WALDEN UNIVERSITY
A higher degree. A higher purpose.

Walden University
ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies Collection

2016

Improving Pain Management for Hospitalized Patients

Ronda Sweet
Walden University

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

 Part of the Nursing Commons

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

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Ronda Sweet

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

Review Committee
Dr. Oscar Lee, Committee Chairperson, Health Services Faculty
Dr. James Ronan, Committee Member, Health Services Faculty
Dr. Yolanda Coleman, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2016

Abstract

Improving Pain Management for Hospitalized Patients

by

Ronda Sweet

BSN, University of Phoenix, 2006

MSN, University of Phoenix, 2008

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2016

Abstract

Uncontrolled pain has proven effects on both physiological and psychological responses of hospitalized patients. These incapacitating sequelae most often negatively impact patient outcomes resulting in unnecessary suffering and prolong hospitalizations. First line nurses often have preconceived notions about a patient's pain without developing an individualized patient context that considers appropriate pain management knowledge translated from best practice standards. Guided by Bandura's social learning theory and Lippitt's change theory, the purpose of this quality improvement project was to determine if use of the Curriculum Outline on Pain for Nursing from the International Association for the Study of Pain (IASP) improved nursing knowledge of pain management for hospitalized patients. The Knowledge and Attitude Survey Regarding Pain was given as a pretest and posttest to assess the knowledge of 100 registered nurses from an acute care hospital, before and after an education intervention was provided. The results of the paired pretests and posttests indicated a statistically significant difference $t(99) = 0.03$, ($p < 0.05$) following use of the IASP Curriculum. Use of the IASP Outline Curriculum, coupled with sustainability strategies, has a strong probability of impacting nurses' knowledge and subsequently contributing to positive social change for the community of patients expecting optimal clinical outcomes from their nurses.

Improving Pain Management for Hospitalized Patients

by

Ronda Sweet

BSN, University of Phoenix, 2006

MSN, University of Phoenix, 2008

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2016

Table of Contents

List of Tables

List of Figures

Section 1: Overview of Evidence Based Project

Pain Management in Hospitalized Patients

Introduction

Every human being experiences pain at some point in his or her life; the pain may be short lived or may be long-term and does not favor any specific ethnicity, age or setting. Studies have shown significant increases in the number of various pain problems in recent years (Manchikanti, Singh, Datta, Cohen, & Hirsch, 2007). Pain has a significant impact on society in many areas including suffering and economic implications (Curkovic, 2007). Health related quality of life has become a major focus in health research as people are living longer and clinicians are recognizing the importance of individuals' self-rated experience (HealthyPeople.gov, 2014).

Pain affects many aspects of a patient including quality of life. According to the World Health Organization (2004), chronic pain is one of the most underestimated health care problems in the world today, causing major consequences for the quality of life of the sufferer and a major burden on the health care system in the Western World. The definition of pain, identification of pain, and evaluation of pain may be different depending on the context of which pain is discussed. These inconsistencies related to definitions of pain have limited research studies to very specific topics identified by diagnosis such as cancer pain, chronic pain, and musculoskeletal pain (Curkovic, 2007). Research should focus on the development of effective healthcare interventions through better understanding of pain and should also focus on the impact of pain on the individual and society (Curkovic, 2007). By focusing on the development of effective pain

management interventions, as opposed to focusing on a specific diagnosis, quality of life for the patient could be improved (Curkovic, 2007). Development and implementation of effective healthcare interventions for pain management may also alleviate some of the burden placed on the health care system by inadequate management of chronic pain.

In this paper, I proposed a project implementing the Curriculum Outline on Pain for Nursing from the International Association for the Study of Pain (IASP). The Knowledge and Attitude Survey Regarding Pain was used as a pretest and a posttest to validate whether or not nursing knowledge of pain management increased after the educational program (Ferrell & McCaffery, 2014). The project took place at an acute care hospital and involved 100 registered nurses.

Problem Statement

Studies show that better control of the patients' pain can result from increasing nurses' knowledge of pain management (Machira, Kariuki, & Martindale, 2013). Healthcare practitioners have a better understanding of the different ways to control pain such as medications, relaxation techniques, and surgery. Despite having a better understanding of how to control pain, healthcare practitioners fail to control pain for over half of hospitalized patients (Bernhofer, 2012). In the late 1990's, 45-75% of hospitalized patients reported experiencing pain described as moderate to severe (Edwards et al., 2001). Despite increased efforts to educate nurses on pain management throughout the years, in 2011, 63-74% of hospitalized patients continued to report inadequate pain relief (Bernhofer, 2012). Better pain control is associated with decreased length of stay and improved patient comfort along with improved physiological response of the patient,

including lower blood pressure, lower heart rate, and improved wound healing (Pena, Estrada, Soniat, Taylor, & Burton et al., 2012).

The problem addressed in this project was inadequate pain management of hospitalized patients as a result of nurses' lack of knowledge in pain management. Latchman (2014) suggested that "continuing education, updated with current treatment guidelines, and the implementation of new educational strategies may help to adequately prepare future practitioners and nurses to manage pain more effectively" (p. 11). It was helpful to quantify elements of pain in this study utilizing the proven schema of population, intervention, comparison, outcome (PICO) (Bragge, 2010). The PICO format uses four components to design a question that can be answered: "In [Population], what is the effect of [Intervention] on [Outcome], compared with [Comparison Intervention]?" (Bragge, 2010, p. 54).

- Population – Registered nurses of an acute care hospital
- Intervention - Use of the IASP Curriculum Outline on Pain for Nursing from the International Association for the Study of Pain (IASP, 2014).
- Comparison Intervention – Compared to the current standards of pain management education being used for registered nurses
- Outcome – Increased pain management knowledge of the registered nurses

Using the PICO format, the problem addressed in this quality improvement project was stated as: Will registered nurses of an acute care hospital who are educated with the IASP Curriculum Outline on Pain for Nursing, show an increased knowledge of pain management.

Purpose Statement

The purpose of this proposed quality improvement project was to implement use of the IASP Curriculum Outline on Pain for Nursing for bedside nurses that would result in better pain control for the patients. Although the media often highlight the abuse of pain medications, there are many patients whose pain is not appropriately addressed (American Nurses Association, 2015). Formal education for nurses around pain management is an important solution to this problem (American Nurses Association, 2015). Nurses are at the bedside 24 hours a day, this allows nursing to play a vital role in meeting the critical need of pain management for patients (Machira, Kariuki, & Martindale, 2013).

Project Objective and Goal

The goal of the project was to increase nurses' knowledge of pain management by using the IASP Curriculum Outline on Pain for Nursing. The Curriculum Content Outline consists of four components: Multidimensional Nature of Pain, Pain Assessment and Measurement, Management of Pain, and Clinical Conditions (IASP, 2014). The Knowledge and Attitude Survey Regarding Pain was given as a pretest and posttest to assess knowledge and attitudes before and after education was provided (Ferrell & McCaffery, 2014).

Significance/Relevance to Practice

The life span of humans is increasing resulting in researchers examining health not only in terms of disease and causes of death but to also look at the quality of life of individuals and the improvement of the quality of the individual's life

(HealthyPeople.gov, 2014). Pain touches many facets of a patient's life including financial, social, and physical abilities which have a major impact on quality of life. Estimates rank the United States as consuming 80% of the world's opiates (Allen, 2014). Dr. Frieden, director of the Centers for Disease Control and Prevention, stated in a 2011 address to physicians that "…the number of deaths from prescription opioids had surpassed those from car crashes, heroin, crack cocaine, firearms and suicide combined in some US states" (as quoted in Allen, 2014, p. 27). The Institute of Medicine (2011) recommends that all stakeholders redesign education programs to bridge gaps in knowledge regarding pain. As stated previously, nurses are at the bedside 24 hours a day and are poised to educate patients and families regarding pain management.

Evidence-Based Significance of the Project

Uncontrolled pain affects many body systems from blood pressure to attitude (IOM, 2011). These effected systems determine the patient's outcomes and may result in a longer length of hospital stay (Pena et al., 2012). Longer hospital stays lead to higher health care costs, increases the chance of the patient to develop a healthcare acquired condition, adds to recovery time, and negatively impacts the individual's health-related quality of life (Anatchkova, Saris-Baglama, Kosinski, & Bjorner, 2009). The evidence-based significance of this project helped to determine if implementation of the IASP Curriculum Outline on Pain for Nursing increased nurses' knowledge of managing a patient's pain during hospitalizations.

Implications for Social Change in Practice

The discipline of nursing is focused on many things, one of which is the nursing

processes that affect positive changes in health status and optimal function of human beings (American Association of Colleges of Nursing, 2006). Pain management discussions can be difficult as patient safety and patient comfort are balanced against the patient's other existing medical conditions. Communication with the patient and healthcare professionals must take place without bias and at a level that the patient can understand. Clinical staff who are responsible for helping patients with their pain often impose their concepts and preconceived notions about the patient's pain without realizing what they are doing due to lack of adequate education (Mcnamara, Harmon, & Saunders, 2012). Successful implementation of the quality improvement project showed an increase of knowledge leading to the conclusion that the use of the IASP Curriculum Outline on Pain for Nursing can be useful as a best practice intervention for nursing education (IASP, 2014).

Definitions of Terms

The following definitions were used to guide this project.

IASP Curriculum Outline on Pain for Nursing:

The IASP recommends a curriculum containing four core components for pain management educational programs (IASP, 2014). The four components are: (a) multidimensional nature of pain, (b) pain assessment and measurement, (c) management of pain, and (d) clinical conditions (Appendix A). The IASP Curriculum Outline on Pain for Nursing is a comprehensive curriculum outline based on the seven principles outlined in Appendix A (IASP, 2014).

Knowledge and Attitudes Survey Regarding Pain:

The Knowledge and Attitudes Survey Regarding Pain is a survey consisting of 21 true or false questions and 16 multiple choice questions for a total of 39 questions (Appendix B). The purpose of the survey is to measure the attitudes and knowledge of health care providers on the subject of pain. The survey is useful as a pretest and a posttest measure and can be used to rate learning outcomes following educational programs on pain (Ferrell & McCaffery, 2014). The knowledge portion of the survey determines the level of the nurse's knowledge regarding medications. The attitude portion of the survey determines the nurse's attitude or personal biases of giving pain medications to a patient (Ferrell & McCaffery, 2014).

Pain:

Pain is subjective and cannot be measured by a lab test or diagnosed by an x-ray. The definition of pain is a definition that is continually changing over time. Since pain is a personal experience, an exact definition cannot be given. The IASP (2014) defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. For purposes of this project, pain will refer to the patients' perception of pain defined as managed or not managed.

Registered Nurse:

A registered nurse is a nurse who has graduated from an accredited school of nursing and is licensed by a state board of nursing to practice as a nurse (Georgia Board of Nursing, 2013). For this project, all registered nurses will go through the same educational program. The results are reported according to the degree level of the registered nurse (associate degree, bachelor's degree, or master's degree).

Assumptions and Limitations

Assumptions

Assumptions are statements that a study considers to be true even though the statement has not be scientifically proven/tested (Grove, Burns, & Gray, 2013). The assumption of the project in this paper was that the increased pain management knowledge of the nurse will result in improved patient outcomes and comfort.

Limitations

Limitations are weaknesses of a study that may influence the study results (Grove, Burns, & Gray, 2013). Limitations of this project included:

- The small size of the hospital that participated in the project. Approximately 100 nurses were expected to participate in the program.
- The amount of time staff had to complete an educational program was limited due to other priorities of the nursing units. The hospital does not have a clinical ladder development program to encourage nurses to complete the program. The nurses attended voluntarily if the nursing director of his/her unit did not allow for the educational time.

Summary

The characteristics of pain include biological, psychological, and social factors (IOM, 2011). Different population groups experience and react to pain differently (IOM, 2011). Management of pain is inadequate due to factors which include uncertain diagnoses, societal stigma, and lack of clinician knowledge in pain management (IOM, 2011). Understanding the concept of pain can provide nurses with the knowledge to

address the pain management needs of the patient physically and psychologically. Effective pain management results in better patient outcomes (IOM, 2011). The project discussed in this paper proved to increase nurses' knowledge of pain management through the IASP Curriculum Outline for Nurses. This improvement in knowledge translates to improved clinical outcomes. The project could serve as a framework for other hospitals to increase pain management effectiveness in delivery of care for their patients resulting in a better quality of life for each patient.

Section 2: Review of Literature and Theoretical and Conceptual Framework

Literature Review Search Strategy

The literature review for this project was conducted using the following databases: Cumulative Index to Nursing & Allied Health Literature (CINAHL), Medline, Thoreau, OVID Nursing, and ProQuest. The following terms were used with the word pain for the searches in each database: *management, hospitalized patients, education, curriculum, barriers,* and *knowledge*. The scholarly literature was then reviewed. Articles discussing long term care, extended care, and pediatric care were excluded. The following organizations were reviewed for best practice recommendations: International Association for the Study of Pain, American Pain Society, and the American Academy of Pain Management. The work of major authors of pain management, Ferrell and McCaffrey (2014) and Edwards (2001) were also reviewed. The methodology for an integrative review established by Whittemore and Knafl (2005) was used to outline the review. The review included the scholarly studies found most relevant to guide quality improvement project based on relevance of addressing the problem of pain management in the acute care setting.

Problem Identification

Evidence shows that nurses' lack of knowledge of how to manage pain is one of the main barriers to effective pain management for patients (Grant, Ferrell, Hanson, Sun, & Uman, 2011). In a study involving 272 registered nurses from a metropolitan teaching hospital, nurse knowledge regarding pain management was found to be of moderate standard only (Jastrzab, Fairbrother, Kerr, & McInerney, 2003). The research found not

only inadequate knowledge but inappropriate attitudes towards believing the patients self-rated pain level (Jastrzab et al., 2003). In contrast to this study, a study involving undergraduate nursing students found positive attitudes regarding pain management (Latchman, 2014). The study found that while positive attitudes existed, fundamental knowledge for managing pain was lacking (Lathman, 2014). The two studies suggest a link between experienced nurses and the use of social learning to influence knowledge and attitudes of new nurses towards pain management for patients. This knowledge from the experienced nurses is based on personal experience instead of evidence based practice. This may be due to lack of pain management education in health care programs. In 2013, only 1672 registered nurses were certified in pain management (Glowacki, 2015, p. 37). The lack of pain education curriculums and the low number of certified nurses in pain management encourages nurses to learn from other nurses. These nurses may or may not be knowledgeable in pain management.

Data Evaluation

The literature review included qualitative as well as quantitative studies. Studies that were quantitative in nature were given priority due to the ability to determine the amount or degree of change that took place during the study. Although nurses strive to relieve pain and suffering, pain is complex and management of pain can be influenced by the nurse's personal beliefs and views (Bernhofer, 2012). A study involving 27 nurses from two departments of one hospital in Kenya found knowledge deficits and attitudes related to pain management were not optimum (Machira, Kariuki, & Martindale, 2013). 97% of the nurses felt that giving a placebo injection to the patient to determine if the

patient's pain was real or not was an acceptable practice (Machira, Kariuki, & Martindale, 2013). A study involving 91 registered nurses working in five different emergency departments in the United States reflected the same findings as the study that took place in Kenya (Moceri, & Drevdahl, 2014). In the study by Moceri and Drevdahl (2014), the majority of nurses tended to undertreat patients' pain due to believing the nurse's assessment of the patient's pain over the patients' self-report of pain. Both of these studies reflect the tendencies of nurses to distrust the patient's complaint of pain and the tendency of the nurses to act upon this distrust by under treating the patients' pain.

A study using the Knowledge and Attitude Survey Regarding Pain found a statistically significant improvement in knowledge and attitude regarding pain after a pain education program for nurses (Machira et al., 2013). Nurses from an acute care hospital were divided into two groups; an intervention group that received education and a control group did not receive education (Machira et al., 2013). The baseline mean score was 18.44 with a *p* value of 0.007 before the educational program and the mean score was 27.56 with a *p* value of 0.008 at a follow-up for the intervention group 2 weeks after the educational program ((Machira et al., 2013). The educational program focused on pain assessment, pharmacological interventions, nonpharmacological interventions, and effects of pain on a patient and their loved ones ((Machira et al., 2013).

A study by Gustafsson and Borglin (2013), reported findings that suggested a theory-based educational intervention focused at registered nurses can be effective in changing registered nurses' knowledge and attitudes regarding cancer pain management.

The educational intervention was based on the theory of change (Gustafsson & Borglin, 2013). The education involved 40 registered nurses, consisted of two sessions for a total of 120 minutes. For many decades, researchers and practitioners have noted that the use of a theory of change framework promotes the desired outcomes (Walker & Matarese, 2011). In the theory of change, the outcome(s) or lack of an outcome(s) due to the change is evaluated (Walker & Matarese, 2011). Adherence to the theory of change method keeps the processes of implementation and evaluation transparent so that everyone involved knows what is happening and why (Taplin, Clark, Collins, & Colby, 2012).

In the 1950's Lippitt expanded Lewin's original three identified phases of change to seven phases (Mitchell, 2013). The phases identified by Lippitt for the theory of change are: (a) assessment and diagnosis of the problem; (b) motivation/capacity for change; (c) change agent's motivation and resources; (d) progressive change objective; (e) appropriate role of the change agent; (f) maintain change; and (g) termination of the helping relationship. Lippitt's expansion of the stages of change places focus on the change agent and accountability for monitoring the change. The theory of change is appropriate for the project discussed in this paper due to the focus on accountability for monitoring the change.

Bandura's Social Learning Theory states that learning of new information and behaviors can occur from simple observation of others and that facts learned do not always result in a change of behavior (1971). Experienced nurses may not always exemplify appropriate behaviors, skills, and attitudes for new nurses to model (Monagle & Doherty, 2014). Patients are adversely affected by lack of integration of knowledge

into practice (Glowacki, 2015). Although this quality implementation project focused on teaching of facts, social learning will influence the integration of those facts into patient care. The importance of using the social learning theory in this project was to involve as many nurses within the hospital as possible so that all nurses are practicing from the same evidenced based knowledge.

The IASP curriculum was recommended for use by a study conducted in Ireland (Fullen, Hurley, Power, Canavan, & O'Keefe, 2006). The study focused on developing an interfaculty curriculum for teaching pain management (Fullen et al., 2006). 540 students from six different health science programs (nursing, medicine, dentistry, pharmacy, occupational, and physical therapy) learned about pain management (Fullen et al., 2006). The IASP curricula proved to be essential in facilitating the development of a successful interfaculty pain curriculum (Fullen et al., 2006, p. 147). Although the study was conducted in Ireland, the study can be easily replicated in the United States.

Data Analysis

Pain is very complex and the management of pain is influenced by nurse's personal views, nurse's formal education in pain management, and social learning of how to care for patients with complaints of pain (Bernhofer, 2012). Use of theory in educational interventions can be effective in changing nursing knowledge and improving attitudes towards pain management (Borglin, 2013). The Knowledge and Attitude Survey Regarding Pain has been cited in various studies as a best practice for determining baseline knowledge levels of pain management and increase of knowledge after interventions. This tool used as an evaluation, the IASP Curriculum for Nurses, and the

theory of change framework are established in studies as methods to improve pain knowledge of nurses (Machira et al., 2013; Fullen et al., 2006; Gustafsson & Borglin, 2013). These three tools were replicated in this project.

Section 3: Collection and Analysis of Evidence

Project Method

The pupose of this quality improvement project was to implemnent an educational program for registered nurses of an acute care hospital using the IASP Curriculum Outline for Nurses (IASP, 2014). Strength of the program included use of tools that have proven succes in other studies. The program used the IASP Curriculum Outline for Nurses for pain management education and the Knowledge and Attitude Survey Regarding Pain to evaluate whether or not knowledge was gained from the education. Walden University's Institutional Review Board (IRB) approved the methodology of the project. The approval number for the study is 01-11-16-0167042.

The method for implementing this project was based on the Stages of Change (Mitchell, 2013). The timeline for the program is displayed in Figure 1. Each phase was allotted a specific number of days for completion.

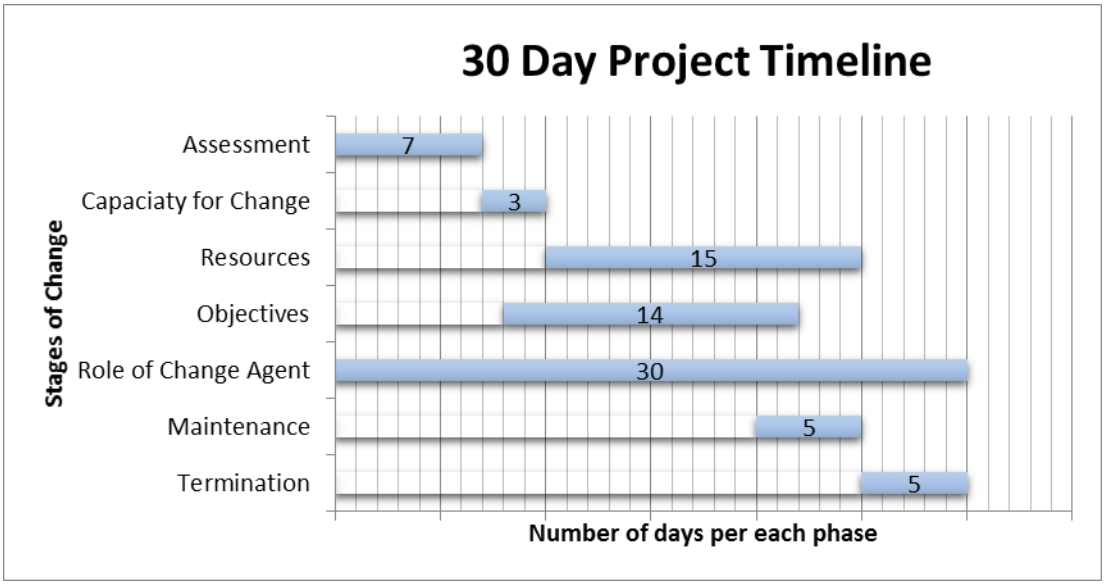


Figure 1. Timeline of Project

Phase 1 - Assessment

The first phase is completion of a needs assessment. The needs assessment of the problem discussed in this paper was done by using the Knowledge and Attitude Survey Regarding Pain to assess the educational needs of the nurses. The assessment involved asking the nurses to take the Knowledge and Attitude Survey Regarding Pain. The survey was given before the educational program to ascertain knowledge deficits of the nurses. The Knowledge and Attitude Survey Regarding Pain was administered as a pretest during this phase. The Knowledge and Attitude Survey Regarding Pain is useful as a pretest and a posttest measure and can be used to rate learning outcomes following educational programs on pain (Ferrell & McCaffery, 2014). The knowledge portion of the survey determines the level of the nurse's knowledge regarding medications. The attitude portion of the survey determines the nurse's attitude or personal biases of giving pain medications to a patient (Ferrell & McCaffery, 2014). The survey is useful as a pretest and a posttest measure and can be used to rate learning outcomes following educational programs on pain (Ferrell & McCaffery, 2014). The knowledge portion of the survey determines the level of the nurse's knowledge regarding medications. The attitude portion of the survey determines the nurse's attitude or personal biases of giving pain medications to a patient (Ferrell & McCaffery, 2014).

Phase 2 – Capacity for Change

Assessing motivation and capacity for change is the second phase. The hospital has shared governance councils. The Professional Development Council and the Professional Practice Council both have goals of increasing the number of baccalaureate

prepared nurses at the bedside. These councils meet monthly and are poised to help create processes and policies to eliminate barriers and create pathways and policies to foster effective pain management and to sustain knowledge gained from the educational program.

Phase 3 - Resources

The third phase involves a change agent or those who will lead the change. I, as implementer of this project, functioned as the change agent and engaged the Professional Development Council and The Professional Practice Council to help lead the change.

Phase 4 - Objective

The fourth phase is the planning phase to determine how the change will take place. The pretests and posttests were placed on the hospital's electronic learning management system along with the educational program. The hospital has two educators that assigned the education and are the only two individuals with access to the test results. The results were calculated by the learning management system and reported in a PDF file format. The test was not proctored. The order of the test questions varied for each test.

Phase 5 - Appropriate Role of Change Agent

This phase involved presenting an educational program using the IASP Curriculum Outline for Nurses (IASP, 2014). The education was delivered using the hospital electronic learning management system. The pretest and posttest along with the educational program were available through the hospital's electronic learning system.

The system is available to nurses at work and at home via the internet, availability is 24 hours a day, seven days a week.

Phase 6 - Maintenance of Change

The maintenance phase is the sixth phase of the theory of change. During this phase the change became a part of the organization. I, as coordinator of this project, along with the Professional Development Council and Professional Practice Council monitored processes to determine if the change could be maintained or if other changes needed to take place. The councils were versed on the project and will be updated on participation in the project weekly. The councils were also asked for assistance in encouraging staff to participate in the project. Due to the success of the program, the councils will remain instrumental in ensuring the education is incorporated into orientation and annual education.

Data collection for this project was completed using the Knowledge and Attitudes Survey Regarding Pain tool. No care provided to patients was withheld or changed. The hospital that implemented this project allowed the nurses to complete the survey and education during work hours. The survey took 45 minutes for each nurse to complete for a total of 90 minutes (45 minutes for the pretest and 45 minutes for the posttest following the education). The education using the IASP curriculum for nurses took approximately 60 minutes for each nurse to complete. This equals a total time of 2 hours and 30 minutes for each nurse. The timeline for the program is displayed in Figure 1. Each phase was allotted a specific number of days for completion.

Phase 7 - Termination of Relationship

The seventh phase is the withdrawing of support of the change agent due to the project being completed. The Professional Development and Professional Practice Councils opted to require the education during orientation for nurses newly hired and as annual education based on the success of the project.

Population and Sampling

Nurses employed by the hospital were the participants of the survey and educational program. All registered nurses were given an opportunity to participate. The skill level included 92 associate degree prepared nurses, seven baccalaureate degree prepared nurses and one master degree prepared nurse. Sixty percent of the nurses in the hospital participating in this project held associate degrees. The experience of the nurses ranged from 6 months to 30 years. The results of the pre and post survey were to be reviewed as separate categories of associate degree nurses, baccalaureate degree nurses, and master-prepared nurses. Due to unequal numbers, the results were not separated into the varying degree levels. Although the intent was to collect pretest and posttest scores along with the age, highest achieved nursing degree, and years of nursing experience, only the scores and male/female information was collected by the hospital.

Data Evaluation

The Knowledge and Attitudes Survey Regarding Pain has been revised since it was first developed by McCaffery in 1987 (Ferrell & McCaffery, 2014). The tool is able to determine levels of expertise of the staff in relation to novice nurse knowledge and experienced nurse knowledge (Ferrell & McCaffery, 2014). The reliability of the test-

retest was established ($r > .80$) by repeat testing in a continuing education class for nurses, internal consistency reliability was established (alpha $r > .70$) with items reflecting both knowledge and attitude domains (Ferrell & McCaffery, 2014).

Project Evaluation Plan

Researchers must evaluate interventions to determine what effects interventions are producing or are not producing (Friis & Sellers, 2014). The effects of an intervention cannot be assumed but must be deliberately reviewed (Friis & Sellers, 2014). The implementation of the project discussed in this paper resulted in the increase of nursing knowledge. The Knowledge and Attitudes Survey Regarding Pain is a tool that can be used as a pretest and a posttest for education provided to staff, thus providing a quantitative method for determining if attitude and knowledge increased due to the education provided to staff. The posttest scores showed an increase in the knowledge of pain management, thus deeming the education a success.

Sustainability

Use of the IASP Curriculum Outline for Nursing proved successful. Sustainability of the project is dependent upon the willingness of the hospital to incorporate the education into orientation and as part of required annual education. Wages for nurses completing the program and educators assigning the educational program is the only cost of the program. The low cost of maintaining the program adds to the likelihood that the hospital will continue to support and utilize the educational program. Thus sustainability is likely to do low cost. The curriculum proved to increase nursing knowledge, which can result in improved pain management for patients. Improved pain management can

decrease hospital length of stay and improve patient satisfaction which lowers healthcare costs. This is a potential financial gain for the hospital which will justify money spent on nursing wages.

Summary

A valid theoretical framework such as the theory of change (Mitchell, 2013) is needed to guide interventions that lead to improved pain management for hospitalized patients. A change agent/nurse champion with accountability and responsibility is necessary to lead the change. Evaluation of interventions is a vital part of determining best possible outcomes. Evaluation methods should align with the goals and objectives of the study. A timeline should also be a part of the evaluation to ensure that goals are reviewed and evaluated as timely. Evaluation of a study is required to determine the effect(s) of the interventions.

Healthcare practitioners have a better understanding of the physiology of pain as compared to 30 years ago. Healthcare practitioners also have a better understanding of the different ways to control pain such as medications, relaxation techniques, and surgery. Changes that need to take place so this knowledge is used to improve the patient's perception of pain control is a clinical practice problem that needs to be researched. Use of the IASP Curriculum Outline for Nurses and the Knowledge and Attitude Survey Regarding Pain may be one way to guide educational programs to decrease areas of knowledge deficit.

Section 4: Findings, Implications, and Recommendations

The purpose of this quality improvement project was to implement use of the IASP Curriculum Outline on Pain for Nursing for bedside nurses that would result in better pain control for the patients. The American Nurses Association (2015) holds the position that education for nurses around pain management would help increase knowledge and thus improve pain management for patients. The Knowledge and Attitude Survey Regarding Pain was given as a pretest before the education and as a posttest after the education was completed by the nurses involved in the program. (Ferrell & McCaffery, 2014).

Findings

One hundred registered nurses participated in the pretest, education, and posttest. All 100 completed all three tasks using the hospital's online learning management system. The pretest was given as a needs assessment during Phase 1 of the project. Five questions were answered incorrectly by over 50% of the nurses. The questions all involved opioids. Three questions reflected indications for use and two questions involved side effects.

During Phase 2 of the project the Professional Development and Professional Practice Council were briefed on the project and asked to encourage nurses to participate. The councils were very receptive and immediately began alerting nurses of the need to complete the educational program. The councils also began discussions of how to sustain the educational program if the results proved the education did increase knowledge for managing patients' pain. This began the discussion for Phase 3 during which human

resources, nurse educators, and department directors were identified as resources needed to help implement and sustain the program. Phase 4 involved the actual creating of the program in the hospital's online learning system. This took only 3 days to complete as opposed to the allotted 14 day time frame. One nurse educator uploaded the pretest, education, posttest, and assigned all three components to registered nurses employed by the hospital.

During Phase 5 the educational program was given after completion of the pretest. The participating nurses were allowed to complete the educational program at work during down time or at home. The nurses were also allowed to come to work on days they were not scheduled and use the hospital's computer lab to complete the educational program. They were paid for completing the program as they are normally paid for completing required education. Since the education was offered through the online learning system, the nurses were allowed to stop the program, save it, and complete at a later time. They were given 2 weeks to complete the educational program once started.

The posttest could be completed immediately after the educational program but no more than two weeks after completion of the education. During the posttest, nurses were not allowed to go back and review the educational program. The posttest was required to be completed in one sitting and could be completed at work or at home.

Ninety-two of the registered nurses held associate degrees, seven of the registered nurses held bachelor degrees, and one registered nurse held a master's degree. Due to the number of associate degree nurses outweighing the number of bachelor degree nurses and master degree nurses, comparing the three would not provide significant data

of variances between the degree levels. The data was separated into two categories, one category included all 100 nurses that participated and the second category included only the 92 associate degree prepared nurses (ADNs). The data was analyzed to determine if the education did increase the knowledge of the nurses. The data from the pretests and posttests was analyzed using Microsoft Excel version 2013. The tests consisted of 39 questions each. The minimum score possible was 0 and the highest score possible was 100. The lowest score on the pretest was 50% and the highest score on the pretest was 97%. The lowest score on the posttest was 53% and the highest score on the posttest was 100%. The high score for the pretest (97%) and posttest (100%) were made by the same nurse who holds an associate degree in nursing. No correlations were noted for the low scores. Of the five questions involving knowledge of opioids that were answered incorrectly by over 50% of the nurses, four questions were answered correctly by at least 58% of the nurses. One question involving the administration of an opioid before diagnosing the cause of pain was missed by 51% of the nurses; nurses felt that opioids should not be given until the source of the pain was identified, which is incorrect.

The null hypothesis posits that there is no relationship between the education program and an increase in knowledge of pain management after completion of the educational program. The result of the 100 paired pretests and posttests showed a statistically significant difference, $t(99) = 0.03$, $p < 0.05$ between the pretests scores and the posttest scores, thus indicating that the education did increase knowledge of pain management (see Table 1). The pretest and posttest scores of only the ADNs also proved

statistically significant $t(91) = < 0.01$, $p < 0.05$ in showing an increase in knowledge of pain management as shown in Table 1.

Table 1

Pre and Post Scores and Statistical Significance

	N	Pretest Mean Score	Posttest Mean Score	Pretest SD	Posttest SD	Two tailed t-test	*p* value
All nurses	100	69.53	79.04	12.45	9.74	2.22	0.03
ADNs only	92	69.01	78.77	12.75	9.96	3.09	0.0027

Phase 6, the maintenance phase of the project, involved the Professional Development and Professional Practice Councils incorporating the education into orientation and into annual education. The councils will need to develop a process to monitor if the increased knowledge is actually being translated into practice at the bedside. This may be done via monitoring patient pain scores. If the education is not being translated into practice, the barriers need to be identified and removed.

Discussion of Findings

The findings of this project clearly support earlier studies by proving pain management educational programs can raise the knowledge level of nurses (Fullen, Hurley, Power, Canavan, & O'Keefe, 2006; Owens, Smith, & Jonas, 2014). The question that was missed by 51% of nurses on the posttest may indicate either a need to discuss opiates in more depth in the education or perhaps the nurses did not trust the education

and tended to lean towards social learning for the answer. The learning of new information and behaviors does not always result in a change of behavior (Bandura, 1971). Attitudes and behaviors displayed by experienced nurses may influence less experienced nurses more than education based on evidence based practice (Glowacki, 2015). For this reason the nursing councils need to not only maintain the educational program but also need to ensure the program is in fact being translated into practice.

Strength and Limitations of the Project

Strengths

The project is easily replicated and low cost. The project does not take a large amount of time to implement or for nurses to complete. The low cost and minimal time involvement makes the project sustainable as an educational program for newly hired nurses and as an annual in-service. The project used valid and reliable tools (The Knowledge and Attitude Survey Regarding Pain and the IASP Nursing Curriculum) which added strength to the program.

An additional strength of the project was the use of the theory of change. The stages of change allowed for including those who can help sustain the change and make changes as needed. The maintenance phase (Phase 6) of change allowed for nursing councils to continue the educational program for nurses through orientation and annual education. The nursing councils are well poised to determine if the knowledge gain is being translated into practice. The councils can be beneficial in creating the culture and needed processes to foster the translation of the knowledge into practice at the bedside.

Limitations

A limitation of the project was the number of ADNs in comparison to the number of baccalaureate prepared nurses, 92 to 7 respectively. Only one master degree prepared nurse participated in the project. The education was voluntary which proved to be a limitation. If the hospital made the education mandatory more baccalaureate and master degree prepared nurses would have participated, allowing for comparison of the differences between each degree level. The low participation of baccalaureate and master degree prepared nurses and the high participation of ADNs may indicate that ADNs are aware of a knowledge deficit regarding pain management. Baccalaureate and master degree prepared nurses may also have a knowledge deficit but no awareness of it. Therefore, if the hospital made the education mandatory as opposed to voluntary, a knowledge deficit of these two degrees may have been proved or disproved.

Unexpected Limitations

An unexpected limitation of the project was the lack of participation from bachelor degree prepared nurses. Of approximately fifty bachelor degree nurses employed by the hospital, only seven participated in the study. Replicating the study with an equal number of associate prepared nurses and bachelor prepared nurses would provide insight into the knowledge difference, if any, between the different educational levels. If there is a knowledge difference, education could be tailored to meet the needs of each degree. Another limitation was the lack of collection on years of experience. The hospital participating with the project changed human resource processes during the project and was unable to provide the years of experience for the nurses who completed

the education. Understanding if there are knowledge differences between new nurses and nurses with experience (e.g. 5-10 years, 11-15 years), would help target the education to each group's knowledge deficit.

Implications and Recommendations

The test scores showed a nursing knowledge deficit regarding pain management. The scores also proved a gain of knowledge using the IASP Curriculum Outline on Pain for Nursing as a foundation for an educational program. Although this quality improvement project raised knowledge, the successful translation of this knowledge into practice depends upon the nurses' personal choice to use the knowledge and organizational factors that will either promote or inhibit the use of the knowledge (Mills, Field, & Cant, 2011). Organizational factors influencing the use of new knowledge may include policies or lack of policies, documentation systems incorporating or not incorporating the evidence based knowledge, and physician orders given or not given (Habich & Letizia, 2015).

Decreasing pain management knowledge deficits and translating the new knowledge into practice has a positive impact on many different levels. Managing a patient's pain improves the patient's outcomes in many ways, one of which is decreasing length of stay in the hospital (Pena et al., 2012). This is important not only for the patient but is also important to the hospital and to health care systems. Decreased length of stay results in lower cost to the patient and lower risk of developing a hospital acquired infection. Although the null hypothesis was disproved and an increase in knowledge was

gained, further studies need to be completed to determine if the increase in knowledge was translated into practice and an improvement in patient outcomes.

Pain management education should be a part of orientation for acute care nurses. The program should be a part of orientation so knowledge is increased before the nurse begins actively caring for patients. The education should be offered annually to improve knowledge of nurses on a continual basis. Nursing programs should also use IASP Curriculum (IASP, 2014) to increase knowledge of nursing students.

Section 5: Dissemination Plan

Dissemination

Dissemination has the purpose of reporting the results of a study to stakeholders; stakeholders being those in the practice setting of the study and to others in similar settings (Zaccagnini & White, 2011). "The information and results of the successful DNP project will have application beyond the immediate practice environment" (Zaccagnini & White, 2011 p. 485). Dissemination of the findings of this project may be done a variety of ways. First, the administration and directors of the hospital participating in the project will receive the findings in a written report. Journal publication, poster presentation and podium/speaker presentation at local conferences are other avenues for dissemination of the project results. The Journal of Nursing Administration and the Journal of Nursing Education are two publications with an audience suited for the information from the project discussed in this paper.

Analysis of Self

Practitioner

The completion of this project has increased my knowledge of the complexities of healthcare and the far reaching effects of one program. Improved patient outcome is always what is strived for, but changes in practice must be based on evidence based care. As a nurse educator, I must ensure that what I teach those at the bedside is evidence based and has the ability to be sustained by the individual nurse and by the organization. The use of empirical knowledge must be taught and demonstrated in everyday activities of caring for patients.

Scholar

Doctorate of Nursing Practice graduates are able to "perform critical appraisal of existing literature, apply relevant findings in the development of practice guidelines, design and implement processes to evaluate practice outcomes, and design, implement, and evaluate quality improvement methodologies" (Terry, 2012, p. 12). The project undertaken and described in this paper allowed me to gain knowledge and insight in each of these areas. As a scholar, my greatest amount of growth during the last 2 years has been in critical appraisal of literature to find evidence based practices and evaluation of quality improvement projects that have been implemented. As stated by Terry (2012), scholars must be able to evaluate quality improvement methodologies.

Project Manager

As Administrative Director of Education & Learning in an acute care hospital, I have implemented many programs which have succeeded and have also implemented many programs that did not succeed. As I reflect upon my growth as a project manager over the past 2 years, I realize that my view of implementing programs has greatly changed. I am now spending more time on critically appraising literature and developing a hypothesis to help form questions to answer a problem and set outcome objectives. A hypothesis is the foundation of a program due to the question helping to determine the design and implementation of the program (Kettner, Moroney, & Martin, 2013). Outcome objectives are vital to help determine what changes are expected and acceptable (Kettner et al., 2013). This leads to giving more thought and emphasis on obtaining data that is useful and meaningful. It is no longer appropriate to just implement a program but

now it is important to implement evidence based programs that have measureable outcomes that are sustainable.

Summary

The results of this quality improvement project demonstrated use of the Curriculum Outline on Pain for Nursing developed by IASP can increase nursing knowledge regarding management of pain for hospitalized patients. Increasing pain management can lead to improved patient outcomes and improved quality of life (Anatchkova et al., 2009). Healthcare organizations need to use systematic approaches to remove internal barriers in order to ensure that evidence based knowledge can be translated to practice (White & Dudley-Brown, 2012). The project involved 100 registered nurses from one hospital. Replication of the project with a higher number of baccalaureate degree prepared nurses and follow-up to determine impact on patient outcomes is recommended. This study may also be expanded to determine if the increased knowledge is resulting in improved pain management and improved patient outcomes.

References

Allen, M. (2014). A community-based approach to the treatment of pain and addiction. *Canadian Journal of Rural Medicine, 19*(1), 27-30. Retrieved from viewer.zmags.com/publication/308e5b23#/308e5b23/1

American Association of Colleges of Nursing (2006). *The essentials of doctoral education for advancing nursing practice.* Retrieved from http://www.aacn.nche.edu/dnp/Essentials.pdf

American Nurses Association (2015). The state of pain: Better management needed. Retrieved from http://www.theamericannurse.org/index.php/2014/01/02/the-state-of-pain/

Anatchkova, M., Saris-Baglama, R., Kosinski, M., & Bjorner, J. (2009). Development and preliminary testing of a computerized adaptive assessment of chronic pain. *Journal of Pain, 10*(9), 932-943. doi:10.1016/j.jpain.2009.03.007

Bandura, A. (1971). *A social learning theory*. Retrieved from http://www.esludwig.com/uploads/2/6/1/0/26105457/bandura_sociallearningtheory.pdf

Bernhofer, E. (2012). Ethics and pain management in hospitalized patients. *Journal of Issues in Nursing, 17*(1), doi: 10.3912/OJIN.Vol17No01EthCol01

Curkovic, B. (2007). The Pain epidemiology. *Reumatizam, 54*(2), 24-7.

Edwards, H., Nash, R., Yates, P., Walsh, A., Fentiman, B., McDowell, J., & …Najman, J (2001). Improving pain management by nurses: a pilot peer intervention program. *Nursing & Health Sciences, 3(*1), 35-45. doi: 10.1046/j.1442-2018.2001.00069.x

Ferrell B., & McCaffery, M. (2014). Knowledge and attitudes survey regarding pain. Retrieved from http://prc.coh.org

Friis, R. H., & Sellers, T. A. (2014). *Epidemiology for Public Health Practice* (5th ed.). Sudbury, MA: Jones & Bartlett.

Fullen, B., Hurley, D. A., Power, C., Canavan, D., & O'Keeffe, D. (2006). The need for a national strategy for chronic pain management in Ireland. *Irish Journal of Medical Science*, *175*(2), 68-73. doi: 10.1007/BF03167954

Georgia Board of Nursing (2013). Georgia Registered Professional Nurse Practice Act. Retrieved from http://sos.ga.gov

Glowacki, D. (2015). Effective pain management and improvements in patients' outcomes and satisfaction. *Critical Care Nurse 35*(3), 33-41. doi:10.4037/ccn2015440

Grant, M., Ferrell, B., Hanson, J., Sun, V., & Uman, G. (2011). The enduring need for the pain resource nurse (PRN) training program. *Journal of Cancer Education: The Official Journal of the American Association for Cancer Education*, *26*(4), 598-603. doi: 10.1007/s13187-011-0268-1

Grove, Burns & Gray, (2013). *The practice of nursing research: Appraisal synthesis, and generation of evidence* (7th ed.). St. Louis, MO: Saunders Elsevier.

Gustafsson, M., & Borglin, G. (2013). Can a theory-based educational intervention change nurses' knowledge and attitudes concerning cancer pain management? A quasi-experimental design. *BMC Health Services Research, 13,* 328. doi:10.1186/1472-6963-13-328

Habich, M., & Letizia, M. (2015). Pediatric pain assessment in the emergency department: A nursing evidence-based practice protocol. *Pediatric Nursing, 41*(4), 198-202. Retrieved from http://www.pediatricnursing.net/issues/15julaug/

HealthyPeople.gov (2014). Health related quality of life and well-being. Retrieved from http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=19

Institute of Medicine (2011). Relieving pain in America: A blueprint for transforming prevention, care, education, and research. Retrieved from http://www.iom.edu/reports/2011/relieving-pain-in-america-a-blueprint-for-transforming-prevention-care-education-research.aspx

Internal Association for the Study of Pain (2014). IASP Curriculum Outline on Pain for Nursing. Retrieved from http://www.iasppain.org/Education/CurriculumDetail.aspx?ItemNumber=2052

Jarrett, A., Church, T., Fancher-Gonzalez, K., Shackelford, J., & Lofton, A. (2013). Nurses' knowledge and attitudes about pain in hospitalized patients. *Clinical Nurse Specialist CNS, 27*(2), 81-87. doi:10.1097/NUR.0b013e3182819133

Jastrzab, G., Fairbrother, G., Kerr, S., & McInerney, M. (2003). Profiling the 'pain-aware' nurse: Acute care nurses' attitudes and knowledge concerning adult pain management. *Australian Journal of Advanced Nursing, 21*(2), 27-32. Retrieved from http://www.ajan.com.au/ajan_21.2.html

Latchman, J. (2014). Improving Pain Management at the Nursing Education Level: Evaluating Knowledge and Attitudes. *Journal of the Advanced Practitioner in*

Oncology, 5(1), 10-16. Retrieved from www.advancedpractitioner.com/previous-issues/

Machira, G., Kariuki, H., Martindale, L. (2013). Impact of an educational pain management programme on nurses' pain knowledge and attitudes in Kenya. *International Journal of Palliative Care 10*(7), 341-346. Retrieved from http://www.hindawi.com/journals/ijpc/

Manchikanti, L., Singh, V., Datta, S., Cohen, S., Hirsch, J. (2009). Comprehensive review of epidemiology, scope, and impact of spinal pain. *Pain Physician, 12*(4), 35-70. Retrieved from http://www.painphysicianjournal.com/current/past?journal=50

Mcnamara, M., Harmon, D., & Saunders, J. (2012). Effect of education on knowledge, skills and attitudes around pain. *British Journal of Nursing, 21*(16), 958-964. Retrieved from http://www.magonlinelibrary.com/toc/bjon/21/16

Mehta, S., Siegler, E., Henderson, C., & Reid, M. (2010). Acute pain management in hospitalized patients with cognitive impairment: A study of provider practices and treatment outcomes. *Pain Medicine, 11*(10). 516-1524. Retrieved from http://painmedicine.oxfordjournals.org/search/Acute%252Bpain%252Bmanagement%252Bin%252Bhospitalized%252Bpatients%252Bwith%252Bcognitive%252Bimpairment%253A%252BA%252Bstudy%252Bof%252Bprovider%252Bpractices%252Band%252Btreatment%252Boutcomes

Mills, J., Field, J., & Cant, R. (2011). Factors affecting evidence translation for general practice nurses. *International Journal of Nursing Practice, 17*(5), 455-463

doi:10.1111/j.1440-172X.2011.01962.x

Mitchell, G. (2013). Selecting the best theory to implement planned change. *Nursing Management - UK, 20*(1), 32-37. Retrieved from http://dx.doi.org/10.7748/nm2013.04.20.1.32.e1013

Moceri, J. T., & Drevdahl, D. J. (2014). Nurses' knowledge and attitudes toward pain in the emergency department. *JEN: Journal of Emergency Nursing, 40*(1), 6-12. doi:10.1016/j.jen.2012.04.014

Monagle, J., & Doherty, K., (2014). Modeling salient nursing care to bridge classroom to clinical. *Journal of Nursing Education and Practice, 4*(8), 173-178doi:10.5430/jnep.v4n8p173

Owens, D., Smith, J., & Jonas, D. (2014). Evaluating students' knowledge of child pain and its management after attending a bespoke course. *Nursing Children & Young People, 26*(2), 34-40. doi:10.7748/ncyp2014.03.26.2.34.e334

Pena, A., Estrada, C., Soniat, D., Taylor, B., Y Burton, M. (2012). Nominal group technique: A brainstorming tool for identifying areas to improve pain management in hospitalized patients. *Journal of Hospital Medicine, 7(*5), 416-420. doi: 10.1002/jhm.1900

Taplin, D., Clark, H., Collins, E., & Colby, D. (2013). Theory of change: a series of papers to support development of theories of change based on practice in the field. Retrieved from *http://www.actknowledge.org/resources/documents/ToC-Tech-Papers.pdf*

Terry, A. (2012). *Clinical research for the doctor of nursing practice*. Sudbury, MA:

Jones and Bartlett.

Walker, J. & Matarese, M. (2011). Using a theory of change to drive human resource development for wraparound. *Journal of Family and Child Studies, 20*, 791–803. doi. 10.1007/s10826-011-9532-6

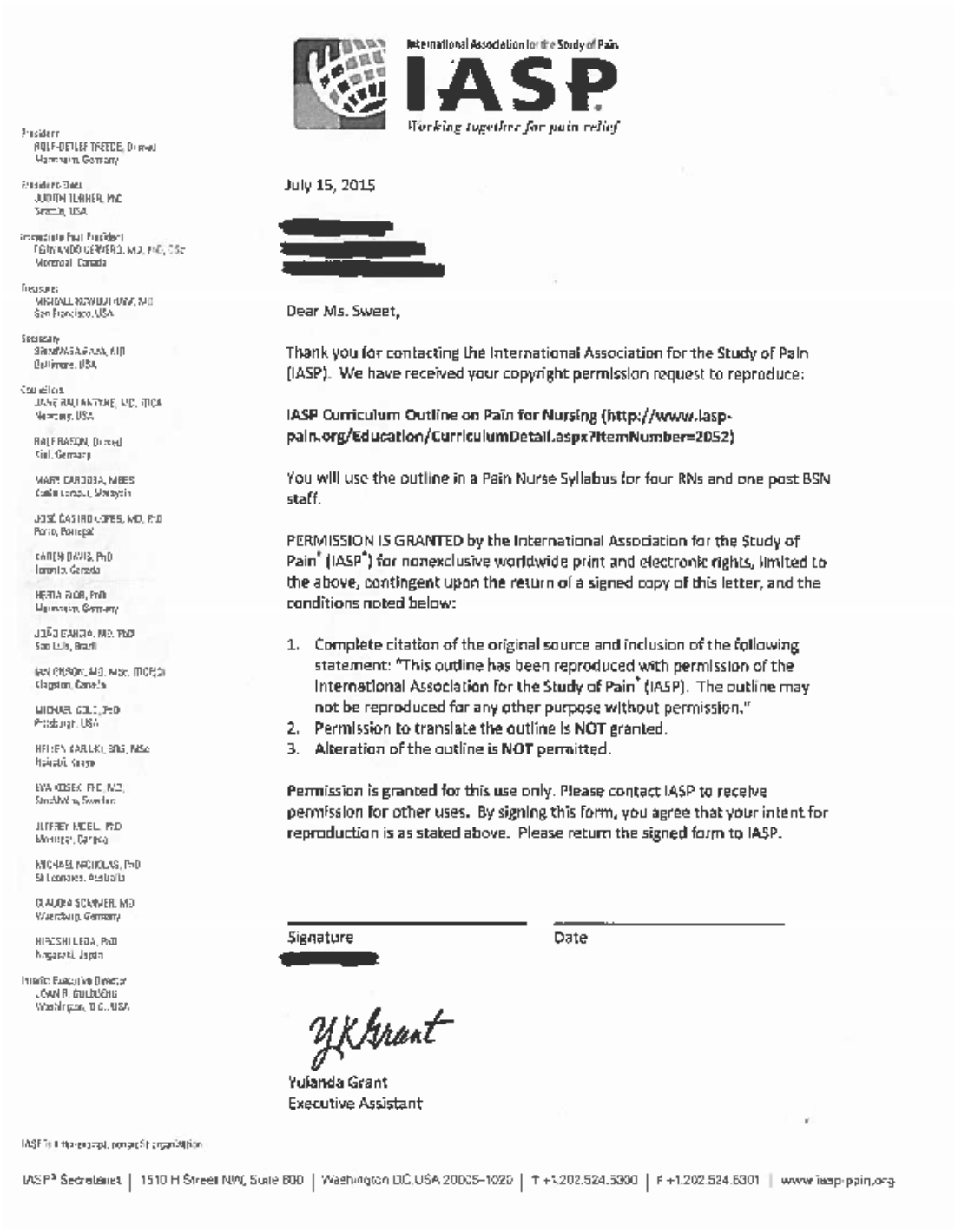
White, K., & Dudley-Brown, S. (2012). *Translation of evidence into nursing and healthcare practice*. New York, NY: Springer Publishing Company.

Whittemore, R. & Knafl, K. (2005). The integrative review: updated methodology. *Journal of Advanced Nursing 52*(5), 546-553. doi: 10.1111/j.1365-2648.2005.03621.x

World Health Organization (2004). World Health Organization supports global effort to relieve chronic pain. Retrieved from http://www.who.int/mediacentre/news/releases/2004/pr70/en/

Zaccagnini, M.E., & White, K.W. (2011). *The doctor of nursing practice essentials: A new model for advancing nursing practice*. Sudbury, MA: Jones & Bartlett.

Appendix A



International Association for the Study of Pain
IASP
Working together for pain relief

President
ROLF-DETLEF TREEDE, Dr med
Mannheim, Germany

President-Elect
JUDITH TURNER, PhD
Seattle, USA

Immediate Past President
FERNANDO CERVERO, MD, PhD, DSc
Montreal, Canada

Treasurer
MICHAEL ROWBOTHAM, MD
San Francisco, USA

Secretary
STEPHANIE Green, MD
Baltimore, USA

Councilors
JANE BALLANTYNE, MD, FRCA
Washington, USA

RALF BASON, Dr med
Kiel, Germany

MARY CARDOSO, MBBS
Dublin, Ireland

JOSE CASTRO-LOPES, MD, PhD
Porto, Portugal

CAREN DAVIS, PhD
Toronto, Canada

HERTA FLOR, PhD
Mannheim, Germany

JOÃO GARCIA, MD, PhD
São Luis, Brazil

IAN GILRON, MB, MSc, FRCPC
Kingston, Canada

MICHAEL GOLD, PhD
Pittsburgh, USA

HELEN HARLOS, BNS, MSc
Honolulu, Hawaii

EVA KOSEK, PhD, RPT
Stockholm, Sweden

JEFFREY MOGIL, PhD
Montreal, Canada

MICHAEL NICHOLAS, PhD
St Leonards, Australia

CLAUDIA SCHAUER, MD
Wuerzburg, Germany

HIROSHI UEDA, PhD
Nagasaki, Japan

Interim Executive Director
JOAN F. GUILDOOD
Washington, D.C., USA

July 15, 2015

[redacted]

Dear Ms. Sweet,

Thank you for contacting the International Association for the Study of Pain (IASP). We have received your copyright permission request to reproduce:

IASP Curriculum Outline on Pain for Nursing (http://www.iasp-pain.org/Education/CurriculumDetail.aspx?ItemNumber=2052)

You will use the outline in a Pain Nurse Syllabus for four RNs and one post BSN staff.

PERMISSION IS GRANTED by the International Association for the Study of Pain® (IASP®) for nonexclusive worldwide print and electronic rights, limited to the above, contingent upon the return of a signed copy of this letter, and the conditions noted below:

1. Complete citation of the original source and inclusion of the following statement: "This outline has been reproduced with permission of the International Association for the Study of Pain® (IASP®). The outline may not be reproduced for any other purpose without permission."
2. Permission to translate the outline is **NOT** granted.
3. Alteration of the outline is **NOT** permitted.

Permission is granted for this use only. Please contact IASP to receive permission for other uses. By signing this form, you agree that your intent for reproduction is as stated above. Please return the signed form to IASP.

Signature _____ Date _____

[redacted]

Yukanda Grant
Executive Assistant

IASP is a non-profit, nonprofit organization

IASP® Secretariat | 1510 H Street NW, Suite 800 | Washington DC USA 20005-1020 | T +1.202.524.5300 | F +1.202.524.5301 | www.iasp-pain.org

Curriculum Content Outline

I. Multidimensional Nature of Pain

A. Magnitude of problem – epidemiology

B. Impact of unrelieved pain

1. Impact of acute pain on recovery and on the development of persistent (chronic) pain
2. Impact of persistent cancer and noncancer pain on:
    i. The individual (e.g., physical, psychosocial, spiritual, vocational, socioeconomic)
    ii. The family (e.g., roles, relationships, psychological concerns, socioeconomic factors)
    iii. Society (e.g., cost, lost productivity)

C. Definitions of pain

1. Types of pain based on duration
    i. Acute pain
    ii. Persistent (chronic) pain
    iii. Breakthrough pain
2. Types of pain based on mechanism
    i. Nociceptive pain (somatic, visceral)
    ii. Neuropathic pain

D. Multiple dimensions of Pain

1. Physiological dimension – neural mechanisms of pain
    i. Transduction
    ii. Transmission
    iii. Modulation
    iv. Perception
2. Sensory dimension
    i. Location
    ii. Intensity
    iii. Quality
    iv. Temporal pattern

   v. Relieving and exacerbating factors
3. Affective dimension
   i. Influence of negative and positive emotions
   ii. Affective consequences of pain, including suffering
   iii. Impact of pain on mood, sleep, socialization
4. Cognitive dimension
   i. Personal beliefs, attitudes, and meanings attached to the pain experience and/or the disease condition associated with pain
   ii. Spiritual beliefs, community, culture, family, and social networks related to cognitive responses to pain
5. Behavioral dimension
   i. Response to stressors (e.g., situational, developmental)
   ii. Pain expression behaviors
   iii. Pain control behaviors
   iv. Usual behaviors prevented by pain
6. Social, cultural, ethical and political dimensions
   i. Social and cultural variations in conceptualizing pain, its meaning, and management
   ii. Access to resources, including availability and costs of treatment

II. Pain Assessment and Measurement

A. Evaluate the feasibility, validity, reliability, sensitivity, and clinical utility of different pain assessment methods for specific groups (e.g., age groups, cognitively impaired, diagnostic groups) and clinical settings

B. Conduct an initial comprehensive pain assessment using valid and reliable comprehensive multidimensional pain assessment tools

C. Perform ongoing pain assessments using valid and reliable unidimensional measures

1. Intensity/severity
2. Pain relief
3. Impact of pain on function
4. Improvement in pain intensity

D. Identify patients at risk for inadequate pain assessments and effective pain management and use valid and reliable tools to assess pain in these high risk patients

1. Infants and children

2. Older adults
3. Cognitively impaired or developmentally disabled individuals
4. Individuals with a history of addictive disease or current use of illicit substances
5. Individuals who speak a language other than that spoken by the healthcare professionals
6. Patients who are unable to communicate effectively due to disease or treatment

E. Communicate verbally and record initial and ongoing pain assessments in the patient's health care record so that these assessments are accessible to all members of the pain management team

III. Management of Pain

A. Establish the goals of pain management with the patient and their family caregivers

B. Identify patient, family caregiver, system, and clinician barriers to effective pain management

C. Utilize appropriate pharmacologic interventions for pain management

1. Nonopioid analgesics
    a. Mechanisms of action
    b. Indications
    c. Onset and peak duration of action
    d. Adverse effects
    e. Interactions with other drugs
2. Opioid analgesics
    a. Types of opioid analgesics
        i. Short-acting
        ii. Long-acting
    b. Mechanisms of action
    c. Indications
    d. Onset and peak duration of action
    e. Equianalgesic dosing
    f. Adverse effects
    g. Interactions with other drugs
    h. Definitions of tolerance, physical dependence, and psychological addiction
3. Adjuvants
    a. Mechanisms of action

   b. Indications
   c. Onset of action, titration, and duration of an adequate analgesic trial
   d. Adverse effects
   e. Specific drugs
      i. Anticonvulsants
      ii. Antidepressants
      iii. Local anesthetics
      iv. Corticosteroids
      v. Other agents
   f. Interactions with other drugs
4. Methods of drug delivery
   a. Oral/enteric
   b. Parenteral (intravenous or subcutaneous, infusion devices, patient-controlled analgesia)
   c. Transdermal
   d. Transmucosal
   e. Topical
   f. Spinal (epidural or intrathecal)
   g. Regional
5. Age-specific issues
6. Disease-specific therapies (e.g., anticancer therapies)

D. Utilize appropriate nonpharmacologic interventions for pain management

1. Therapeutic use of oneself (e.g., active listening, acknowledging and valuing the individual's and/or family's perspective, being empathic)
2. Physical strategies (e.g., exercise, turning and positioning, wound support, massage, heat, cold, hydrotherapy)
3. Psychological and behavioral strategies (e.g., cognitive-behavioral strategies, stress management, patient and family education and counseling)
4. Neurostimulation (transcutaneous nerve stimulation, acupuncture, epidural stimulation, brain and spinal cord stimulation)
5. Neuroablative strategies (neurolytic nerve blocks, neurosurgical techniques)
6. Palliative radiotherapy (cancer pain)

E. Multimodal and interprofessional pain management

1. Role of each profession
2. Unique contribution of nursing
3. Patient and family members as integral members of the pain management team

4. Palliative care, including hospice, home care, and long-term care
5. Patient and family education
6. Integration and coordination of care; discharge planning
7. Health promotion to prevent persistent pain (e.g., back pain)

F. Monitoring of pain relief and improvements in function and prevention and management of adverse effects

1. Follow-up evaluation of therapeutic effects
2. Follow-up evaluation of patients' and family members' responses to the pain management plan

IV. Clinical Conditions

A. Acute pain associated with trauma, surgery, or acute medical conditions

B. Common chronic pain conditions

1. Low back pain
2. Arthritis
3. Headache
4. Cancer pain
5. Pain associated with HIV disease
6. Neuropathic pain conditions

Appendix B

July 2014

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

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

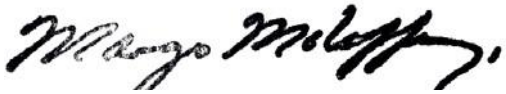
Regarding analysis of data: We have found that it is most helpful to avoid distinguishing items as measuring either knowledge or attitudes. Many items such as one measuring the incidence of addiction really measures both knowledge of addiction and attitude about addiction. Therefore, we have found the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

Enclosed for your use is a copy of our instrument and an answer key. You may use and duplicate the tool for any purpose you desire in whole or in part. References to some of our studies which have included this tool or similar versions are included below. We

have received hundreds of requests for the tool and additional use of the tool can be found in other published literature. We also acknowledge the assistance of several of our pain colleagues including Judy Paice, Chris Pasero, and Nessa Coyle in the revisions over the years. If using or publishing the tool results please cite the reference as **"Knowledge and Attitudes Survey Regarding Pain" developed by Betty Ferrell, RN, PhD, FAAN and Margo McCaffery, RN, MS, FAAN, (http://prc.coh.org), revised 2014.**

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

Sincerely,



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

Margo McCaffery, RN, MS,
Lecturer and Consultant

7/14

References:

Ferrell BR, McCaffery M, Rhiner M. (1992). "Pain and addiction: An urgent need for changing nursing education." *Journal of Pain and Symptom Management*, 7(2): 117-124.

Ferrell BR, Grant M, Ritchey KJ, Ropchan R, Rivera LM (1993). "The Pain Resource Nurse Training program: A unique approach to pain management." *Journal of Pain and Symptom Management*, 8(8):
549-556

McCaffery M, Ferrell BR (1994). "Understanding opioids & addiction." *Nursing 94*, 24(8): 56-59.

Ferrell BR, McCaffery M (1997). "Nurses' knowledge about Equianalgesic and opioid dosing." *Cancer Nursing*, 20(3): 201-212

McCaffery M, Ferrell BR (1997). "Nurses' knowledge of pain assessment and management: How much progress have we made*?"* *Journal of Pain and Symptom Management*, 14(3): 175-188

McCaffery M, Ferrell BR (1997). "Influence of professional vs. personal role on pain assessment and use of opioids." *The Journal of Continuing Education in Nursing*, 28(2): 69-77

Ferrell BR, Virani R (1998). "Institutional commitment to improved pain management: Sustaining the effort." *Journal of Pharmaceutical Care in Pain and Symptom Control*, 6(2): 43-55

McCaffery M, Ferrell BR (1999). "Opioids and pain management - What do nurses know?" *Nursing 99*, 29(3): 48-52

McCaffery M, Ferrell BR, Pasero C (2000). "Nurses' personal opinions about patients' pain and their effect on recorded assessments and titration of opioid doses." *Pain Management Nursing*, 1(3): 79-87

Borneman T, Sun V, Ferrell BR, Koczywas M, Piper B, & Uman G. (2006). Educating patients about pain management. *Oncology Nurse Edition, 20*(10), 41-49.

Ferrell BR. (2007). Reducing barriers to pain assessment and management: An institutional perspective. *Journal of Palliative Medicine, 10*(1S), S15-S18. DOI: 10.1089/jpm.2007.9828. (Pages 15-18 in Optimizing Opioid Management in Palliative Care article).

American Pain Society. (2008). *Principles of Analgesic Use in the Treatment of Acute Pain and Cancer Pain Guidelines, 6th Edition.*

Borneman T, Koczywas M, Chih-Yi Sun V, Piper BF, Uman G, & Ferrell BR. (2010). Reducing patient barriers to pain and fatigue management. *Journal of Pain and Symptom Management, 39*(3), 486.501. DOI: 10.1016/j.jpainsymman.2009.08.007.

BornemanT, Koczywas M, Sun V, Piper B, Smith-Idell C, Laroya B, Uman G, & Ferrell BR. (2011).
Effectiveness of a clinical intervention to eliminate barriers to pain and fatigue management in oncology. *Journal of Palliative Medicine*, 14(2), 197-205. DOI: 10.1089/jpm.2010.0268.

National Comprehensive Cancer Network. (2014). *NCCN Clinical Practice Guidelines*® National Comprehensive Cancer Network, Inc, All Rights Reserved.

Knowledge and Attitudes Survey Regarding Pain

True/False – Circle the correct answer.

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

T **F** 2. Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences.

T **F** 3. Patients who can be distracted from pain usually do not have severe pain.

T **F** 4. Patients may sleep in spite of severe pain.

T **F** 5. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases.

T **F** 6. Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months.

T **F** 7. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent.

T **F** 8. The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours.

T **F** 9. Opioids should not be used in patients with a history of substance abuse.

T **F** 10. Elderly patients cannot tolerate opioids for pain relief.

T **F** 11. Patients should be encouraged to endure as much pain as possible before using an opioid.

T **F** 12. Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity.

T **F** 13. Patients' spiritual beliefs may lead them to think pain and suffering are necessary.

T **F** 14. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.

T **F** 15. Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real.

T **F** 16. Vicodin (hydrocodone 5 mg + acetaminophen 300 mg) PO is approximately equal to 5-10 mg of morphine PO.

T **F** 17. If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain.

T **F** 18. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.

T **F** 19. Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regiment.

T **F** 20. Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.

T **F** 21. The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief.

T **F** 22. Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression.

Multiple Choice – Place a check by the correct answer.

23. The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is

_____ a. intravenous
_____ b. intramuscular
_____ c. subcutaneous
_____ d. oral
_____ e. rectal

24. The recommended route administration of opioid analgesics for patients with brief, severe pain of sudden onset such as trauma or postoperative pain is
_____ a. intravenous
_____ b. intramuscular
_____ c. subcutaneous
_____ d. oral
_____ e. rectal

25. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?
_____ a. codeine
_____ b. morphine
_____ c. meperidine
_____ d. tramadol

26. A 30 mg dose of oral morphine is approximately equivalent to:
_____ a. Morphine 5 mg IV
_____ b. Morphine 10 mg IV
_____ c. Morphine 30 mg IV
_____ d. Morphine 60 mg IV

27. Analgesics for post-operative pain should initially be given
_____ a. around the clock on a fixed schedule
_____ b. only when the patient asks for the medication
_____ c. only when the nurse determines that the patient has moderate or greater discomfort

28. A patient with persistent cancer pain has been receiving daily opioid analgesics for 2 months. Yesterday the patient was receiving morphine 200 mg/hour intravenously. Today he has been receiving 250 mg/hour intravenously. The likelihood of the patient developing clinically significant respiratory depression in the absence of new comorbidity is
_____ a. less than 1%
_____ b. 1-10%
_____ c. 11-20%
_____ d. 21-40%
_____ e. > 41%

29. The <u>most likely</u> reason a patient with pain would request increased doses of pain medication is

_____ a. The patient is experiencing increased pain.
_____ b. The patient is experiencing increased anxiety or depression.
_____ c. The patient is requesting more staff attention.
_____ d. The patient's requests are related to addiction.

30. Which of the following is useful for treatment of cancer pain?
_____ a. Ibuprofen (Motrin)
_____ b. Hydromorphone (Dilaudid)
_____ c. Gabapentin (Neurontin)
_____ d. All of the above

31. The most accurate judge of the intensity of the patient's pain is
_____ a. the treating physician
_____ b. the patient's primary nurse
_____ c. the patient
_____ d. the pharmacist
_____ e. the patient's spouse or family

32. Which of the following describes the best approach for cultural considerations in caring for patients in pain:
_____ a. There are no longer cultural influences in the U.S. due to the diversity of the population.
_____ b. Cultural influences can be determined by an individual's ethnicity (e.g., Asians are stoic, Italians are expressive, etc.).
_____ c. Patients should be individually assessed to determine cultural influences.
_____ d. Cultural influences can be determined by an individual's socioeconomic status (e.g., blue collar workers report more pain than white collar workers).

33. How likely is it that patients who develop pain already have an alcohol and/or drug abuse problem?

< 1% 5 – 15% 25 - 50% 75 - 100%

34. The time to peak effect for morphine given IV is
_____a. 15 min.
_____b. 45 min.
_____c. 1 hour
_____d. 2 hours

35. The time to peak effect for morphine given orally is
_____a. 5 min.
_____b. 30 min.

_____c. 1 – 2 hours
_____d. 3 hours

36. Following abrupt discontinuation of an opioid, physical dependence is manifested by the following:
_____ a. sweating, yawning, diarrhea and agitation with patients when the opioid is abruptly discontinued.
_____ b. Impaired control over drug use, compulsive use, and craving.
_____ c. The need for higher doses to achieve the same effect.
_____ d. a and b

37. Which statement is true regarding opioid induced respiratory depression:
_____ a. More common several nights after surgery due to accumulation of opioid.
_____ b. Obstructive sleep apnea is an important risk factor.
_____ c. Occurs more frequently in those already on higher doses of opioids before surgery.
_____ d. Can be easily assessed using intermittent pulse oximetry.

Case Studies

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

Directions: Please select one answer for each question.

38. Patient A: Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

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

0 1 2 3 4 5 6 7 8 9 10
No Pain/discomfort……Worst Pain/discomfort

B. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects.

He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time.

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

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

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

0 1 2 3 4 5 6 7 8 9 10

No pain/discomfort……..Worst pain/discomfort

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

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

Answer Key

Knowledge and Attitudes Survey Regarding Pain

True/False – Circle the correct answer.

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

F 2. Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences.

F 3. Patients who can be distracted from pain usually do not have severe pain.

T 4. Patients may sleep in spite of severe pain.

F 5. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases.

T 6. Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months.

T 7. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent.

F 8. The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours.

F 9. Opioids should not be used in patients with a history of substance abuse.

F 10. Elderly patients cannot tolerate opioids for pain relief.

F 11. Patients should be encouraged to endure as much pain as possible before using an opioid.

F 12. Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity.

T 13. Patient's spiritual beliefs may lead them to think pain and suffering are necessary.

T 14. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.

F 15. Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real.

T 16. Vicodin (hydrocodone 5 mg + acetaminophen 300 mg) PO is approximately equal to 5 - 10 mg of morphine PO.

F 17. If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain.

F 18. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.

T 19. Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regiment.

T 20. Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.

T 21. The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief.

T 22. Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression.

Answer Key

Knowledge and Attitudes Survey Regarding Pain

Multiple Choice – Place a check by the correct answer.

23. The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is

_____ a. intravenous
_____ b. intramuscular
_____c. subcutaneous

__X__d. oral
_____ e. rectal

24. The recommended route of administration of opioid analgesics for patients with brief, severe pain of sudden onset, such as trauma or postoperative pain is
__X__ a. intravenous
_____ b. intramuscular
_____ c. subcutaneous
_____ d. oral
_____ e. rectal

25. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?
_____a. codeine
__X__b. morphine
_____c. meperidine
_____d. tramadol

26. A 30 mg dose of oral morphine is approximately equivalent to:
_____a. Morphine 5 mg IV
__X__b. Morphine 10 mg IV
_____c. Morphine 30 mg IV
_____d. Morphine 60 mg IV

27. Analgesics for post-operative pain should initially be given
__X__a. around the clock on a fixed schedule
_____b. only when the patient asks for the medication
_____c. only when the nurse determines that the patient has moderate or greater discomfort

28. A patient with persistent cancer pain has been receiving daily opioid analgesics for 2 months. Yesterday the patient was receiving morphine 200 mg/hour intravenously. Today he has been receiving 250 mg/hour intravenously. The likelihood of the patient developing clinically significant respiratory depression in the absence of new comorbidity is
___X__a. less than 1%
_____b. 1-10%
_____c. 11-20%
_____d. 21-40%
_____e. > 41%

29. The most likely reason a patient with pain would request increased doses of pain medication is
__X__a. The patient is experiencing increased pain.
_____b. The patient is experiencing increased anxiety or depression.
_____c. The patient is requesting more staff attention.
_____d. The patient's requests are related to addiction.

30. Which of the following is useful for treatment of cancer pain?
_____a. Ibuprofen (Motrin)
_____b. Hydromorphone (Dilaudid)
_____c. Gabapentin (Neurontin)
__X__d. All of the above

31. The most accurate judge of the intensity of the patient's pain is
_____a. the treating physician
_____b. the patient's primary nurse
__X__c. the patient
_____d. the pharmacist
_____e. the patient's spouse or family

32. Which of the following describes the best approach for cultural considerations in caring for patients in pain:
_____a. There are no longer cultural influences in the U.S. due to the diversity of population.
_____b. Cultural influences can be determined by an individual's ethnicity (e.g., Asians are stoic, Italians are expressive, etc).
__X__ c. Patients should be individually assessed to determine cultural influences.
_____d. Cultural influences can be determined by an individual's socioeconomic status (e.g., blue collar workers report more pain than white collar workers).

33. How likely is it that patients who develop pain already have an alcohol and/or drug abuse problem?

< 1% **5 - 15%** 25 - 50% 75 - 100%

34. The time to peak effect for morphine given IV is
__X__a. 15 min.
_____b. 45 min.
_____c. 1 hour
_____d. 2 hours

35. The time to peak effect for morphine given orally is
_____a. 5 min.
_____b. 30 min
__X__c. 1 – 2 hours
_____d. 3 hours

36. Following abrupt discontinuation of an opioid, physical dependence is manifested by the following:
__X__a. sweating, yawning, diarrhea and agitation with patients when the opioid is abruptly discontinued
_____ b. Impaired control over drug use, compulsive use, and craving
_____ c. The need for higher doses to achieve the same effect.
_____ d. a and b

37. Which statement is true regarding opioid induced respiratory depression:
_____ a. More common several nights after surgery due to accumulation of opioid.
__X__ b. Obstructive sleep apnea is an important risk factor.
_____ c. Occurs more frequently in those already on higher doses of opioids before surgery. _____
_____ d. Can be easily assessed using intermittent pulse oximetry.

Case Studies

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

Directions: Please select one answer for each question.

38. Patient A: Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

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

0 1 2 3 4 5 6 7 **8** 9 10

No pain/discomfort Worst Pain/discomfort

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

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

X 4. Administer morphine 3 mg IV now.

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

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

0 1 2 3 4 5 6 7 **8** 9 10

No pain/discomfort Worst

Pain/discomfort

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

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

X 4. Administer morphine 3 mg IV now.