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Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert

by

Robin J. Sherrill

A thesis submitted to the faculty of
Gardner-Webb University School of Nursing
in partial fulfillment of the requirements for the
Master of Science in Nursing Degree

Boiling Springs

2013

Submitted by:	Approved by:
_____	_____
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Abstract

Despite 20 years of work by educators, clinicians, and professional organizations and the publication of clinical practice guidelines, there have been, at best, modest improvements in pain management practices (Berry & Dahl, 2000). Literature review asserts, nurses' continue to have knowledge deficits and ongoing negative attitudes toward pain management. Nurses are at the forefront in patient care and the appropriate skills, knowledge, and attitudes in pain assessment and management is essential in order to provide optimal patient care. The purpose of this study was to assess the current level of nursing knowledge and attitudes toward pain management from Benner's continuum of novice to expert and to determine if there is a relationship between level of education, years of experience, perceived level of expertise and nurses' knowledge, and attitudes toward pain management. Two descriptive surveys were used to survey (N-37) nurses' knowledge and attitudes toward pain management (the Pain Management Principles Assessment Tool (PMPAT) and the Nurses' Pain Management Attitude Survey (McMillan, Tittle, Hagan, Laughlin, & Tabler, 2000). Findings indicated nurses continue to have knowledge deficits and negative attitudes toward pain management. Results revealed no correlation between years of experience, level of education, knowledge or attitudes toward pain management. A positive correlation was identified between the nurses perceived level of expertise according to Benner's levels with attitudes but no correlation with knowledge indicating the nurses who perceived themselves higher on Benner's continuum of novice to expert had a more positive attitude but not more knowledge.

Keywords: pain, chronic pain, nurses' knowledge, nurses' attitudes, novice, advanced beginner, competent, proficient, expert

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First of all, I would like to thank God for bringing me through this exciting yet challenging experience. Years ago I would never have thought I would be working on my Master's Degree in Nursing but through my love of lifelong learning and dedication to the nursing profession, here I am.

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CHAPTER I

Introduction

The experience of pain is overwhelming with devastating effects. It not only affects the patient, but the family, and the nurse caring for the patient. Nurses provide care to patients in a variety of healthcare settings from hospitals, clinics, homes, schools, physicians' offices, and public health centers. The nursing profession prides itself in caring for the patient holistically. This professional resolution provides a positive perspective when it comes to nursing care of patients with acute and chronic pain. Nurses are educated to take into account that the "human response to a health problem may be much more fluid and variable" than suggested by the medical diagnosis and a greater key to recovery than a single medical treatment (Institute of Medicine (IOM), 2011 p. 202). Pain is now acknowledged as the fifth vital sign and an essential responsibility of nurses to provide prompt, safe, and effective pain management. Although there is educational information available about pain management for the healthcare profession, evidence has revealed that inadequate pain assessment and management continues to be a challenge in health care. Nurses are with patients more than anyone in the healthcare setting and play a vital role in assessment and management of pain. Studies suggest nurses have inadequate skills, knowledge, and beliefs toward pain assessment and management. Knowledge deficits can lead to negative beliefs and attitudes toward pain management which can influence patient care.

Problem Statement

Despite the introduction of pain management standards and years of research, pain continues to be poorly managed. Nurses play a vital role in effective pain

management. An assessment of pain with prompt intervention is needed for patients to receive optimal pain relief. A lack of knowledge concerning pain assessment and management is a consistent theme in the literature, particularly misconceptions regarding opioid administration (Al-Shaer, Hill, & Anderson, 2011).

This research study assessed the current level of nurses' knowledge and attitudes toward pain management utilizing the framework of Patricia Benner's novice to expert to further determine if there is a relationship between level of education, years of nursing experience, and perceived level of expertise.

Justification of the Research

Pain is a highly unpleasant experience and is the most common reason people seek medical attention. It is a warning sign that something is wrong. Acute pain occurs from an injury such as trauma, surgery, or sudden disease process. The duration of acute pain is two to three months. People who experience acute pain may develop chronic pain that becomes intractable. Chronic pain may also be identified as malignant cancer related pain or nonmalignant pain as a result of an injury or chronic disease process. Chronic pain is pain that is present for six months or longer. Living with chronic pain can be very debilitating and become a long complex journey. It can interfere with the ability to work, spend time with family, even the ability to perform the basic activities of daily living. According to the Institute of Medicine, chronic pain is a significant public health concern affecting 116 million U.S. adults (IOM, 2011, p. 28). The experience of pain can be complex for patients and nurses, and as a result is not always well understood or managed. Studies have investigated nurses' knowledge and attitudes toward pain management as well as its relationship with additional variables and demographics

utilizing the Nurses' Knowledge and Attitudes Survey Regarding Pain. One study using a different instrument to measure emergency room nurses' knowledge of pain found nurses with a master's degree or higher, were more knowledgeable about pain management (Al-Shaer et al., 2011).

Purpose

The purpose of this research study, "Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert" was to determine the current level of nurses' knowledge and attitudes toward pain management and to determine if there is a relationship between knowledge and attitudes to the level of education, years of nursing experience, and the perceived level of expertise on Benner's continuum of novice to expert.

Thesis Question

What is the current level of nurses' knowledge and attitudes toward pain management?

Is there a relationship between level of nursing education and years of nursing experience?

Is there a relationship between perceived level of expertise and the knowledge and attitudes toward pain management?

Theoretical or Conceptual Framework

The study of the current level of nurses' knowledge and attitudes toward pain management will utilize Patricia Benner's Theory from Novice to Expert: Excellence and Power in Clinical Nursing Practice as a guide. Patricia Benner focused her theory on observing nurses in the practice setting at the various stages of development from novice

to expert in an effort to develop the model. The theory describes how nurses learn at each level and the rationale for the decisions they make. The framework promotes reflective practice and recognizes nursing expertise in support of lifelong learning. The individualized nursing care at each level is based on patient assessment, identification of nursing problems, application of nursing care interventions to alleviate the identified problem, and reassessment for evaluation of the outcome (Noyes, 1995).

In the novice stage, the nurse has no experience in the situation he or she is involved in. Instruction must be given to guide performance. There is difficulty at this level in understanding what is necessarily relevant and what is irrelevant. This level generally pertains to student nurses, but an experienced nurse in one area of practice could be at a novice level when placed in an area of practice that is unfamiliar. The nurse at this level begins to learn the basic fundamentals of pain assessment and management either from the nurse educator during their clinical experience or from a preceptor in a novice role in a new area of practice.

The advanced beginner stage has emerged when the nurse can demonstrate acceptable performance with real situations as noted by their preceptor. The advanced beginner has enough experience to understand the components of a situation. Nurses at this stage are guided by the rules in an effort to complete the task at hand. The larger perspective of the situation is still in progress as the nurse continues to test their abilities in the midst of the demands that have been placed upon them. The advanced beginner continues to require the mentorship from their preceptor as they continue to learn to manage patient care. The new nurse in this role begins to utilize the basic knowledge regarding pain assessment and management as they increase their experience in the

clinical setting. A nurse at this level will continue to build on their knowledge base of pain management as a new graduate in a residency program of an acute care center.

Through following the actions of their preceptor and simulating actual practice situations the advanced beginner progresses into the competent role. The competent level brings about distinct planning and conscious efforts to act upon situations that require immediate attention and the determination of those which can be of lower priority. At the competent level, consistency, predictability, and time management skills are essential as well as the ability to prioritize. The focus is mainly on time management and organizational skills and the competent nurse may display increased awareness in the care of the patient that may be viewed as over realistic. The nurse at this level may also display an increased critical view of self. The process of reasoning begins to evolve as the nurse plans actions to address the situation and guide responses. The competent nurse has been working in a similar healthcare setting for two to three years. The nurse in this stage continues to build on existing skills in pain assessment and management. They are more knowledgeable in pain medication administration, mechanism of action, and pathophysiology. At this level, the process of active teaching and learning is present in order to advance to the proficient level.

At the proficient stage, the nurse views the situation in whole rather than in smaller concepts. Intuition and the development of an understanding of the whole situation takes place. Nurses at this level are able to recognize and apply skilled responses when changing events take place that need immediate action. At this stage confidence levels increase as knowledge and skills evolve. The proficient nurse interacts more closely with patients and their families as they transition into the level of expertise.

At this level the nurse may attend educational seminars regarding pain assessment and management to become more knowledgeable. They explore opportunities to educate their patients and their colleagues regarding pain management.

The final stage in Benner's model is the expert nurse. At this stage the nurse no longer uses analysis as a principle. The expert nurse is able to fully assess the situation, diagnose, and intervene without having to contemplate other possible diagnoses. The nurse has a strong clinical foundation and is a resource to other colleagues. Meeting the patient's needs and addressing their concerns is of the utmost importance. They have a competent view of self. The nurse at this stage has a certification in pain management and is a nurse manager of nursing staff in a pain management clinic or acute care setting. They may also have an advanced nursing degree at the master's or doctorate level.

Benner's five stage model progresses from novice to expert focusing on skill acquisition and clinical advancement as knowledge is obtained in the care of the patient (see Figure 1). This Theoretical-Conceptual-Empirical Model signifies the nurse's progression from a novice knowledge base to an expert knowledge base in the development of pain assessment skills and management (see Appendix A). At each level an increased knowledge base emerges in areas of non-pharmacologic and pharmacologic treatments, medication administration, mechanism of action, and pathophysiology in pain management. Throughout the various stages, beliefs, and attitudes toward pain management are formed and can be influenced by education, clinical experience, personal experience, and perceptions.

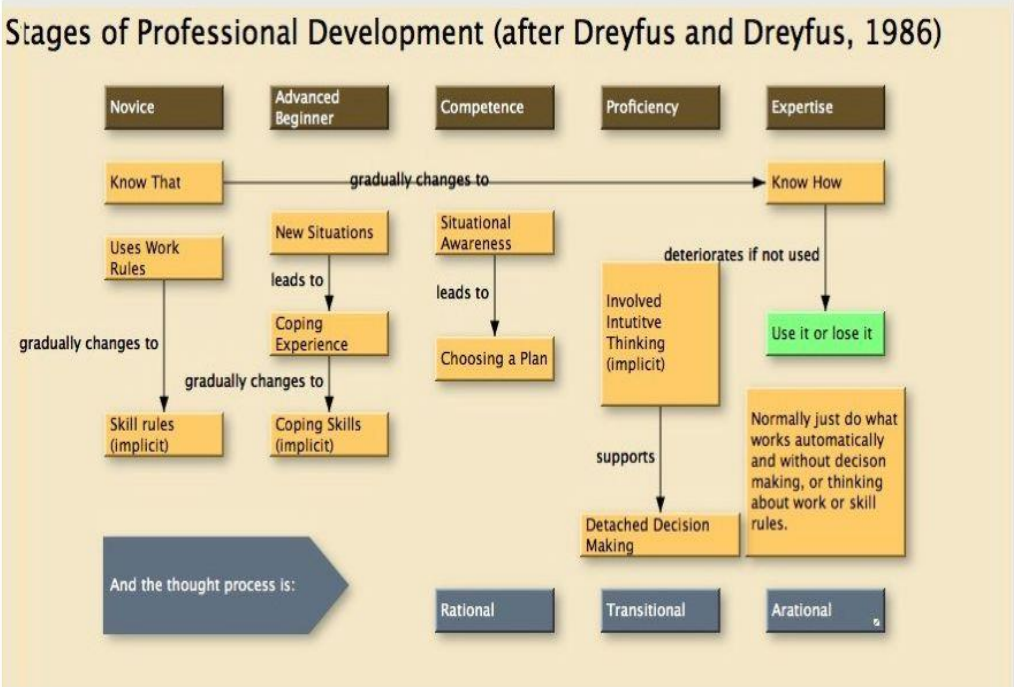

Figure 1: Stages of Professional Development (Dreyfus and Dreyfus, 1986)

Definition of Terms

For the purpose of this study the following terms are defined:

- Pain: According to the International Association for the Study of Pain, pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage (IOM, 2011, p. 25).
- Chronic pain: According to the Institute of Medicine (IOM, 2011, p. 3), chronic pain has a distinct pathology; causing changes throughout the nervous system that often worsen over time. It has psychological and cognitive correlates and can constitute a serious, separate disease entity
- Nursing knowledge: Knowledge is a complex, multifaceted concept. Knowledge is acquired in a variety of ways and is expected to be an accurate reflection of the

real world. Nurses have historically acquired knowledge through traditions, authority, borrowing, trial and error, personal experience, role-modeling and mentorship, intuition, reasoning, and research (Burns & Grove, 2009, p. 706).

- Nursing attitude: Attitudes to nurses can be viewed as either positive or negative. Positive attitude refers to those that enhance the quality and dignity of the nurse and the profession, while negative attitudes denigrate and belittle them both (Mason & Whitehead, 2003, p. 104).
- Novice: Beginners have no experience with the situations in which they are expected to perform (Saver & Habel, 2013).
- Advanced beginner: Able to acknowledge meaningful components of a situation. They have knowledge, skills, and know-how but lack experience (Saver & Habel, 2013).
- Competent: Lack of speed and flexibility but has a level of mastery as they rely on advanced planning ability and organized skills (Saver & Habel, 2013).
- Proficient: Has learned from the clinical experience and has the ability to modify interventions in response to a variety of events (Saver & Habel, 2013).
- Expert: Well developed ability to recognize demands utilizing resources to reach goals. They have intuitive knowledge and experience of a given situation or event. They focus on the whole situation and "just know" without further analysis (Saver & Habel, 2013).

Summary

The purpose of this study, "Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert" was to determine the current level of nurses' knowledge and attitudes toward pain management and to determine if there is a relationship between knowledge and attitudes to the level of education, years of nursing experience, and the perceived level of expertise on Benner's continuum of novice to expert. Studies have indicated nurses continue to have inadequate pain assessment skills and knowledge of pain management to provide effective pain relief and quality care for patients. Benner's conceptual model Novice to Expert: Excellence and Power in Clinical Nursing Practice provided the framework for the research study.

CHAPTER II

Literature Review

The purpose of this chapter was to review the literature that pertains to nurses' knowledge and attitudes toward pain management. The review was conducted utilizing electronic databases that included Academic Onefile, EBSCOhost, ProQuest Nursing, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL). The following keywords were used: pain, chronic pain, nurses' knowledge, nurses' attitudes, novice, advanced beginner, competent, proficient, and expert. The literature was reviewed in three sections (1) Use of Benner's conceptual Model Novice to Expert (2) The Journey from Novice to Expert (3) Nurses' Knowledge and Attitudes toward Pain Management. The Theory of Novice to Expert: Excellence and Power in Clinical Nursing Practice by Patricia Benner was utilized to guide the research and literature review.

The purpose of the research study, "Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert" was to determine the current level of nurses' knowledge and attitudes toward pain management and to determine if there is a relationship between knowledge and attitudes to the level of education, years of nursing experience, and the perceived level of expertise on Benner's continuum of novice to expert.

Use of Benner's Conceptual Model

Benner's framework, Novice to Expert: Excellence and Power in Clinical Nursing Practice (2001), was developed to study clinical skill acquisition in nursing practice as nurses progressed through five stages from novice to expert. The concept introduced that

nurses develop skills and gain knowledge of patient care through a sound educational foundation and experience over time.

Benner, Tanner, and Chesla (1992), continued to explore the Dreyfus Model of Skill Acquisition in nurses who practiced in the critical care setting. This qualitative study interviewed nurses who practiced in an Intensive Care Unit in eight hospitals across the United States. Seven of the hospitals were located in two far western regions of the United States and one in the eastern region of the United States. The nurses' area of practice consisted of both adult and pediatric with equal distribution in surgical, medical, cardiac, and general Intensive Care Units. The sample of nurses was to be at a consistent level of education, therefore 98% of the nurses held baccalaureate degrees. Analysis of the data was taken from a sample (n=105) of the nurses who were identified as being in one of three selected groups coupled by expected level of practice based on years of nursing experience and/or peer/supervisor nomination. The groups were identified as advanced beginner: six months nursing experience in the ICU (n=24), intermediate (competent and proficient): two years nursing experience in the ICU, however, this group consisted of nurses who had nursing experience in other clinical settings (n=33), and expert: five years of experience in the ICU and recognized by peers as an expert in the ICU setting (n=43). Group interviews were conducted with the nurses according to their level of practice to create a natural environment for peer discussion. Therapeutic open communication skills were encouraged as they discussed their experiences in clinical practice. Findings indicated a distinction between the various levels from advanced beginner to expert. The study revealed the nurses at each level of skill practiced in totally

different clinical worlds as they respond to various situations. A true sense of ownership for patient responsibility was also determined by level of expertise and skill.

Altmann (2007) reviewed the study of Patricia Benner and sought to determine if the study was a theory or a philosophy. The study concluded the work of Benner was that of a philosophy for nursing practice. It was a qualitative design that sought to provide a foundation for the understanding and nursing excellence and skill acquisition. This model uses practical reasoning, looks at what effects underlie reality, and proposes a guide to shape nursing practice- all qualities of a philosophy (Altmann, 2007). Most of the criticisms evolve from the fact that Benner's study was qualitative and had been validated. Another concern was that the study used narrative and sought to gain this knowledge by observing nurses and asking them to discuss their experiences. Altmann (2007) asserts the criticisms do not devalue the conceptual model but make it more of a philosophy rather than a theory. It provides a framework that supports lifelong learning for nurses, thus is applicable to nursing practice, research, and education. It relates the use of both theoretical and practical knowledge as is particularly useful as a philosophy (Altmann, 2007).

The Journey from Novice to Expert

In a descriptive study by Plaisance and Logan (2006), the level of knowledge and attitudes regarding pain of nursing students in an associate degree and baccalaureate program was explored. The purpose of this study was to identify gaps in nursing curricula regarding the education of nursing students in analgesic administration and assessment of pain. The Nurses' Knowledge and Attitude Survey Regarding Pain was utilized during data collection. The sample (n=313) was obtained from a school of nursing in Louisiana.

Data analysis revealed inadequate knowledge in analgesic administration and duration, along with an exaggerated fear of the process of addiction among patients. Knowledge of non-pharmacology items was higher than that of pharmacology. The students were given a clinical scenario requiring assessment of the patient's pain as well as reassessment and patient response. When faced with the initial assessment, most students responded appropriately, however, when reassessment and patient response was identified the majority responded incorrectly.

Findings of the study revealed the baccalaureate degree nursing students scored higher (65% correct) than the associate degree nursing students (60.8% correct). The combined mean for the group was 64% which indicated an inadequate level of knowledge regarding pain management. The research suggests there is a need for nursing faculty to critically review their curricula regarding pain assessment and pain management to determine if evidence-based research, standards of practice, and current pain management information is being incorporated.

In a cross-sectional study by Shaw, Tchg, and Lee (2010), the existence and the development of knowledge and attitudes about adults experiencing chronic nonmalignant pain among student nurses' was investigated. The purpose of the study was to identify gaps in the knowledge and attitudes of student nurses and to use the findings as a basis for discussing educational approaches directed toward improving the care and experience of patients. The study was conducted over a period of three years among undergraduate nursing students to determine their misconceptions. Data was collected from a sample of (n=430) student nurses using a specially designed survey. The study took place among student nurses enrolled in different semesters of undergraduate education in New Zealand

between 2001 and 2003.The student nurses that participated in the study demonstrated that they held misconceptions about adults with chronic nonmalignant pain to a considerable degree. Eight misconceptions regarding patients with chronic pain were identified. The misconceptions included: tolerance to pain, experiencing psychological problems, experiencing stress, seeking compensation, manipulative, depressive, addicted, or noncompliant. More than one-third (38.2%) of the participants demonstrated that they held the misconception that people with chronic pain are tolerant to pain to some degree.

More than half (59%) gave responses indicating that they held the misconception that psychological impairment is related to chronic pain. The majority of the students (79.6%) gave answers suggesting that they believed that stress was a contributory factor in the development of chronic pain. The misconception of compensation and exaggeration was held by 47.9% of the students. Slightly more than one-third (34.5%) indicated that they held the misconception that patients with chronic pain were manipulative. The misconception of depression as a contributing factor was held by 64.3% of the students. One half (54.8%) held the misconception that chronic pain patients were addicted to opioids. One half of the students (54.8%) held the misconception that taking opioids were likely to be addicting. The misconception of noncompliance and dependence was held by 58.3% of the student nurses.

A second question within the study sought to determine the extent to which the student nurses developed the misconception during their undergraduate study. The results indicated a positive trend across the semesters for all items indicating that the students held the misconceptions to a lesser degree as they progressed through their course of

study. The results indicated that there is a need to address knowledge and attitudes of student nurses toward adults experiencing chronic nonmalignant pain.

In a descriptive research study by Goodrich (2005), the knowledge and attitudes of students and faculty members regarding pain management at a University in central Virginia was evaluated. The purpose of the study was to determine the baseline of knowledge and attitudes regarding pain management, the content of the material on pain management and the extent to which pain management is integrated into the course content. The data was collected from a convenience sample of Baccalaureate nursing students at the sophomore, junior, and senior levels using McCaffery's Pain Knowledge and Attitudes Survey at the beginning and the end of the semester for a period of two years. Students were asked to complete the questions based on their knowledge from the classroom setting and their clinical experience. Faculty at the University also completed a survey and answered open-ended questions pertaining to pain management as an inclusion in the course curriculum. Student's responses revealed gaps in the use of Demerol for pain during sleep and the belief in patients self-report of pain. As the student advanced in education during the academic year, a significant increase in correct responses were noted. Deficient areas continued to include: evaluation of respiratory depression, assessment skills, medication calculations, analgesic ceiling of opioids, and identifying the difference between addiction and tolerance.

The faculty also completed the Pain Knowledge and Attitude Survey by McCaffery and Pasero (1999). A series of open-ended questions were also prepared and administered to the faculty. A sample (n=10) of faculty responded. Results of the faculty surveys noted strengths in the areas of pain assessment and medication administration.

Knowledge regarding ceiling of opioids, and knowledge of the difference between addiction, tolerance, and physical dependence were areas noted for need of improvement. The open-ended questions addressed the current curriculum content of pain management. Seven of the 10 faculty members noted that they include pain management content within the class. Six faculty members indicated they tested the students on their knowledge of pain material and six professed themselves to be current in relation to pain management knowledge and issues. Nine of the faculty members indicated that they maintain their knowledge by reading of professional publications, attending seminars, and discussing issues with the local health care pain experts. The faculty utilized pain resources such as the Clinical Pain Manuel (McCaffery & Pasero, 1999) and the pain standards available through the American Pain Society and Agency for Health Care Research and Quality National Guideline Clearinghouse, as well as obtaining information from local clinical pharmacist and a clinical nurse specialists within the local acute care setting. McCaffery and Robinson (2002) discovered that nurses with advanced degrees and more than 15 years of experience were more likely to have higher scores on their pain and attitude survey. The findings in the survey supported this, however, there were inconsistencies related to the content of pain in the classroom and competencies of pain management.

In a qualitative study by Briggs (2010), the extent of nursing students' accuracy in pain assessment ratings and choices for treatment were examined. The study further explored the nursing students' rationale for their treatment decisions. The sample (n=270) population consisted of classes of junior and senior nursing students from two schools of nursing. The schools of nursing were chosen due to the similarity of learning objectives for pain management and curriculum content for pain assessment and management. Both

schools included three hours of course content in the classroom setting with a lecture type teaching style. The instrument utilized in the study was the Patient Behavior Case Vignette, also referred to as "Andrew-Robert Survey" as developed by McCaffery and Ferrell. The scenarios examined the students thought processes when assessing the pain score on a numerical scale and when choosing the appropriate medication dosage of analgesia. Participants were to read and respond to the questions in two case scenarios. The two scenarios consisted of patients with different signs and symptomatology related to pain. Results revealed 87.41% of the nursing students rated the pain intensity correctly for Patient A (Robert) in research question 1, while, only 69.63% answered correctly for Patient B (Andrew) in research question 2. Two hundred thirty-six nursing students rated the pain intensity correctly in the Robert vignette in question 2, while 119 correctly administered a dose of morphine. With regards to the Andrew vignette, 188 students rated the pain intensity correctly, while 73 of the students administered the medication correctly. Many of the students were knowledgeable of the principle of accepting, respecting, and documenting with regards to a patients subjective report of pain. The use of distraction as a comfort measure was a positive outcome in the study with regards to ethical responsibilities of the nurse. Rationales for incorrect pain ratings included normal vital signs; normal behavior of the patient and the presence of a visitor in the room may have influenced the patients' presence of pain.

Knowledge and attitudes in pain management among novice to expert pediatric nurses was investigated in a study conducted by Rieman and Gordon (2007). The study sites consisted of eight pediatric hospitals of which seven were Shriners hospitals in Texas, California, Pennsylvania, and Ohio between March and November of 2002. A

modified version of the Pediatric Nurses Knowledge and Attitudes survey was utilized to evaluate nursing competency. A convenience sample (n=295) of pediatric nurses from eight hospitals was obtained. The sample consisted of two Licensed Vocational Nurses and 293 Registered Nurses with nursing degrees from Diploma to Advanced Practice. The average participant was 40.6 years of age and from the highest degree in nursing graduated 13.1 years prior, had 15.1 years of nursing experience and 10.3 years of pediatric nursing experience. The nurses spent 59% of their time working in direct patient care and read 1.6 journals monthly. The nurses were grouped by years of experience; novice 0-2 years, 3 years and less than 5, 5 years and less than 10, 10 years and less than 15, 15 years and less than 20, and expert 20 years or greater. The study revealed nurses who had 10-15 years' experience post-graduation scored significantly higher than the nurses who had graduated 0-2 years prior. The nurses with 0-2 years of nursing experience scored lower than the other five groups with more nursing experience. Nurses with 0-2 years of pediatric nursing experience scored lower than the three groups with less than 15 years or less of pediatric nursing experience. The nurses who were members of a professional nursing organization or served on a committee had higher scores than the nurses who did not participate. A strength in the study consisted of the concept of caring as the nurses were concerned more with the patient's perception of pain and relieving the pain. Areas that were noted to be weak in the study were knowledge of pharmacology, and the side effect of respiratory depression. The 0-2 year groups may benefit the most from skill assessment and supportive measures during those years as a novice (Rieman & Gordon, 2007). In conclusion, the study revealed nursing education,

professional activity, and number of years of nursing experience contributes to the knowledge needed for pain management competency.

In an exploratory, descriptive study by O'Brien, Dalton, Konsler, and Carlson (1996), knowledge and attitudes of experienced oncology nurses regarding pain management was explored. The research focused on knowledge, attitudes, and perception of barriers to pain management of cancer patients. The study took place in North Carolina and 1,400 nurses were stratified by educational background and the Area Health Education Center in the area they lived. The nurses were selected by random sample and the names were supplied by the North Carolina Board of Nursing. The process of selection obtained an equal number of nurses from an educational background of diploma, associate degree, baccalaureate degree, and master degree in nine regions of the state. Of the 1,400 nurses, (n=340) responded. The instrument utilized was the North Carolina Cancer Pain Initiative (NCCPI), which was adapted from the Wisconsin Cancer Pain Initiative survey with permission. The survey which consisted of 82 items was divided into three areas: knowledge, attitudes, and perceived barriers. Of the nurses who participated in the survey, the majority worked in a hospital setting, 73% cared for patients with cancer, and 24% did not care for patients with cancer. The average years in nursing were 16.09 for the nurses who cared for cancer patients and 19.7 for the nurses who did not care for cancer patients. Hours of cancer education consisted of 3.32 in the nurses who cared for cancer patients and .17 in the nurses who did not care for patients with cancer. Knowledge scores of opioids, pain, and scheduling regimen revealed that nurses who had worked with patients with cancer were more knowledgeable than those who did not work with patients with cancer. The total score was 18.7 for nurses who

cared for patients with cancer and 15.88 for the nurses who did not. The nurses who cared for patients with cancer reported participation in educational opportunities to compensate for the knowledge deficits. Attitudes were found to be liberal among nurses who cared for patients with cancer. The average response was 3.42 with a range from 1-5. Perceived barriers to pain management by the nurses were inadequate pain assessment, inadequate knowledge of pain management, and the patient's reluctance to report pain. The barrier reported least often was lack of equipment and skills. Although nurses who care for cancer patients have increased knowledge of pain management, deficits continue to exist.

In a descriptive study by McCaffery, Ferrell, and Pasero (2000), nurses' opinions regarding a patients' pain intensity and their relationship between assessment and titration of analgesic medication to relieve severe pain was explored. Nurses' attending pain conferences in 20 various locations throughout the United States were asked to complete the survey as a pre-test prior to the conference. A sample (n=400) was randomly chosen from a total of 1,276 surveys completed. The highest level of education of the nurses' was a baccalaureate degree 32.8%, 28.8% held associates degrees, and 25.8% held a diploma in nursing. Total years of experience averaged 17.16 with an average age of 42.59. Majority of the nurses practiced in the area of medical/surgical and intensive care (32.6%), while 20.8% of the nurses indicated they practiced in multiple settings and 26% indicated "other". The above demographic data revealed the nurses practiced in various settings and held extensive experience. The study utilized the survey, Assessment &Use of Analgesics developed by McCaffrey, Ferrell and Pasero (1998). The survey presented two post-operative patient vignettes. The scenarios were similar except for the patients' behavior and demeanor. The surveys asked the nurses to tell of

their personal opinions regarding the patient's report of pain intensity, what they record from patients report from the pain scale in the patients chart and what analgesic dose of medication they would administer. Findings from the study revealed that 85.8%-90.0% would record the pain rating as provided by the patient regardless of the fact that they may not believe the patient. Fewer than half (43.8%) recorded the patients rating of pain correctly and an increased analgesic dose was administered to both patients. Upon removal of the nurses who had incorrect responses to one or more of the questions (56.7%), findings indicated a strong correlation between nurses' personal opinions about a patients' pain, regardless of the recorded pain rating, to have an impact on analgesic dose administration. The results of the survey and previous studies suggest there is a need for more education for nurses regarding how patients may respond to pain and how some patients find distraction a positive coping strategy to manage pain.

Knowledge and Attitudes Regarding Pain Management

In a cross-sectional survey by Prem et al. (2011), attitudes and beliefs about chronic pain among nurses was investigated. The purpose of the study was to assess the chronic pain-related attitudes and beliefs among nursing professionals in order to evaluate their perceptions on pain to determine if they were biomedical (pathological) or behavioral (biopsychosocial). The study utilized a self-report pain attitudes and beliefs scale (PABS). The survey consisted of 31 items or statements about pain for which the participant indicted at which level he or she agreed or disagreed with the statement. Level 1 indicated a biomedical dimension while level 2 indicated a behavioral dimension to pain. Participants consisted of a sample (n=363) of nurses who worked in a multispecialty hospital. The overall level 1 score was 52.95 +/- 10.23 and the level 2

score was 20.93 +/- 4.72. The female nurses had a higher behavioral dimension score (21.1 +/- 4.81) than the male nurses (19.55+/-3.67) which was significant at $p<0.05$ level. The nurses were found to navigate toward the biomedical (pathological) dimension of chronic pain than the behavioral (biopsychosocial) dimension. The findings indicated important curricular implications for nurses and implications in practice for palliative care.

Bone marrow transplant nurses knowledge, beliefs, and attitudes toward pain management was investigated in a descriptive exploratory study by Pederson and Parran (1997). The study took place on a 32 bed bone marrow transplant unit in a 567 bed acute care hospital in the Midwestern area of the United States. The sample (n=39) consisted of 20 pediatric nurses and 19 acute care nurses who care for adults. The instrument utilized in the study was a questionnaire consisting of 49 items that was written by the researchers. The questionnaire consisted of 18 multiple choice questions pertaining to knowledge, 26 questions regarding beliefs, four questions utilizing a five scale Likert scale and one open-ended question that addressed which pain related topic they like to receive additional education on.

Findings of the study revealed 79% of the nurses held a high knowledge level regarding pain assessment and management. Regarding patient self-report of pain, 74% of the nurses agreed it was the most reliable. Positive beliefs and attitudes among the nurses were prevalent, and the majority of the nurses indicated that they found pain management very self-fulfilling. In response to the open-ended question, the most common response was the need for additional information regarding opioid analgesics and administration. Implications from the study indicated the need for further education

regarding knowledge deficits and the need to provide pain management education at the novice level in an effort to better prepare nursing students in the area of pain management and assessment.

Caring for a patient with pain can be challenging and requires a current level of knowledge and skill. Matthews and Malcom (2007) explored the knowledge and attitudes of nurses within an orthopedic practice who had completed a competency training program against nurses who were attending a pain conference who had not participated in the competency program. The study utilized the Nurses Knowledge and Attitudes Survey Regarding Pain by Ferrell and McCaffery (2002). In a sample (n=130), group one consisted of 65 registered nurses who had completed a competency program and group two consisted of 48 registered nurses who were attending a pain management conference and not completed the competency program. Of the registered nurses, 65.5% worked in an orthopedic clinical area and 22.9 % practiced in another clinical area. The total group had been registered nurses for 17.9 years with an average age of 39.9 years. Following data collection and analysis, a total score was obtained rather than dividing the tool into knowledge and attitudes. The mean score of correct responses for group one was 26.28% and group two 25.42 %. The overall mean score was 73.8 % with a passing score of 80%. McCaffery and Robinson (2002) assert that if a nurse scores less than 80% her ability to care for a patient in pain is significantly compromised. Findings from this study suggest deficits in nursing knowledge and attitudes in clinical practice remain. Reasons for these deficits include inadequate education, poor pain assessment skills, inaccurate knowledge of commonly used medications and pharmacology, and inadequate knowledge of pain management.

A non-experimental, descriptive study by Al-Shaer et al. (2011) registered nurses completed a modified version of the Nursing Knowledge and Attitudes Survey (Ferrell & McCaffery, 1987) regarding their knowledge and attitudes toward pain assessment and intervention. A convenience sample (n=129) of registered nurses was obtained from a Midwestern metropolitan hospital. Demographic characteristics included education, age, years of experience, and practice area. Results revealed nurses who worked 16 or more years on their current unit scored higher than nurses who worked on their unit for 1-5 years. The total knowledge scores did not differ significantly with regards to degree preparation, however, baccalaureate and diploma nurses scored higher than associate degree prepared nurses. Nurses that worked in oncology and pulmonary units received the highest scores on assessment of pain. The nurses from a neurology unit scored higher on the questions that focused on non-pharmacologic treatments. Nurses in the study were above average regarding pain assessment and management; however, their scores were much lower regarding pharmacologic interventions.

In a descriptive study by Lewthwaite et al. (2011), nurses' knowledge and attitudes regarding pain management was explored. The study was conducted in an urban tertiary care hospital in Midwestern Canada. A convenience sample of 761 nurses who administer analgesia in their current practice was obtained. The nurses worked in a variety of clinical areas such as surgery, cardiac services, family medicine, rehabilitation, emergency, mental health, and hospital float pool. The Knowledge and Attitudes Survey Regarding Pain by Ferrell and McCaffery (2008) was utilized in the study. Due to the length of the survey, only the 22 true and false questions were utilized as the survey was completed during the nurses work time. Three hundred and twenty four nurses completed

the survey. The majority were female (93%) with an average age of 42 years. The nurses varied in their education with 58% being diploma prepared, and 42% baccalaureate or masters prepared. Results revealed 49% of the participants received a passing score of 80% or more. Questions that were least correct pertained to pharmacology. With regards to demographics of age and nursing experience in relation to their score no significance was found. Correlation was found significant in the relationship of score and education. The study found nurses continue to require education regarding pain management, particularly in the area of pharmacology.

Pain is common in intensive care settings and effective treatment is a key responsibility of the critical care nurses. A cross-sectional study by Wang and Tsai (2010) explored the nurses' knowledge and attitudes regarding pain management in intensive care units. Nurses from intensive care units (n=370) from 16 hospitals in Taiwan were chosen by a stratified sample. Data was obtained utilizing the Taiwanese version of the Nurses' Knowledge and Attitudes Survey regarding their perception of barriers to pain management. Nurses' knowledge was evaluated by their ability to perform an accurate pain assessment, ability to provide pain management, and their knowledge of analgesic medications. Results revealed the correct response rate in the area of knowledge was 53.4%, which indicated inadequate knowledge of pain management. The barrier most consistently cited was the need of physician approval for the appropriate analgesic medication. Knowledge of pain management was noted to be negatively associated with barriers to pain management. It was also noted inadequate knowledge was significantly related to education level, clinical position, and hospital

accreditation status. An ongoing pain management course for critical care nurses was a strong recommendation at the conclusion of the study.

Nurses' knowledge and attitudes regarding pain management in patients with cancer at a veterans hospital was investigated in an exploratory descriptive study by McMillan et al. (2000). The study took place on seven inpatient units in two veterans' hospitals in Southeast Florida. The sample (n=85) of licensed practical nurses and registered nurses was obtained from the units by self- select method. The study utilized four research tools. The Pain Management Knowledge Test (PMKT) that measured nurses' knowledge was self-developed by the researchers. A Nurses' Attitude Survey modified from the Nurses' Knowledge and Attitude Survey by Ferrell & Leek (1992) was developed to measure nurses' attitudes. The Pain Survey which consisted of two patient vignettes was also used to evaluate nurses' attitudes regarding pain management with a focus on patient age, gender, behavior, and mood. In comparison of the knowledge and attitude scores of the registered nurses and licensed practical nurses grouped separately, no significant difference was noted; therefore the nurses were grouped together. The mean age of the nurses was 44 years with a mean level of experience of 14 years. With regards to educational level, 23% held a baccalaureate degree and only 10 of the nurses indicated they were oncology nurses.

Findings of the study revealed knowledge deficits in physiology of pain and pharmacology. Nurses were found to be knowledgeable in pain assessment, medication scheduling, and tolerance of analgesics and non-pharmacological methods of pain management. With regards to attitudes toward patients in pain, research findings indicated nurses' decision making in pain management was influenced by patient

behavior, age, and gender. Nurses attitudes toward pain management indicated the majority did not agree that the patient and their families should have the control over scheduling of pain medication, and that the pain medication should not be maintained in the blood stream due to risk for respiratory depression. In conclusion, findings suggest nurses in veteran's hospitals continue to lack knowledge and have negative attitudes toward pain management and patients in pain.

Pain management is an essential skill of home health nurses. In an effort to support nursing care planning and the provision of quality home care, Laborde and Texidor (1996) investigated the knowledge and attitudes toward chronic pain management among nurses in home health care. The study took place in the northern area of a southern state and surveyed a sample of 346 nurses. There was a 30% return on the questionnaires yielding a sample (n=109). The measurement tools utilized for the study were the Nursing Analgesia Knowledge Questionnaire and the Attitude Inventory Tool. Respondents were mostly female with a bachelor's degree in nursing with 11-15 years of nursing experience and up to five years of experience in home health care. The study revealed that the relationship of knowledge and attitudes was significant. Upon further evaluation it was noted that nurses who had greater knowledge regarding pain management held a more positive attitude toward the management of chronic pain. Examination of the scores revealed a need for improvement in areas of analgesia, mechanism of action, and pathophysiology.

In a descriptive study by Tanabe and Buschmann (2000), the knowledge of pain management among emergency nurses was investigated. The purpose of the study was to determine knowledge deficits and perceived barriers to pain management by nurses who

worked in the emergency department. The study took place in Illinois and the data was collected utilizing a survey developed by the investigators "Emergency Nurses' Knowledge of Pain Assessment and Intervention Strategies". The 52 item questionnaire consisted of four domains; pain assessment, knowledge of the terms: addiction, tolerance, dependence and threshold, analgesic side effects and mechanism of action, and the role of the emergency nurse in treatment and the application of interventions to provide quality pain management. The nurses were also asked to provide a rating from "never" to "always" to 13 identified barriers to pain management in the emergency department. The questionnaire was mailed anonymously to a total of 1,000 nurses that were members of the Illinois Emergency Nurses Association. The sample (n=305) of respondents returned the questionnaires. Study findings indicated a significant deficit in pain management knowledge and comprehension of the terms addiction, tolerance, and dependence. Knowledge deficits were also found in pharmacology and analgesic principles. Nurses who had attended a pain management seminar or held a master's degree in nursing scored higher than those who had not attended a pain management seminar or had an advanced level of education. The most common barriers to pain management was the inability to provide analgesic medication until a diagnosis was revealed (53%) and inadequate assessment of pain and effective pain relief (48%). The data indicate that emergency nurses may not have a good understanding of the management of pain with drugs, or of such issues as risk of addiction (Tanabe & Buschmann, 2000).

In continued review of the literature, nurses' knowledge and attitudes regarding hospitalized patients with pain was explored by Jarrett, Church, Fancher-Gonzalez, Shackelford, and Lofton (2013). The study was conducted to determine nurses'

knowledge and attitudes regarding pain management prior to an educational session, immediately following the educational session and again at the six month period following the pain management education. The study took place in a 360 bed acute care hospital in the midsouth of the United States. The sample (n=206) consisted of nurses who provided direct patient care in the acute care hospital and (n=164) participated in the post-test. The Knowledge and Attitudes Survey Regarding Pain was the instrument utilized to obtain the data.

Findings revealed the post-test scores were significantly higher following pain management education than pre-test scores. At the six month post-test scores continued to remain higher then pre-test scores. The results conclude nurses require a strong knowledge foundation to provide effective, quality pain management to patients.

Young, Horton, and Davidhizar (2006) explored attitudes and beliefs regarding pain assessment and management among nurses in a questionnaire design study. The purpose of the study was to determine the nurses' attitudes towards the use of pain assessment tools and to determine if there is a relationship between nurses' attitudes regarding assessment of pain, education, and experience. The study was conducted utilizing a sample (n=52) of nurses who worked on a unit in a community hospital in the Midwest. The nurses' level of education in pain management and clinical experience varied. The instrument consisted of three open-ended questions to determine the nurses' attitudes and beliefs regarding pain assessment and management. The questions addressed the nurses' beliefs regarding pain assessment, beliefs regarding the use of pain assessment tools, and beliefs regarding the use of the pain assessment tool to improve patient outcome.

Results of the study revealed positive beliefs with the use of the pain assessment tool, as it allowed the patients be as pain free as possible and aided in a more positive outcome for the patient. The pain assessment tool was found to be not only beneficial for the patient but for the nurse, as well as it produced a positive outcome for the patient and allowed the nurse to assess the pain more effectively. Negative beliefs regarding pain assessment tools consisted of beliefs that pain assessment tools are too subjective and tend to be inaccurate. With regards to the nurses' attitudes toward pain assessment, education and experience, the education of the nurses ranged from Licensed Practical Nurse to a Registered Nurse with a Bachelor of Science Degree in Nursing. Nursing experience varied from less than five years to more than 10 years. Final results indicated that there was not a correlation between a more positive attitude toward pain assessment tools and experience in nursing practice. Study findings indicated nurses with less than five years of nursing experience held the most negative attitude toward pain assessment tools and the outcome of the patient with a score of -6 to 12. Nurses with experience between 5 to 10 years held a more positive attitude toward the use of pain assessment tools and the outcome of the patient and received a score of -2 to 28. Those with more than 10 years obtained a score of -3 to 16. Findings regarding pain management education in the past two years and attitudes toward pain assessment tools among the nurses varied. The study results revealed 52 % received 1-3 hours, 29% received 5-10 hours and 19% obtained more than 10 hours. Findings suggested the nurses with more than 10 hours held a more positive attitude toward pain assessment tools and held a more positive attitude toward utilizing pain assessment tools to promote effective patient outcome.

Summary

In review of the literature, despite years of research into the area of pain management and knowledge and attitudes among nurses from the stage of novice to the stage of expert, inadequacies remain. Results of studies have identified nurses lack knowledge and comprehension of basic pain management principles, pain assessmen,t and use of analgesic medications. Research reveals a significant need for the inclusion of pain management content into the nursing program curricula, as well as the inclusion of current standards of pain management in association with evidence based practice. Although medical technology and knowledge in the area of pain management has improved, pain continues to be undertreated or inadequately treated.

CHAPTER III

Methodology

This chapter addressed the study's methodology, implementation, setting, sample, research design, protection of human subjects, survey instrument, data collection, and data analysis.

The purpose of this research study, "Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert" was to determine the current level of nurses' knowledge and attitudes toward pain management, and to determine if there is a relationship between knowledge and attitudes to the level of education, years of nursing experience, and the perceived level of expertise on Benner's continuum of novice to expert.

Sample and Setting

A convenience sampling method was utilized in determining participants in the study. The participants were obtained from a list serve of a professional nursing organization in the Northwestern Region of North Carolina. The Northwest Region of the professional nursing organization consists of 275 members of Registered Nurses who practice in a variety of healthcare settings with varying levels of education. Demographics included years of experience in nursing, gender, highest level of education in nursing, current area of practice, area of expertise, and pain management education in the last year. Participants were also asked to rate their current level of nursing knowledge in pain management from the novice to expert stages based on their knowledge and years of nursing experience.

Design

The study used a descriptive correlational design to investigate the current level of nurses' knowledge and attitudes toward pain management: novice to expert among nurses who were members of a professional nursing organization. Using this design facilitates the identification of many interrelationships in a situation in a short time (Burns & Grove, 2009). The survey design provided the opportunity to collect the data to determine the current level of nurses' knowledge and attitudes toward pain management as well as allow the researcher to distinguish between nurses' knowledge and nurses' attitudes from novice to expert.

Protection of Human Subjects

Prior to conducting the research study, permission was obtained from the Institutional Review Board (IRB) of Gardner Webb University. Permission to complete the study was obtained from the Regional Director of the Professional Nursing Organization in the Northwest Region. Participants agreeing to participate in the study received a cover letter with assurance of anonymity and voluntary participation (see Appendix B). The cover letter provided information concerning minimal risks and benefits of the study. The investigator's and thesis advisor's contact information was made available to the participants in the cover letter. Completion of the questionnaires served as implied consent. The participants were asked to avoid writing any identifying information on the questionnaires to maintain anonymity. Data obtained was secured on the investigators computer which utilized simple pass identification technology which only the researcher has access to.

Instruments

A demographic questionnaire (see Appendix C) was developed to obtain characteristics related to the sample. Two survey tools, the Pain Management Principles Assessment Tool (PMPAT) and The Nurses' Pain Management Attitude Survey were utilized to collect the data (see Appendices D and E). Prior to utilizing these, permission was obtained to use these tools in the study (see Appendix F).

The Pain Management Principles Assessment Tool (PMPAT) was designed to measure nurses' knowledge. The survey was a self- administered questionnaire that consists of 31 multiple choice items that address physiology and pain characteristics, dependence, addiction, tolerance, goals of pain management, and principles of pain assessment, and management. Raw scores range from 0-31, and percentage scores, which reflect the percentage of items answered correctly, may range from 0-100. Building the test from a blueprint and basing items on careful review of the literature ensured validity (McMillan et al., 2000).

The content validity of the tool was studied by comparing scores of nursing students prior to and immediately after a three hour pain management course. The significant increase from pre- to post test scores $t=6.76$, $p<0.00$) supports validity of the tool (McMillan et al., 2000).

The test-retest reliability of the Pain Management Principles Assessment Tool was performed one week following using the same group of nursing students. The correlation coefficient ($r=0.84$, $p<0.00$) supports the reliability of the instrument (McMillan et al., 2000).

The Nurses' Pain Management Attitudes Survey was adapted and revised by McMillan and Tittle from the Nurses Knowledge and Attitude Regarding Pain Survey by Ferrell and Leek (1992). The instrument contained 25 items pertaining to nurses attitude toward pain management, use of narcotics (fear of addiction, sedation, respiratory depression, scheduling), who is in control, and the use of non-pharmacologic pain management methods (McMillan et al., 2000). A positive attitude is displayed in a higher score.

Content validity was ensured by developing the tool based on literature review and current pain standards. The tool was also reviewed and validated by a panel of pain experts. The original tool was evaluated by comparing the scores of nurses at various levels of expertise from novice to expert. The tool allows for the researchers ability to distinguish between levels of expertise.

Reliability of the total tool prior to revision for test re-test reliability was investigated using a group of staff nurses (n=60). The correlation was noticeably high (r=0.80). Internal consistency reliability was evaluated using Cronbach's alpha (r=0.70).

The revised tool was studied for validity and reliability. Construct validity was studied utilizing 28 nursing students before and after an educational program designed to change pain attitudes. The significant difference found ($t=6.88$, $p<0.00$) supports the construct validity of the attitude items (McMillan et al., 2000).

Test-retest was studied one week later during a pilot study. The correlation coefficient was high (r=0.89, p=0.00). Internal consistency reliability utilizing the scores from the 28 nursing students was also noted to be high (alpha=0.86) (McMillan et al., 2000).

Data Collection

Data collection was conducted by the researcher. The completed questionnaires were returned to the researcher via Wufoo. The data results were entered into the computer owned by the researcher. The researcher's computer is protected by simple pass identification technology and only the researcher has access to the computer to ensure study materials remain confidential and are protected.

Data Analysis

Statistical Package for Social Sciences (SPSS): An International Business Machine (IBM) Company 21.0 was utilized for data analysis. Demographic data was analyzed using descriptive statistics which included frequency statistics, percentages, mean, and standard deviation. A correlation coefficient determined the relationship between knowledge and attitudes, years of nursing experience, level of education, as well as perceived level of expertise.

Summary

A descriptive correlational design was used to conduct this research study, "Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert", to determine the current level of nurses' knowledge and attitudes toward pain management and to determine if there is a relationship between knowledge and attitudes to the level of education, years of nursing experience, and the perceived level of expertise on Benner's continuum of novice to expert. The Pain Management Principles Assessment Tool and Nurses' Pain Management Attitude Survey (McMillan et al., 2000) was used to determine the current level of nurses' knowledge and attitudes regarding pain management. Data was analyzed in the researchers' personal computer using SPSS.

Descriptive statistics were utilized for demographic data and knowledge and attitudes regarding pain management. A correlation coefficient was utilized to determine the relationship between years of nursing experience, level of education, and perceived level of expertise on Benner's novice to expert continuum.

CHAPTER IV

Results

This chapter reports the actual data collected and the statistical analyses utilized. Emphasis was placed on the findings by reporting the factual data.

Introduction

The purpose of this research study, "Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert" was to determine the current level of nurses' knowledge and attitudes toward pain management and to determine if there is a relationship between knowledge and attitudes to the level of education, years of nursing experience, and the perceived level of expertise on Benner's continuum of novice to expert.

The research questions were:

What is the current level of nurses' knowledge and attitudes toward pain management?

Is there a relationship between level of nursing education and years of nursing experience?

Is there a relationship between perceived level of expertise and the knowledge and attitudes toward pain management?

Sample Characteristics

Of the 37 study participants who completed the Pain Management Principles Assessment Tool (PMPAT) and the Nurses' Pain Management Attitude Survey, one held a Diploma, four held an Associate Degree, 11 held a Baccalaureate Degree, 18 held a Master Degree, and three held a Doctorate or Advanced Practice as depicted in Table 1.

Of those completing the surveys three were male, 31 were female and three had no response as depicted in Table 2. The years of experience in nursing ranged from two years to 46 years with a mean of 21.43 (SD= 14.7) Table 3. Current areas of practice included medical, surgical, mental health, critical care, emergency department, nurse educator, administration, developmental disability, wellness, nurse practitioner, family practice, and urgent care. With regards to current practice in direct patient care, 29 (78.4%) stated they currently practiced in direct patient care. Of the 37 participants in the study, 25 (67.6%) stated they had attended a pain management continuing education course in the last year. With regards to mandatory or voluntary pain management education in the current place of employment, 25 (67.6%) stated education is voluntary and 12 (32.4%) stated education was mandatory. When asked at what stage the participant would rate themselves given their current knowledge of pain management and level of education, one (2.7%) rated themselves as novice, three (8.1%) rated themselves as advanced beginner, 13 (35.1%) rated themselves as competent, 14 (37.8%) rated themselves as proficient and five(13.5%) rated themselves as expert Table 4. The most common phrase that best describes the belief and attitude toward pain management was "I have a caring, and trustful attitude and believe the pain experience is what the patient says it is" with a frequency of 28 (75.7%). The phrase "I find patients in pain difficult to work with and very complex" was the choice of seven respondents (18.9%) with one (2.7%) response to "I believe most patients are manipulative and drug seeking and are not really in pain".

Table 1

Level of Education

	Frequency	Percent
Diploma	1	2.7%
Associate Degree	4	10.8%
Baccalaureate Degree	11	29.7%
Master Degree	18	48.6%
Doctorate or Advanced Practice	3	8.1%

Table 2

Gender Demographics

	Frequency	Percent
Male	3	8.1%
Female	31	83.8%
No response	3	8.1%

Table 3

Years of Experience

Mean	SD	Range
21.43	14.7	2-46 years

Table 4

Novice to Expert Perceptions

	Frequency	Percent
Novice	1	2.7
Advanced Beginner	3	8.1
Competent	13	35.1
Proficient	14	37.8
Expert	5	13.5

Major Findings

Raw knowledge scores ranged from 14 to 27 out of 31 with a mean of 21.1 and a standard deviation of 3.09. Scores on the Pain Management Principles Assessment Test ranged from 48-88 with a mean of 65.8. Areas in which the nurses were less knowledgeable included when a patient should request additional pain medication, physiology of pain, pain management goal of the patient being pain free, narcotic administration to provide a steady state of pain relief, the nurses objective assessment of the intensity of the patients pain, mechanism of action of naloxone, and the concept of addiction. Areas in which the nurses were most knowledgeable included when to call the physician, the patient as the most reliable judge of pain, analgesic administration of pain medication in advanced cancer pain, duration of analgesics, duration of action, non-pharmacologic management, and the benefit of steady state analgesia Table 5.

Table 5

Mean and Standard Deviation of Knowledge Items

Area of knowledge	Mean	Std. Deviation
If the patient continues to have pain the nurse should call the physician	1.0	.0
The use of non-pharmacologic method of distraction	.973	.164
The most accurate reliable judge of patients pain	.945	.229
When a post-op patient should request additional medication due to decreased blood levels of analgesic	.945	.229
The primary benefit of steady state analgesia	.918	.276
Definition of tolerance	.918	.276
When to provide a narcotic along with a non-steroidal anti-inflammatory	.918	.276
The patient having most control over the pain management regime	.918	.276
The primary factor of overall quality of life in the presence of cancer	.864	.346
Cutaneous stimulation with backrub and heating pad	.864	.346

Principles of analgesic administration in patients with advanced cancer	.837	.373
Significant disadvantage of meperidine	.837	.373
Mechanism of action of analgesics	.810	.397
Drugs with the longest duration of action	.810	.397
Symptoms of chronic pain	.756	.434
Research suggests physicians under prescribe and nurses under medicate for pain	.756	.434
Variables which affect expression of pain: Environment, social, cultural and observable actions of the patient	.729	.450
Percentage of cancer patients who experience pain at some point during their illness	.702	.463
Percentage of cancer patients who suffer pain for longer than a month	.648	.483
Knowledge of pain modulation	.567	.502
Action of naloxone	.567	.502
Preferred route of administration of analgesics for cancer patients	.540	.505

What type of pain can be treated with cutaneous stimulation	.540	.505
Percentage of patients receiving narcotic medication around the clock become addicted	.513	.506
Acute pain is accompanied by increased caloric requirements and increased temperature	.459	.505
Location of the spinal cord responsible for “gating”	.432	.502
Method of narcotic administration that provides steady state analgesia	.405	.497
Nurses decision to administer pain medication should be based on objective assessment of the intensity of the pain	.378	.491
At what level is it appropriate for the patient to request pain medication	.273	.450
Dull and aching pain sensation are the responsibility of C-Fibers	.216	.417
Pain management goal should be complete pain relief	.135	.346

Raw attitude scores ranged from 0 (negative) to 22 (positive) out of 25 with a mean of 6.9 and standard deviation of 5.44 indicating a more negative attitude toward pain management. Scores on the Nurses' Pain Management Attitude survey ranged from 0-88 with a mean of 27.67. The lower the score indicates the presence of a more negative attitude toward pain management. The results revealed the nurses have continued negative beliefs and attitudes toward pain management. The most areas of concern included providing medication around the clock due to the risk of respiratory depression and fear of addiction. Additional results included negative response to maintaining a patient in a pain free state, the patient having the most control over the analgesic schedule than the nurse, patients having the right to expect total pain relief, and when it is appropriate for the patient to request additional pain medication Table 6.

Table 6

Mean and Standard Deviation of Correct Responses in Attitude toward Pain Management

Attitude Items	Mean	Std. Deviation
Estimation of pain by a physician or nurse is a more valid measure of pain than by patient report	.648	.483
Continuous assessment of pain and medication effectiveness is necessary for good pain management	.594	.497
If the patient continues to have pain after receiving pain medication the nurse should contact the physician	.486	.506
Patients may be hesitant to ask for pain medication due to fear of the use of opioids	.459	.505
Distraction and diversion can decrease the perception of pain	.405	.497
It is appropriate for a patient to request pain medication before the pain returns	.378	.491
Lack of pain expression does not necessarily mean lack of pain	.405	.497
Giving opioids on a regular schedule is preferred over prn	.378	.491

A patient should experience discomfort prior to receiving the next dose of pain medication	.351	.483
The nurse can make a more accurate assessment of the patients pain than the patient	.351	.483
Patients receiving pain medications around the clock for cancer are likely to become addicted	.297	.463
A constant level of analgesic should be maintained in the blood to control pain effectively	.270	.450
Increasing analgesic requirements and physical symptoms are signs of addiction	.243	.434
Patients in pain can tolerate high doses of opioids without sedation or respiratory depression	.243	.434
Patients receiving opioids on a prn basis are likely to develop clock watching behaviors	.189	.397
If a patient reports pain relief and euphoria a lower dose of pain medication should be given the next time	.189	.397

Patients with chronic pain should receive pain medication at regular intervals with or without the presence of pain	.189	.397
Patients with severe chronic pain need higher doses of pain medication compared to acute pain	.135	.346
Cancer pain can be relieved with anti-cancer drugs, radiation therapy, and/or pain medications	.135	.346
Patients have the right to expect total pain relief	.135	.346
Cutaneous stimulation (heat, massage, ice) are only effective for mild pain	.108	.314
Patients can be maintained in a pain free state	.081	.276
The cancer patient and family should have more control over the schedule for analgesics than the health professional	.081	.276
Patients receiving around the clock opioids are at risk for sedation and respiratory depression	.081	.276
Patients should be maintained in a pain free state	.054	.229

Pearson correlation coefficient was utilized to determine the relationship between nursing experience, level of knowledge and attitude toward pain management Table 7.

Table 7

Correlations between Experience and Knowledge and Attitudes Score

		Experience in nursing	Sum knowledge	Sum attitudes
Experience in nursing	Pearson Correlation	1	-.012	.239
	Sig. (2-tailed)		.943	.154
	N	37	37	37
Sum knowledge	Pearson Correlation	-.012	1	.465**
	Sig. (2-tailed)	.943		.004
	N	37	37	37
Sum attitudes	Pearson Correlation	.239	.465**	1
	Sig. (2-tailed)	.154	.004	
	N	37	37	37

*. Correlation is significant at the 0.01 level (2-tailed).

No correlation was found between years of experience and knowledge or attitudes scores.

Pearson correlation coefficient was used to determine the relationship between level of education, level of knowledge and attitudes toward pain management Table 8.

Table 8

Correlations between Level of Education and Knowledge and Attitudes Scores

		Level of education	Sum knowledge	Sum attitudes
Level of education	Pearson Correlation	1	.129	.111
	Sig. (2-tailed)		.448	.512
	N	37	37	37
Sum knowledge	Pearson Correlation	.129	1	.465**
	Sig. (2-tailed)	.448		.004
	N	37	37	37
Sum attitudes	Pearson Correlation	.111	.465**	1
	Sig. (2-tailed)	.512	.004	
	N	37	37	37

**. Correlation is significant at the 0.01 level (2-tailed).

No correlation was found between level of education and knowledge or attitude scores.

Pearson correlation coefficient was utilized to determine the relationship between perceptions of Benner's level of expertise and knowledge and attitudes scores Table 9.

Table 9

Correlations between Perception of Benner's Level of Expertise and Knowledge and Attitudes Scores

		Novice to expert	Sum knowledge	Sum attitudes
Novice to expert	Pearson Correlation	1	.008	.363*
	Sig. (2-tailed)		.963	.027
	N	37	37	37
Sum knowledge	Pearson Correlation	.008	1	.465**
	Sig. (2-tailed)	.963		.004
	N	37	37	37
Sum attitudes	Pearson Correlation	.363*	.465**	1
	Sig. (2-tailed)	.027	.004	
	N	37	37	37

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Positive correlation was found between perceived level of expertise according to Benner's levels with attitudes but no correlation was found with knowledge. These findings indicate those who perceived themselves higher on Benner's novice to expert continuum had better attitude scores but not better knowledge scores. A positive correlation was found between attitude scores and knowledge scores, indicating those with knowledge had better attitudes.

Summary

Frequency and descriptive statistics was used to evaluate the knowledge items on the Pain Management Principles Assessment Test and the Nurses Pain Management Attitude Survey. Pearson correlation coefficient was utilized to determine the

relationships between nursing experience, level of education and knowledge, and attitude scores. Pearson correlation coefficient was also used to determine a relationship between the perception of Benner's levels of expertise and knowledge and attitudes.

The research questions for this study were:

What is the current level of nurses' knowledge and attitudes toward pain management?

Is there a relationship between level of nursing education and years of nursing experience?

Is there a relationship between perceived level of expertise and the knowledge and attitudes toward pain management?

CHAPTER V

Discussion

The following chapter reports the purpose of the study, research design, interpretation of outcomes, and relationship to the literature and the theoretical context, as well as implications for nursing education and future research.

Introduction

The purpose of this research study, "Assessment of Nurses' Knowledge and Attitudes toward Pain Management: Novice to Expert" was to determine the current level of nurses' knowledge and attitudes toward pain management and to determine if there is a relationship between knowledge and attitudes to the level of education, years of nursing experience, and the perceived level of expertise on Benner's continuum of novice to expert. This study used a descriptive correlational design to investigate the current level of nurses' knowledge and attitudes toward pain management: novice to expert among nurses who were members of a professional nursing organization. The research questions were:

What is the current level of nurses' knowledge and attitudes toward pain management?

Is there a relationship between level of nursing education and years of nursing experience?

Is there a relationship between perceived level of expertise and the knowledge and attitudes toward pain management?

Implication of Findings

This study revealed that there remains a knowledge deficit among nurses in the area of pain management. Scores on the Pain Management Principles Assessment Test ranged from 48-88 with a mean of 65.8. Areas in which the nurses were less knowledgeable included when a patient should request additional pain medication, physiology of pain, pain management goal of the patient being pain free, narcotic administration to provide a steady state of pain relief, the nurses objective assessment of pain intensity, mechanism of action of naloxone, and the concept of addiction. Areas in which the nurses were most knowledgeable included when to call the physician, the patient as the most reliable judge of pain, mechanism of action of analgesics, analgesic administration of pain medication in advanced cancer pain, duration of analgesics, duration of action of analgesics, non-pharmacologic management, and the benefit of steady state analgesia.

Scores on the Nurses' Pain Management Attitude survey ranged from 0-88 with a mean of 27.67. The results revealed that nurses continue to have negative attitudes and beliefs regarding pain management. Areas of concern include providing medication around the clock due to the risk of respiratory depression and fear of addiction. Additional results included negative response to maintaining a patient in a pain free state, the patient having the most control over the analgesicschedule, and when it is appropriate for the patient to request additional pain medication. With regards to a relationship between level of education, years of experience, knowledge and attitudes no correlation was found, however, a positive correlation was noted between the perceived level of expertise according to Benner's levels with attitudes but no correlation was found with

knowledge, which revealed those who perceived themselves higher on Benner's novice to expert continuum had more positive attitude scores but not better knowledge scores. A positive correlation was noted between attitude scores and knowledge scores which indicated those with more knowledge had more positive attitudes.

In review of the previous literature, despite years of research into the area of pain management and knowledge and attitudes among nurses from the stage of novice to the stage of expert, deficits remain. Results of studies have identified nurses lack knowledge and comprehension of basic pain management principles, pain assessment, and use of analgesic medications. Research reveals a significant need for the inclusion of pain management content into the nursing program curricula, as well as the inclusion of current standards of pain management in association with evidence based practice. Although medical technology and knowledge in the area of pain management has improved, pain continues to be undertreated or inadequately treated. Findings from the present study indicate additional pain management education is essential not only at the nursing curricula level but also with currently practicing nurses in order for effective pain management to be obtained.

Application to Theoretical/Conceptual Framework

As the nursing profession continues to explore ways in providing education and evolving in the area of pain management, nurses' competency in this area remains essential to providing optimal nursing care. When asked at what stage the participant would rate themselves given their current knowledge of pain management and level of education, one (2.7%) rated themselves as novice, three (8.1%) rated themselves as advanced beginner, 13 (35.1%) rated themselves as competent, 14 (37.8%) rated

themselves as proficient, and five (13.5%) rated themselves as expert. Patricia Benner's model of novice to expert was appropriately utilized to guide this study and findings indicated a positive correlation between the perceived level of expertise and attitudes but no correlation was found with knowledge. The results also revealed those with increased knowledge had a more positive attitude toward pain management. As the nurse progresses through the continuum of Benner's levels, skills are acquired and developed, however, the progression from novice to expert does not always take place. There is no real guarantee that every nurse will become an expert. . Practitioners at different levels of skill literally live in different clinical worlds (Benner et al., 1992).

Nurses' comprehension of the development of expertise in pain management correlates with increased knowledge through education. Of the 37 participants in the study, 25 (67.6%) stated they had attended a pain management continuing education course in the last year. With regards to mandatory or voluntary pain management education in the current place of employment, 25 (67.6%) stated education is voluntary and 12 (32.4%) stated education was mandatory. In an effort to provide quality patient care, nurses must acquire the knowledge, skills, and attitudes toward pain assessment and management (Wood, 2008). This knowledge and skill development is obtained through continuing education not only in clinical practice but beginning at the novice level through nursing curricula.

Limitations

Less than 15 % of the members of the professional nursing organization responded to the survey. Perhaps this was due to time constraints, length of the survey or personal issues. Limitations of this study were related to the sample. A convenience sampling

method was utilized in determining participants in the study. The participants were obtained from a list serve of a professional nursing organization in the Northwestern Region of North Carolina. The Northwest Region of the professional nursing organization consists of 275 members of Registered Nurses who practice in a variety of healthcare settings with varying levels of education. The sample size consisted of (N=37) participants. The small sample size may not allow the results to be more generalized. The study could gain greater strength through obtaining findings when the data is collected from a larger sample.

Implications for Nursing

This study revealed deficits in knowledge and negative attitudes toward pain management remain in current practice. A study conducted by McMillan et al. (2000), revealed knowledge scores that ranged from nine (29%) to 25 (81%) with a mean of 18.8 (61%) and attitude scores that ranged from 0 (negative) to 18 (positive) with a mean of 11. These results are very similar to the results obtained from this study with raw knowledge scores ranging from 14 to 27 out of 31 with a mean of 21.1 Raw attitude scores ranged from 0 (negative) to 22 (positive) out of 25 with a mean of 6.9, indicating a more negative attitude toward pain management. Implications for nursing practice include comprehensive pain assessment and management education beginning at the novice level in nursing curricula and in current clinical practice with nurses from the level of novice to expert. The inclusion of this education can increase nurses' knowledge which leads to the promotion of a more positive attitude toward pain management.

Recommendations

Recommendations for future research would be obtaining a larger sample size that would allow for more generalized research findings. The small sample (N=37) does not provide the full accuracy of true knowledge deficits, beliefs, and attitudes toward pain management among current practicing nurses.

Competencies in nursing practice need to be structured along with current standards of care and evidence based practice. Mandatory pain management education should be required for nurses at their place of employment on a yearly basis if not more often.

In order for knowledge and attitudes among nurses toward pain assessment and management to increase, every effort should be made to include education not only at the nursing curricula level but also in current clinical practice.

Conclusion

This research study further extended previous research on nurses' knowledge and attitudes toward pain management while focusing on Benner's levels of novice to expert. Results revealed no correlation between years of experience, level of education, knowledge, or attitudes toward pain management. Findings indicate nurses continue to have knowledge deficits and negative attitudes toward pain management.

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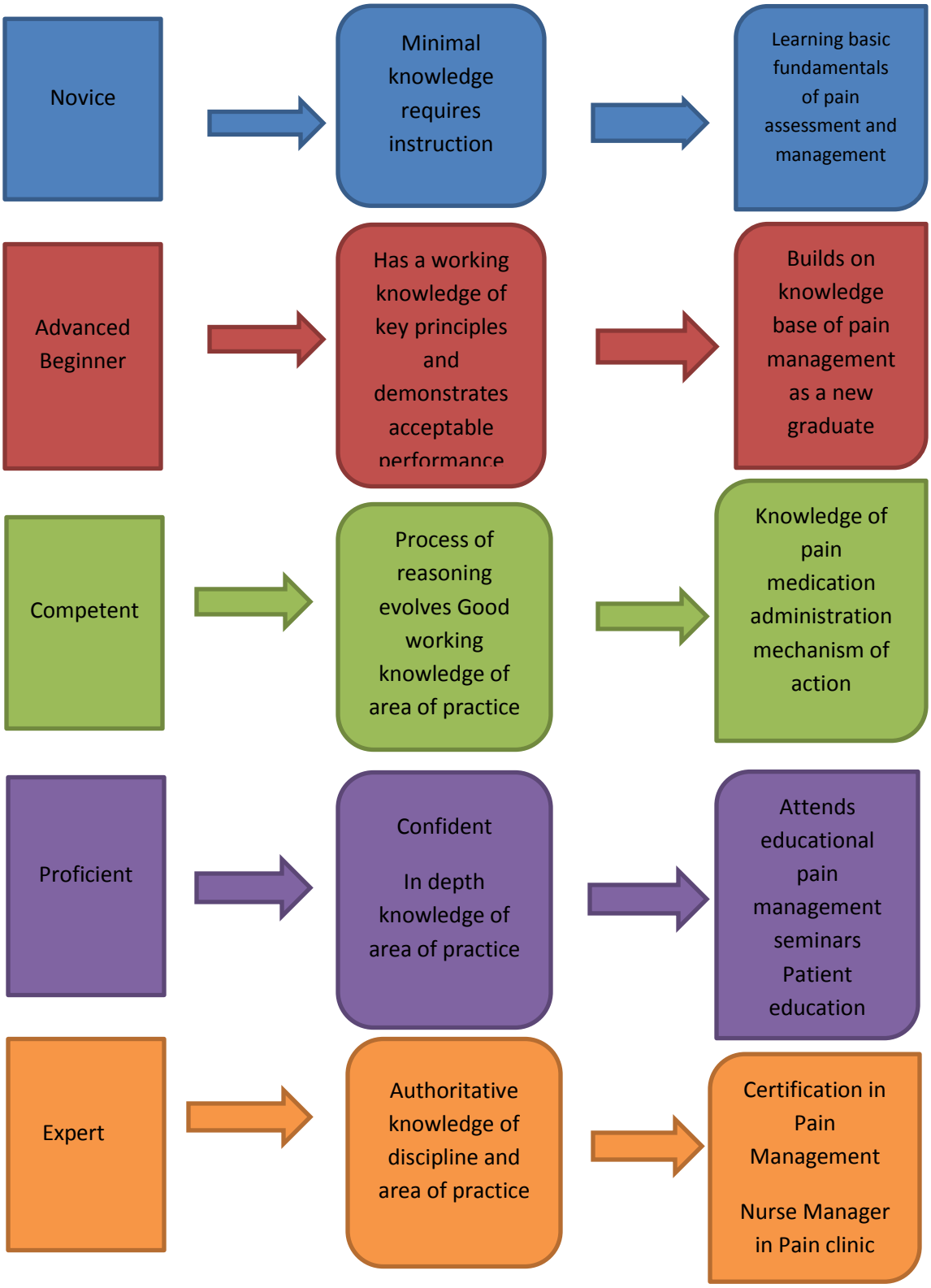
Appendix A

Conceptual-Theoretical-Empirical Model Representation of Research

Patricia Benner's Theory of Novice to Expert: Excellence and Power in Clinical Nursing Practice



Appendix B

Participant Cover Letter

I am a graduate student in the Master of Science in Nursing Program at Gardner-Webb University, Boiling Springs, North Carolina. I am conducting a study on nurses' knowledge and attitudes toward pain management: novice to expert. This study will identify the previous, as well as, the current level of nursing knowledge and attitudes toward pain management. You are invited to complete an anonymous questionnaire and demographic sheet. The questionnaire will take approximately twenty to thirty minutes to complete. Your participation in this study is voluntary and your responses are anonymous. Please do not include your name or any personal identifying markings on the questionnaires. You may withdraw at any time from the study. There will be no risk to you or any compensation given for taking this survey. Should you choose to participate, the completion of the questionnaire and the survey will serve as informed consent. At your request, results of the study will be made available to you. You are free to ask questions about the study or your participation in the study.

You may direct any questions to:

Dr. Janie Carlton EdD, MN, BS, RN,
Nursing Department, Gardner-Webb University,
Boling Springs, North Carolina 28017
Phone: 704-761-5017
jcarlton@gardner-webb.edu

Thank you for your participation in this study.
Sincerely,

Robin J. Sherrill
Robin J. Sherrill RN, BSN, CCM
Phone: 704-450-4881
rej0225@gardner-webb.edu

Appendix C

Demographic Questionnaire

Research study: Assessment Nurses' Knowledge and Attitudes toward Pain Management:

Novice to Expert

The following information will assist in the evaluation of the research study regarding the current level of nursing knowledge and attitudes toward pain management. All information obtained from the questionnaire will be confidential. Please do not include your name or any personal identifying markings on the demographic questionnaire.

1. State your years of experience in nursing
   _____

2. Gender
   a. Male
   b. Female

3. Highest level of nursing education completed
   a. Diploma
   b. Associate Degree in Nursing
   c. Baccalaureate Degree in Nursing
   d. Master Degree in Nursing
   e. Doctorate or Advanced Practice

4. Area of expertise in Nursing
   _____

5. Current area of practice
   a. Medical
   b. Surgical
   c. Critical Care
   d. Pre-op/Post Anesthesia
   e. Oncology
   f. Obstetrics/Gynecology
   g. Pain Management
   h. Orthopedics
   i. Community Care/Home Healthcare
   j. Pediatrics
   k. Nurse Educator
   l. Not currently practicing
   m. Retired
   n. Other (specify)_____

6. Do you currently practice in direct patient care?
   If no, please list current role in nursing
   practice:_____
   _____
   _____
   _____

7. Have you participated in a pain management continuing education course in the last year?

Yes No
If yes, Please
explain:_____
_____
_____
_____

8. Is pain management education mandatory or voluntary at your current place of employment?
   Mandatory Voluntary

9. At what stage would you place yourself given your knowledge and level of nursing education?

a. Novice
b. Advanced Beginner
c. Competent
d. Proficient
e. Expert

10. Which phrase best describes your belief and attitude toward pain management?

a. I have a caring, trustful attitude and believe the pain experience is what the patient says it is
b. I find patients in pain difficult to work with and very complex
c. I believe most patients are manipulative and drug seeking and are not really in pain
d. I fear that patients will develop an addiction when using pain medications
e. I become frustrated when I cannot effectively provide pain control for my patients due to fear of respiratory depression.

Appendix D

PAIN MANAGEMENT PRINCIPLES ASSESSMENT TEST

Parallel Form

DIRECTIONS: Circle the letter in front of the one best answer.
You may write **ON THE TEST.**

1. What percentage of cancer patients suffer pain at some point during their illness?
   a. 10%
   b. 30%
   c. 60%
   d. 90%

2. What percentage of cancer patients suffer pain for longer than one month?
   a. 20-30%
   b. 40-50%
   c. 70-80%
   d. 100%

3. If the patient continues to have pain after receiving the maximum ordered dose of analgesics, what should the nurse ALWAYS do?
   a. Increase the dose, slightly.
   b. Explain the risks of high doses of narcotics to the patient/family.
   c. Reassure the patient that the medication will work.
   d. Call the physician.

4. The preferred route of administration of narcotic analgesics for cancer patients is which of the following?
   a. Intravenous
   b. Intramuscular
   c. Subcutaneous
   d. Oral
   e. Rectal

5. When a patient having pain due to cancer is receiving analgesic medication on a PRN basis, at what level of discomfort would it first be appropriate for the patient to request additional pain medication?
   a. Before the pain returns
   b. When pain is mild
   c. When pain is moderate
   d. When pain is severe
   e. When the pain is intolerable

6. The most accurate and reliable judge of the intensity of the cancer patient's pain is which of the following?
    a. The treating physician
    b. The patient's primary nurse
    c. <u>The patient</u>
    d. The pharmacist
    e. The patient's spouse or family

7. What percentage of patients receiving opiate analgesics around the clock become addicted?
    a. <u>Less than 1%</u>
    b. 5-10%
    c. 25%
    d. More than 25%

8. Which of the following statements accurately describe the mechanism of action of analgesics?
    a. <u>Opiates act in the CNS to decrease the transmission/perception of pain.</u>
    b. Narcotics act at the periphery to decrease the transmission of pain.
    c. Non-narcotics act in the CNS to decrease the transmission/perception of pain.
    d. Narcotics work by the Gate Control mechanism.

9. Which kind of pain can be treated with cutaneous stimulation?
    a. Mild pain only
    b. Moderate pain only
    c. Severe pain only
    d. <u>Any intensity of pain</u>

10. Which of the following statements accurately reflects principles underlying analgesic administration for persons with pain due to advanced cancer?
    a. <u>Prolonged administration leads to tolerance which requires escalating amounts of analgesic to control pain.</u>
    b. Prolonged administration often result in addiction, so drug amounts must be carefully limited in the early stages of the disease.
    c. Narcotics should be offered on an "as needed" basis to prevent drug dependence.
    d. Around the clock administration of narcotics (rather than PRN) results in clock-watching in patients and families.

11. Which group of symptoms are more related to <u>chronic</u> pain?
    a. <u>Decreased appetite, decreased energy, sleep disturbances, apathy, decreased blood pressure.</u>

b. Grimacing, fast heart rate, fast respiratory rate, elevated blood pressure, sweating.
c. Thrashing, grimacing, elevated heart rate, cold and clammy extremities.
d. Groaning, elevated blood pressure, irritability, sweating

12. Which of the following drugs have the longest duration of action?
a. Codeine
b. Methadone
c. Meperidine
d. Morphine

13. Acute pain is frequently accompanied by which of the following?
a. Increased caloric requirements, increased temperature
b. Increased oxygen requirements, decreased temperature
c. Decreased caloric requirements, decreased temperature
d. Increased caloric requirements, decreased temperature

14. Dull and aching pain sensations are the responsibility of which of the following?
a. A-delta fibers
b. C fibers
c. Opiate receptors
d. Small myelinated fibers

15. According to the Gate Control Theory, the location in the nervous system that is responsible for "gating" is located in:
a. The substantia gelatinosa in the spinal cord
b. The nociceptors in the skin
c. Deep nociceptors in the muscles
d. White matter in the brain

16. Pain is modulated by which of the following:
a. Opiate receptors mu, gamma, and kappa
b. A-delta fibers
c. C-fibers

17. Mrs. Colton, a 160 pound female is 24 hours post-op following abdominal hysterectomy. She received a dose of morphine sulfate 8 mg IM at 4:00 pm. It is now 6:30 pm and she is complaining of pain and requesting another injection. Her pain is most likely related to which of the following:
a. Physical dependence on the analgesic
b. Tolerance to the prescribed dose of analgesic
c. A decrease in the blood level of the analgesic
d. Early onset of addiction to the analgesic

18. Following an abdominal hysterectomy, your pain management goal for Mrs. Colton should be which of the following:
    a. Enough pain relief to allow her to cooperate in post-op care
    b. To provide enough pain relief to keep Mrs. Colton from crying out
    c. To relieve her pain to a level that she can tolerate
    d. To provide her complete pain relief

Mr. West has prostatic cancer that has spread to the bones. In planning for his care, the primary factor to consider is:
    a. The likelihood that he will need higher doses later on
    b. The probability that he will become addicted to narcotics
    c. His overall quality of life
    d. The wishes of his family regarding pain relief

19. In assessing the patient's pain, the nurse should take into account which of the following variables which may affect the expression of pain:
    a. Environment and social consequences of expressions of pain
    b. Cultural diversity in the ways patients express their discomfort
    c. The observable measurable actions of the patient
    d. a and b
    e. a, b, c

21. The action of naloxone is:
    a. To enhance the effect of narcotic analgesics
    b. **To act as a opiate antagonist**
    c. To act as a narcotic agonist
    d. To act as a respiratory stimulant

22. Research suggests that:
    a. Physicians underprescribe and nurses undermedicate for pain
    b. Physicians prescribe appropriately and nurses undermedicate
    c. Physicians underprescribe and nurses give optimal doses based on those orders
    d. Physicians prescribe appropriately and nurses medicate appropriately in the majority of cases

23. One significant disadvantage of meperidine is:
    a. It is more expensive than morphine
    b. It has more CNS toxicity than morphine
    c. It is more addicting than morphine
    d. It is more difficult to administer than morphine

24. Which of the following methods of narcotic administration provides steady state analgesia?
    a. Patient controlled analgesia using a pump
    b. Intravenous drip of opiates
    c. Intravenous bolus administration of narcotics
    d. Intramuscular injections every two hours

25. The primary benefit of providing steady state analgesia is which of the following?
    a. It is cost effective because it uses less nursing time
    b. The patient receives less narcotic overall
    c. Respiratory depression is less likely to occur
    d. The patient is more comfortable

26. A nursing decision to administer pain medication should be based on all of the following EXCEPT:
    a. The patient's description of the quality of his/her pain
    b. The family's request to keep the patient comfortable
    c. The nurse's objective assessment of the intensity of the pain
    d. The patient's subjective report of the intensity of her/his pain
    e. The nurse's knowledge of the action of narcotic analgesics

27. Who should have the most control over the patient's pain management regimen?
    a. The patient
    b. The family
    c. The nurse
    d. The physician
    e. The pharmacist

28. **DEFINITION:** After repeated administration of an opiate, a given dose will begin to lose its effectiveness, resulting in the need for larger and larger doses. This begins with decreased duration of analgesia and then progresses to decreased analgesia.
    The above is a definition of which of the following?
    a. Addiction
    b. Physical dependence
    c. Tolerance
    d. Addictive personality

29. Mrs. Easton has metastatic breast cancer with painful lesions in her spine. She is reluctant to take her morphine as often as needed because she is afraid of drugs. You offer her a backrub and leave her with a heating pad on her back .This is an example of:
    a. Cutaneous stimulation
    b. Distraction
    c. Diversion
    d. TLC (tender loving care)

30. Another approach you might have tried with Mrs. Easton involves concentrating on a task such as needlepoint or a crossword puzzle or reading a favorite book. This is an example of:
    a. Cutaneous stimulation
    b. Avoidance
    c. <u>Distraction</u>
    d. TLC (tender loving care)

31. Mrs. Sikes is a 72 year old woman with breast cancer which has metastasized to her pelvis. She also has moderately severe arthritis. Which of the following statements about managing her pain are most likely true?
    a. Morphine is the drug of choice because it will treat pain from any source.
    b. <u>Morphine and a non-steroidal anti-inflammatory drug together would get the best results with the least side effects.</u>
    c. A non-steroidal anti-inflammatory drug alone would probably be best because her primary problem is bone pain.
    d. Mrs. Sikes should not expect pain relief because of the severity of her disease.

Appendix E

NURSES PAIN MANAGEMENT ATTITUDE SURVEY

KEY

Directions: Circle the response that best describes your attitude toward the following statements. We are interested in **your** current beliefs.

CODES: SD = Strongly Disagree D = Disagree
A = Agree SA = Strongly Agree

1.	Giving opioids on a regular schedule is preferred over a prn schedule for continuous pain.	SD	D	A	**SA**
2.	A patient should experience discomfort prior to getting the next dose of pain medication.	**SD**	D	A	SA
3.	Continuous assessment of pain and medication effectiveness is necessary for good pain management.	SD	D	A	**SA**
4.	Patients (and/or family members) have a right to expect total pain relief as a goal of treatment.	SD	D	A	**SA**
5.	Patients (and/or family members) may be hesitant to ask for pain medications due to their fears about the use of opioids.	SD	D	A	**SA**
6.	Patients receiving opioids on a prn basis are more likely to develop clock-watching behaviors.	SD	D	A	**SA**
7.	Estimation of pain by a MD or RN is a more valid measure of pain than patient self report.	**SD**	D	A	SA
8.	Patients in pain can tolerate high doses of opioids without sedation or respiratory depression.	SD	D	A	**SA**
9.	Patients can be maintained in a pain free state.	SD	D	A	**SA**
10.	If a patient (and/or family member) reports pain relief and euphoria, the patient should be given a lower dose of the analgesic.	**SD**	D	A	SA
11.	Patients with chronic pain should receive pain meds at regular intervals with or without the presence of discomfort.	SD	D	A	**SA**

12.	Patients receiving around the clock opioids are at risk for sedation and respiratory depression.	**SD**	D	A	SA
13.	Patients having severe chronic pain need higher dosages of pain meds compared to acute pain.	SD	D	A	**SA**
14.	Patients should be maintained in a pain-free state.	SD	D	A	**SA**
15.	Lack of pain expression does not necessarily mean lack of pain.	SD	D	A	**SA**
16.	Cancer pain can be relieved with appropriate treatment with anti-cancer drugs, radiation therapy and/or pain relieving drugs.	SD	D	A	**SA**
17.	If a patient continues to have pain after receiving pain relieving medication(s), the nurse should contact the physician.	SD	D	A	**SA**
18.	Patients receiving opioids around the clock for cancer pain are likely to become addicted.	**SD**	D	A	SA
19.	Distraction and diversion of patient's attention (use of music, relaxation) can decrease the perception of pain.	SD	D	A	**SA**
20.	A constant level of analgesic should be maintained in the blood to control pain effectively.	SD	D	A	**SA**
21.	Increasing analgesic requirements and physical symptoms are signs that the patient is becoming addicted to the narcotic.	**SD**	D	A	SA
22.	The cancer patient and family should have more control over the schedule for analgesics than the health professional.	SD	D	A	**SA**
23.	The nurse can make a more accurate assessment of the patient's pain than the patient/family can.	**SD**	D	A	SA
24.	Cutaneous stimulation (e.g. heat, massage, ice) are only effective for mild pain.	**SD**	D	A	SA

Circle the response that you most agree with.

25. When a patient in pain due to cancer is receiving analgesic medication on a **PRN** basis, at what level of discomfort would it first be appropriate for the patient to request additional pain medication?

1. Before pain returns

2. When pain is mild

3. When pain is moderate

4. When pain is severe

Betty Ferrell, PhD, FAAN
Connie Leek, RN, MS, OCN
1990

Revised 8/92
Susan C. McMillan, PhD, RN
Mary Tittle, PhD, RN

Appendix F

From: Mcmillan, Susan [smcmilla@health.usf.edu]
Sent: Thursday, March 28, 2013 3:52 PM
To: Ms Robin Johnson Sherrill
Subject: RE: Instruments: PMKT and NAS

Dear Robin:

With this e-mail, I am officially giving you permission to use my Pain Instruments, the Knowledge test and the two Attitude Surveys. Please feel free to print this e-mail to attach to your IRB application.

I am sure this e-mail will be sufficient.

Sincerely,

Susan McMillan

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