  
 a. the treating physician  
 b. the patient's primary nurse  
 c. the patient  
 d. the pharmacist  
 e. the patient's spouse or family
32. Which of the following describes the best approach for cultural considerations in caring for patients in pain:  
 a. There are no longer cultural influences in the U.S. due to the diversity of the population.  
 b. Cultural influences can be determined by an individual's ethnicity (e.g., Asians are stoic, Italians are expressive, etc).  
 c. Patients should be individually assessed to determine cultural influences.  
 d. Cultural influences can be determined by an individual's socioeconomic status (e.g., blue collar workers report more pain than white collar workers).
33. How likely is it that patients who develop pain already have an alcohol and/or drug abuse problem?  
 < 1%                       5 - 15%                       25 - 50%                       75 - 100%
34. The time to peak effect for morphine given IV is  
 a. 15 min.  
 b. 45 min.  
 c. 1 hour  
 d. 2 hours
35. The time to peak effect for morphine given orally is  
 a. 5 min.  
 b. 30 min.  
 c. 1 - 2 hours  
 d. 3 hours
36. Following abrupt discontinuation of an opioid, physical dependence is manifested by the following:  
 a. sweating, yawning, diarrhea and agitation with patients when the opioid is abruptly discontinued  
 b. Impaired control over drug use, compulsive use, and craving  
 c. The need for higher doses to achieve the same effect.  
 d. a and b

#### Case Studies

Two patient case studies are presented. For each patient you are asked to make decisions about pain and medication.

**Directions:** Please select one answer for each question.

37. **Patient A:** Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.
- A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Andrew's pain.
- |                    |   |   |   |   |                          |   |   |   |   |    |
|--------------------|---|---|---|---|--------------------------|---|---|---|---|----|
| 0                  | 1 | 2 | 3 | 4 | 5                        | 6 | 7 | 8 | 9 | 10 |
| -----              |   |   |   |   |                          |   |   |   |   |    |
| No pain/discomfort |   |   |   |   | Worst<br>Pain/discomfort |   |   |   |   |    |
- B. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time.
1. Administer no morphine at this time.  
 2. Administer morphine 1 mg IV now.  
 3. Administer morphine 2 mg IV now.  
 4. Administer morphine 3 mg IV now.

38. **Patient B:** Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Robert's pain:

0    1    2    3    4    5    6    7    8    9    10

-----  
No pain/discomfort

Worst  
Pain/discomfort

B. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time:

- \_\_\_\_\_ 1. Administer no morphine at this time.
- \_\_\_\_\_ 2. Administer morphine 1 mg IV now.
- \_\_\_\_\_ 3. Administer morphine 2 mg IV now.
- \_\_\_\_\_ 4. Administer morphine 3 mg IV now.



**Answer Key****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. Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences.
- F 3. Patients who can be distracted from pain usually do not have severe pain.
- T 4. Patients may sleep in spite of severe pain.
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- F 11. Morphine has a dose ceiling (i.e., a dose above which no greater pain relief can be obtained).
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- F 14. Children less than 11 years old cannot reliably report pain so nurses should rely solely on the parent's assessment of the child's pain intensity.
- T 15. Patient's spiritual beliefs may lead them to think pain and suffering are necessary.
- T 16. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.
- F 17. Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real.
- T 18. Vicodin (hydrocodone 5 mg + acetaminophen 500 mg) PO is approximately equal to 5 - 10 mg of morphine PO.
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- F 20. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.
- T 21. Benzodiazepines are not effective pain relievers unless the pain is due to muscle spasm.
- T 22. 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.

## Answer Key

Knowledge and Attitudes Survey Regarding Pain

Multiple Choice – Place a check by the correct answer.

23. The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is  
 a. intravenous  
 b. intramuscular  
 c. subcutaneous  
 d. oral  
 e. rectal
24. The recommended route of administration of opioid analgesics for patients with brief, severe pain of sudden onset, such as trauma or postoperative pain is  
 a. intravenous  
 b. intramuscular  
 c. subcutaneous  
 d. oral  
 e. rectal
25. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?  
 a. codeine  
 b. morphine  
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 d. tramadol
26. Which of the following IV doses of morphine administered over a 4 hour period would be equivalent to 30 mg of oral morphine given q 4 hours  
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 a. The patient is experiencing increased pain.  
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 d. The patient's requests are related to addiction.
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 a. Ibuprofen (Motrin)  
 b. Hydromorphone (Dilaudid)  
 c. Gabapentin (Neurontin)  
 d. All of the above





38. Patient B: Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Robert's pain:

0   1   2   3   4   5   6   7   8   9   10

No pain/discomfort

Worst  
Pain/discomfort

B. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time:

- 1. Administer no morphine at this time.
- 2. Administer morphine 1 mg IV now.
- 3. Administer morphine 2 mg IV now.
- 4. Administer morphine 3 mg IV now.

## Appendix: B

## Demographic Survey

1. Age  
 20-29    30-39    40-49    50-59    60-69    70+
2. Gender  
 Male    Female
3. Level of Education  
 RN    Diploma    AA    BSN    MSN    PhD    DNP
4. Number of Years Working as a Nurse  
 1-5    6-10    11-15    16-20    21-25    26-30    30-35  
 35+
5. Years working in the medical- oncology inpatient setting  
 1-5    6-10    11-15    16-20    21-25    26-30    30-35  
 35+

## Appendix: C

### Poster Outline

#### Abstract

Pain is a significant problem in the United States. The primary reason for inadequate and under treatment of pain is that nurses have insufficient knowledge regarding pain assessments and reassessments. Inadequate pain control decrease patient's quality of life, increases hospital admissions and contributes to poor patient outcomes. Guided by Knowles Theory of Adult Learning, nurse's knowledge regarding pain assessments and pain reassessments was evaluated before and after a pain management education program using, the Knowledge and Attitude toward Pain Survey (KAPS; McCaffery & Farrell, 1997).

#### Problem Statement

Nurse's lack of knowledge regarding pain management and documentation of pain assessments are barriers to effective pain management. Ineffective pain management can prolong the patient's length of stay which may lead to increased cost of care (Wells, Pasero, & McCaffery, 2008). The inspection of patient's Electronic Medical Records (EMR's) on two medical oncology units, revealed incomplete and missing documentation regarding pain management reassessments (SHS, 2014). The administration of pain medications and evaluation were being performed, but consistent documentation of effectiveness was absent. The reasons varied from time availability; auto log-out of EMR; lack of familiarity with policy expectations; distractions and others. It was

apparent that the need for a practice change related to the documentation of pain is necessary.

#### Purpose Statement

The purpose of this quality improvement project was to evaluate the effectiveness of an educational program for acute care nurses on the assessment and management of the adult hospitalized patient experiencing pain.

#### Framework

Knowles Theory of Adult Learning was the framework to guide the project as nurses' insight and knowledge of pain management, assessment, and reassessment are evaluated. According to Smith (2002) Knowles made use of relationships in clinical psychology and behavior modification. The combination of these attributes encourages self-directed learning which requires the learner to identify needs and set objectives. Knowles identified three reasons self-directed learning is effective: People who take the initiative to learn retain better; self directed learning makes one more willing to learn and one who takes the initiative to learn retains more (Knowles, 1975). This component was fulfilled with the recruitment of the nurses who participate in this educational program, these nurses took the initiative to learn, which will lead to them learning more things and retaining what they have learned.

#### Results

A convenience sample of 34 nurses completed the KAPS before and after an educational program addressing pain assessments. A significant increase in KAPS scores was noted after the educational program from a pretest average score of 70% to a posttest average

score of 94%. Results of t-test analysis revealed a statistically significant ( $t = -15.8$ ,  $df = 33$ ,  $p < 0.00$ ) in these scores. The results of this project are consistent with the literature and illustrate the importance for improving nursing practice by providing nurses with education regarding pain assessments and reassessments as a strategy to improve the management patients' pain and, subsequently, increase patients' quality of life.

### References

- “Knowledge and Attitudes Survey Regarding Pain” developed by Betty Ferrell, RN, PhD, FAAN and Margo McCaffery, RN, MS, FAAN, (<http://prc.coh.org>), revised 2012.
- McCaffery, M., and Pasero, C. (1999). Practical nondrug approaches to pain. In:  
McCaffery, M., and Pasero, C. eds. *Pain: Clinical Manual*. (2nd ed.). St Louis:  
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