

RELATIONSHIP OF NURSES' KNOWLEDGE AND
PREPAREDNESS AND THE END OF LIFE
PAIN MANAGEMENT
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Chapter 1

Introduction

Pain affects tens of millions of people in the United States, and is associated with a variety of effects that can destroy the patient's quality of life. Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage. It is whatever the experiencing person says it is, existing whenever he/she says it does. There is no way to tell how much pain a person has. No test can measure the intensity of pain, no imaging device can show pain, and no instrument can locate pain precisely. Despite the increased focus on pain management in the past decade and the implementation of formal guidelines and standards for the management of pain, a significant number of patients continue to experience unacceptable levels of pain.

Evidence shows that moderate to severe pain has a negative impact on emotional and functional well being. Failure to adequately treat pain may lead to disruption in quality of life of daily living. Research and clinical experience show that pain continues to be undertreated despite the availability of analgesics to treat pain and guidelines for their use. The assumption is that hospitalized patients should receive adequate treatment of pain because of the controlled clinical environment (Wells, 2000). Pain management is also extremely important in promoting quality of life of patients with chronic, incurable, and progressive illness, as well as promoting the quality of life of their family members.

When a person has been determined to have a terminal illness, one treatment option for this end of life (EOL) period may be palliative care. Palliative care is any form of medical care or treatment that concentrates on reducing the severity of disease symptoms, rather than striving to halt, delay or reverse progression of the disease itself or provide a cure. The goal is to prevent and relieve suffering and to improve quality of life for people facing serious, complex illness (<http://en.wikipedia.org/wiki/Hospice>).

Pain and symptom management is fundamental to palliative care and critical to care decisions at the end of life. Adequate pain and symptom management was one of five domains of quality end of life care derived from patient interviews from a study by Fineberg, Wenger, & Brown-Saltzman (2006). “Too many dying people suffer from pain and other distress that clinicians could prevent or relieve with existing knowledge and therapies” (Fineberg et al., 2006). “The goal of palliative care is to provide relief of pain and suffering whatever the amount of drugs that accomplishes this goal is the amount needed for that individual patient” (Fineberg et al., 2006).

Calls from professional health care providers to improve care of the dying are widespread in the United States. What characterizes a “good death?” A good death is one free from avoidable pain and suffering, in accord with the wishes of the patient and family, and reasonably consistent with clinical, cultural and ethical standards (Tolle et al., 2000). Nurses, more than other healthcare professionals, are the frontline caregivers for those nearing the end of life and influence their level of pain management satisfaction (Young, Horton, & Davidhizar, 2006). Pain is a common fear of persons approaching death. Unrelieved pain contributes to anxiety, depression, declining physical and psychological hardship for some (Lynch & Abrahm, 2002).

Background and Significance

More than 2.4 million deaths are recorded annually in the United States and most of these deaths approximately 80% occur in hospitals (Beckstran, Callister, & Kirchhoff, 2006). There is evidence that the dying process in acute care hospitals is unsatisfactory and generally inadequate for both the patient and the family (Pan, Morrison, Meier, Natale, Goldhirsch, Kralovec & Cassel, 2001). The management of pain during a patient's stay in an acute setting is an important problem for nurses and professional care providers throughout the healthcare system. Pain assessment and management are also being evaluated in terms of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) of hospitals. Knowing that inadequate pain relief increases psychological distress and potentially decreases mobility, decreases immune responses and increases the work of breathing and myocardial oxygen requirements and that pain relief is a right of all individuals, healthcare professionals must learn to effectively assess and treat pain (Sherman, Matzo, Paice, McLaughlin, & Virani, 2004).

Providing quality care for patients who are dying is of primary concern in the United States today. Research suggests that nurses do not feel adequately prepared to provide the care necessary to manage the complex symptoms of palliative patient's experience. One particularly challenging aspect of palliative care is that of effective pain management. As many as 90% of patients with advanced illnesses are reported to experience moderate to severe pain at the end of life.

Despite the availability of effective pharmacological interventions, research suggests that end of life patients continue to experience unrelieved pain. Variables related to ineffective pain management include nurses' knowledge and attitudes toward pain. Deficiencies in pain management and avoidance of end of life patients and their families occur, in part, because many nursing programs do not provide palliative care as part of their curriculum. Lack of education has been identified by the World Health Organization (WHO) as a major reason for inadequate palliative care (McClement, 2005).

In 2000, The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) published pain standards for health care facilities, thus establishing a mandate for pursuing excellence in pain management. Evidence from the past decade reveals nursing education itself has been a barrier to effective pain management. In addition, research has indicated that students and nurses alike may not be well prepared in pain management because of deficiencies in education, as well as some health care providers' prevailing negative attitudes toward patient response to pain. Nurses who have a positive outlook toward pain management are more likely to initiate pain management interventions. Individual bias and opinions about pain and addiction could influence pain management interventions unless proper initial and continuing education is initiated (Goodrich, 2006).

Improvement in pain management is only possible when there is recognition of the barriers to pain assessment and pain relief. Patient barriers include reluctance to report pain, fears regarding addiction, concerns about side effects, and reluctance to take pain medications. Nurses often have inadequate knowledge related to pain assessment

and management and may have equal concerns as patients regarding addiction, tolerance to opioids, adverse effects, and the regulations of controlled substances. The education of nurses in pain assessment and management is critical to quality care (Sherman et al., 2004)

Statement of the Problem

Pain, either acute or chronic, is an important issue in the quality of life of a patient at the end of their life and has an impact on every aspect of their lives. A patient who is nearing death may suffer in a variety of ways, the most common being that of physical pain which is the most feared. Pain is an unpleasant sensory and emotional experience which is considered subjective in nature or what the patient says it is. Therefore, proper assessment is critical to identifying the type, characteristics and severity of the dying patient's pain. It is the central task of health professionals to alleviate the dying patient's experience of physical pain as much as possible.

According to recent studies pain management is considered a problematic issue among nursing staff. This lack of proper pain management may be due to decreased comfort levels of the nurses, lack of knowledge/experience, negative attitudes and perceptions of pain control or under-prescribing of analgesic medications by the physicians due to their own set of barriers (Kuuppelomaki, 2002). Effective pain management in the end of life patient is an area of needed education for all spectrums of nursing involved in providing palliative care.

Purpose of the Study

The purpose of this study is to examine the relationship among the nurses' educational level, the amount of continuing education on palliative care and how prepared they feel in caring for end of life patients.

Research Questions

1. How prepared do nurses believe they are in caring for end of life patients and their families who suffer from moderate to severe pain?
2. How much continuing education or in-servicing have nurses had in the past 5 years on effective pain management of end of life patients suffering from moderate to severe pain?
3. What is the effect of a palliative care education intervention on patient and family satisfaction?

Conceptual Theoretical Framework

This study will use the conceptual framework of Katherine Kolcaba's Theory of Comfort. Comfort is viewed as a holistic experience of the recipient being strengthened through having specific needs met. Comfort is defined as the recipient having a specific need met (relief) in a state of calm or contentment (ease) as they arise above problems or pain (transcendence). Holism of comfort include that of physical, psycho spiritual, environmental and social contexts of experience. Comfort is a multi-dimensional, meaning different things to different people (Tomey & Alligood, 2002).

According to Tomey and Alligood (2002), Kolcaba theorizes that "human beings strive to meet their basic comfort needs or to have them met". Maintaining the comfort level of the patient is a basic nursing responsibility and Kolcaba believes it is the

traditional mission of nursing. This conceptual framework looks at four major tenets about the nature of holistic comfort: (a) comfort is generally state specific; (b) the outcomes of comfort is sensitive to changes over time; (c) any consistently applied holistic nursing intervention with an established history for effectiveness enhances comfort over time; and (d) total comfort is greater than the sum of its parts. This theory is proven to be easy to understand and apply to nursing students as well as advanced practitioners as an effective method to assess and manage holistic comfort needs in all patients in acute care settings (Tomey & Alligood, 2002).

Kolcaba provides the following definitions for the met paradigm concepts: (a) nursing is the intentional assessment of comfort needs, planning of comfort measures to address those needs, and reassessment of comfort levels after implementation compared to previous baseline. (b) patient is any recipient of care which can be an individual, family, institution, or community in need of healthcare, (c) Environment is any surroundings of the recipient that can be manipulated by nurses or loved ones to enhance comfort, (d) and health which is the optimal functioning as defined by the recipient. This theory goes back to basic nursing care and the traditional mission of nursing to return nursing to a practice focused on the needs of the patient (Tomey & Alligood, 2002).

Comfort is one of the lowest levels of Maslow's Hierarchy of Needs. If this need can not be met it may be difficult to impossible for the patient to advance to meet the more critical needs of life. Kolcaba's theory can predict the benefits of effective comfort measures or interventions for enhancing comfort and engagement of health seeking behaviors. The only limiting factor for this theory is how much commitment nurses and

other advanced health care providers are willing to make in meeting the comfort needs of patients (Tomey & Alligood, 2002).

Definition of Terms

Pain

Conceptual: an unpleasant sensory or emotional experience associated with actual or potential tissue damage. It is whatever the patient says it is and experienced whenever he or she is experiencing it. Pain is considered to be a subjective experience (Sherman et al., 2004).

Operational: Use of the “OLDCARTS” acronym for pain assessment and The Brief Pain Inventory or FACES scale to assess for pain intensity.

Comfort

Conceptual: the immediate and holistic experience of being strengthened or being able to rise above problems or pain through having the physical, psycho spiritual, social and environmental needs met.

Operational: Measured with, Patient’s Pain Management Interview Guide (PPMIG) and Pain Management Experience Evaluation (PMEE) which are data collection tools developed by previous researchers derived from current literature related to pain management (Barnason, Merboth, Pozehl & Tietjen, 1998).

Comfort Measures

Conceptual: nursing interventions designed to address specific comfort needs of recipients.

Operational: Measured with, Patient’s Pain Management Interview Guide (PPMIG) and Pain Management Experience Evaluation (PMEE) which are data collection developed

by previous researchers derived from current literature related to pain management (Barnason et al., 1998).

End of Life

Conceptual: All dying experiences are unique and influenced by many factors, such as the particular illness and the types of medications being taken, but there are some physical changes that are fairly common. For some, this process may take weeks; for others, only a few days or hours.

Operational: Chart review will indicate through nurses' notes how the patient is progressing through the end of life stages.

Palliative Care

Conceptual: The active and total care of patients whose disease is not responsive to curative treatment. The goal of palliative care is achievement of the best quality of life for patients and their families (Emanuel, Von Gunten, & Ferris, 1999).

Operational: Chart review will indicate how nurses are meeting the palliative care of the patient.

Patient and family satisfaction

Conceptual: Patient and family being at ease in one's situation. Patient and family satisfaction is measured as a combination of the patient's/family expectation of care, the experience of the care and the extent to which the patient/family experienced a resolution of the care.

Operational: Measured with, Patient's Pain Management Interview Guide (PPMIG) and Pain Management Experience Evaluation (PMEE) which are data collection tools

developed by previous researchers derived from current literature related to pain management (Barnason et al., 1998).

Pain Management Continuing Education

Conceptual: Pain management continuing education as it relates to this study is defined as: a pilot course in palliative nursing care designed to improve nurses' end of life pain management practice.

Operational: A 12 week (36 hours) theoretical course in palliative care nursing provided through didactic lectures (McClement et al., 2005).

Good Death

Conceptual: Death that is free from avoidable distress and suffering for patient and family and is in accordance with the wishes of the patient, family, cultural, ethical, and clinical standards (Lynch & Abrahm, 2002).

Operational: Standardized pain assessment and management based on the recommendations from the American Pain Society and National Comprehensive Cancer Network using tools such as the Wong-Baker screening tool (Lynch & Abrahm, 2002).

Suffering

Conceptual: Can be conceptualized as a fragmentation of personhood, as a disturbed life story, as an opportunity, or as total pain (Emanuel, Von Gunten, & Ferris, 1999).

Operational: Scales of symptom intensity and Quality of life scales should be used to provide clinical indication of suffering and means of a tangible outcomes measure (Emanuel et al., 1999).

Knowledge and Preparedness of nurses

Conceptual: Knowledge and preparedness is defined as the nurses' practical understanding or expertise and skills acquired through experience and education of a particular subject.

Operational: Measured with, Nursing Cognitive Assessment of Pain Management (NCAPM) which is a data collection tool developed by previous researchers derived from current literature related to pain management (Barnason et al., 1998).

Limitations

Limitations to this study include that of reduced generalizability of the sample to other states and other healthcare settings such as long term care and home care due to variations in their characteristics. Other limitations may include unknown responses of nurses who did not return the survey, lack of communication of the end of life patient due to fear and denial, and the lack of structured evaluation data regarding the pain management practices by nurses before the structured intervention.

Assumptions

It is assumed that there is a difference in knowledge and attitudes regarding end of life pain management and attitudes toward care of the dying before and after the educational intervention. Changing educational curriculum and continuing professional education is the first step toward improving pain management practices for end of life patient's suffering from undo pain. There are limitations in the knowledge base of nurses related to clinical pain management techniques. Human beings strive to meet their basic comfort needs or to have them met which strengthens them to engage in health seeking behaviors of choice.

Summary

The assessment of pain is now recognized as the fifth vital sign and patients have a right to the relief of pain. Improvement in pain management is possible when there is recognition of the barriers presented by patients and healthcare professionals and strategies developed to overcome such barriers. The education of nurses in pain assessment and management is critical to quality of care. With nurses prepared to address pain and other symptoms experienced by patients and families with life-limiting illness and those at the end of life, the quality of care and the quality of life of patients can be greatly improved. It is ultimately the nurses' responsibility to ensure that adequate pain relief through the appropriate administration of pain medications and through serving as advocates to ensure that such relief is available (Sherman et al., 2004). Results from this study will provide information for quality improvement in future nursing practices related to providing effective palliative end of life pain management.

Chapter II

Review of Literature

Introduction

Providing quality of care for patients who are dying is a primary concern for nurses and healthcare providers alike in the United States today. More than 2.4 million deaths are recorded annually in the United States, and most of these deaths, approximately 80%, occur in hospitals (Beckstrand, Callister, & Kirchhoff, 2006). Pain management is one of the major concerns in the quality of life of a patient during their end of life care. Research has suggested that nurses do not feel adequately prepared to provide the care necessary to manage complex symptoms of end of life patient's experience. The challenge for nurses is to integrate current pain management research into improved patient outcomes in the clinical setting. The purpose of this study is to examine the relationship among the nurses' educational level, the amount of continuing education on palliative care and how prepared they feel in caring for end of life patients. This is an approximate replication of McClement's study (2005).

Research Questions

1. How prepared do nurses believe they are in caring for end of life patients and families who suffer from moderate to severe pain?

2. How much continuing education or in-servicing have nurses had in the past 5 years on effective pain management of end of life patients suffering from moderate to severe pain?
3. What is the effect of a palliative care education intervention on patient and family satisfaction?

Pain Experience

Terminally ill patients experience substantial (moderate to severe) pain and as death approaches, pain tends to increase. Pain is only one of the critical outcomes measured for quality end-of-life care. It is socially and culturally acceptable to have pain. Those complaining of pain may be doing so for other not so obvious reasons as them just having pain. Complaining of pain could be their way of expressing concerns about loneliness, hopelessness, care needs, and other symptoms of dying. We must also now take into consideration minority groups when talking about pain control. Pain management is not consistent across minority groups. Minority patients are less likely to receive analgesics than patients of other ethnic or American groups. The purpose of a study by Weiss, Emanuel, Fairclough and Emanuel (2001) was to provide additional data on the experience of pain in terminally ill patients.

The sample of this study was selected from randomly selecting physicians from lists obtained from state boards of medical registration, state medical societies and membership lists of specialty societies from six geographically diverse sites in the USA. These physicians supplied the researchers with a list of patients who's predicted survival time was 6 months or less, had a serious illness, spoke English, had no hearing difficulties and were able to arrange an interview time and place and was able to sign a

consent form. A total of 998 patients were suitable to participate in this research study (Weiss et al., 2001).

The interviews were done in person by 24 interviewers, that were specially trained by the National Opinion Research Center in Chicago, at sites chosen by the participants. During the interviews, surveys containing 135 questions encompassing ten domains, were carried out. The degree of pain was assessed by using questions adapted from the Wisconsin brief pain inventory. A follow-up interview was done between 2 and 6 months (mean 125 days) after the first interview. The protocol, letters, survey instruments and consents were approved by the institutional review boards at the Harvard Medical School, the Dana Ferber Cancer Institute and at 38 facilities in the six geographical areas in which the research participants were selected (Weiss et al., 2001).

Fifty one of the 988 terminally ill patients interviewed had cancer, 18% had heart disease, and 11% had chronic obstructive pulmonary disease. According to Weiss et al. (2001), the proportion of patients reporting sever pain was 237 (24%), moderate pain 257 (26%), minimum pain 217 (22%), and no pain 278 (28%). No association between type of terminal illness and degree of pain or length of illness was seen. Multivariate analysis revealed poor physical functioning, depressive symptoms, and income <\$15,000 were all independently associated with reporting moderate to severe pain, odds ratio 2.76 (95% CI 2.1-3.7); depressed, 2.52 (1.6-3.9), income < \$15,000, 1.68 (1.2-2.3) (Weiss et al., 2001). In the multivariate analysis, poor physical functioning and being of black origin were independently associated with being treated by a pain specialist odds ratio 1.36 (1.11-1.67; black origin, 1.80 (1.02-3.17) (Weiss et al., 2001).

Weiss et al. (2001) concluded that although the extent of pain at the end-of-life

has received much attention as a sign of poor end-of-life, such a conclusion is questionable. According to their results, less than one third of patients with moderate to severe pain and less than a quarter of all terminally ill patients wanted additional pain therapy. This is in contrast to the perception that terminally ill patients are being under-treated. Other factors may be more important than pain relief in the dying patient so they may be willing to tolerate the pain.

According to Weiss et al. (2001) patients of ethnic minority may experience more pain due to barriers such as, poor access to medication and inadequate prescribing by the physician. These patients according to their study were also significantly more likely than whites to refuse additional pain medication due to the fear of addiction. Due to the barrier of inadequate analgesia by the physician, minority patients were more likely to be referred to a pain specialist than whites (Weiss et al., 2001). This study had several limitations and additional research would be needed.

The right to die is a hot debate that Americans are facing today. This debate has led to the focus of improving care to the dying patient. Improving end of life care is relevant to the elderly population given the dramatic increase in the number of older adults facing this need. The number of Americans over the age of 65 has grown from 3 million to 35 million, and will continue to grow to 87 million by the year 2050. The elderly group is the ones most likely to experience death, many of whom have been found to endure physical, psychosocial, and existential suffering in their dying process, to the point of hoping for a hastened death. Although research has identified such physical and psychosocial factors, such as pain, fear of future pain, loss of autonomy, loss of independence and hopelessness, less attention has been given to determining ways to

prevent or address these factors in the earlier stages of manifestations (Schroepper, 2007).

Understanding what aspects of the dying process motivates terminally ill individuals to consider hastening their death, can lead to improving end of life care. Building on this understanding is the important next step for health care professionals to determine how to become more proactive, rather than reactive, in end of life care to address or prevent suffering before it spins out of control. Knowledge of end of life care that prevents or reduces suffering brought on by these events is vital to ensuring a quality dying process for terminally ill elders. Schroeffer (2007), has conducted research to advance the knowledge of health care workers concerning end of life care provided to elders (Schroepper, 2007).

A study by Schroepper (2007) had a convenience sample of 96 terminally ill elders from hospices, hospital based inpatient palliative care programs and hospital based outpatient clinics throughout the state of Michigan. The respondents had to be 50 years or older, mentally competent and with a prognosis of 6 months or less to live. Each respondent took part in an audio taped, face to face interview that included a variety of physical and psychosocial issues, including the consideration to hasten or not hasten their death. The interviews took place in either a palliative care unit on an inpatient hospice or in the respondent's home and ranged in length from 20 to 150 minutes (Schroepper, 2007).

Of the 96 respondents taking part in this study, only 15 of those transitioned from wishing for or considering a hastened death to a mind frame of no longer doing so. The four critical events that led these individuals to feeling such include: (a) perceived insensitive and uncaring communication of a terminal diagnosis, (b) experiencing

unbearable physical pain, (c) unacknowledged feelings regarding undergoing chemotherapy or radiation treatment and (d) dying in a distressing environment. These events reported are ones that terminally ill patients are apt to experience and it is important to understand each event's impact (Schroepper, 2007).

The four above mentioned events are difficult to cope with in the best of circumstances, but can be made more difficult based on how health care professionals and family members handle them. Receiving a terminal diagnosis in an insensitive manner, experiencing unbearable physical pain, undergoing chemotherapy or radiation treatments and dying in a distressing environment can lead to misery so great in end of life that the dying patient may wish for or consider a hastened death. It is important that dying patients be included in discussions and decisions regarding management of pain. Terminally ill patients possess first hand knowledge of how much pain they are experiencing, how it feels, how it affects them, and what medications prove effective (Schroepper, 2007).

Schroepper's study provided key insights into critical events in the dying process; however, there were limitations that can be addressed in future research on this topic. Future research would benefit from use of a longitudinal research method design and a larger more diverse sample of terminally ill elders. Such research is crucial in order for palliative care providers to gain knowledge of critical events, such as pain control, in the dying process, as well as key end of life care practices, so that no patient suffers unnecessarily in the dying process (Schroepper, 2007).

What characterizes a "good death?" When defined in professional terminology, by various professional health care organizations, a good death is free from avoidable

pain and suffering, in accord with the wishes of the patient and family, and reasonably consistent with clinical, cultural and ethical standards. According to other research, Americans say they fear a prolonged, painful death in an impersonal, highly technical environment, surrounded by strangers, and being prevented from communicating with loved ones. When asked to describe a death they would want, most Americans say they hope death is relatively pain free, surrounded by loved ones and in a home like familiar environment. Prior studies have identified some problems or barriers to achieving these desirable qualities that Americans want of the dying process (Tolle, Tilden, Rosenfeld, & Hickman, 2000).

A study was provided by Tolle et al. (2000) that examined family perspectives about the final month of life for Oregon decedents dying in hospitals, nursing homes, and private homes. This study focused on modifiable dimensions of the patient's experience, such as level of pain, and on the quality of care provided. The information from this study will be used to generate evidence based solutions to problems in health services and improve care of the dying at the end of life (Tolle et al., 2000).

The study data consisted of information obtained from Oregon death certificates obtained from November 1996 to December 1997 and family members. Such information obtained from the death certificates included date, place, and cause of death. Out of a sampling frame of $n=24,074$, only 475 family members agreed to take part in the study. The family respondents participated in a 58 item telephone questionnaire that lasted an average of 31 minutes (range 10-100 minutes). In addition to the factual information about the death, the questionnaire was designed to assess family perceptions of three main aspects of end of life care: (a) clinician's respect of decedent's preferences of end of

life care, (b) satisfaction with support from clinicians in the week before death and (c) barriers to management of pain in the week before death. The first 55 questions were structured forced choice items and yielded categorical or ordinal data. The final three questions were open ended regarding family members experience (Tolle et al., 2000).

Quantitative data were analyzed by use of SPSS 8.0. Chi square tests of association and Pearson's r correlations were used to examine the relationships among barriers and resources by transitions in care settings and location of death through univariate and multivariate analysis. The multivariate analysis was a hierarchical regression with management of pain as the dependent variable. The narrative data from the open ended questions were analyzed by use of thematic analysis (Tolle et al. 2000).

Major findings of this study include a high degree of clinician respect for decedent preference about aggressive treatments at end of life, and high levels of pain for a significant number of decedents. This study examined in detail the barriers to optimal end of life care across settings in Oregon. This study does not, however, provide good representation of ethnic representation. Only 3% of the adult Oregon decedents who died of natural causes were nonwhite. The major limitation of this study is that Oregon has a capitated health care plan that covers uninsured persons up to 100%, which makes end of life care more accessible for the poorer citizens in this state as compared to other states in the U.S. The findings of this study may be an influence for changes to emerge in end of life care throughout the United States (Tolle et al., 2000).

Quality of Life

Pain is both a sensory and an emotional experience that has an individual, subjective definition. Cancer is a terminal illness that is linked with pain, suffering and

death. As cancer progresses, patients tend to experience severe multiple types of pain, which can lead to negative effects on health-related quality of life (HRQOL). A well structured and organized pain management program must be implemented in order to effectively treat pain on an individual basis. Pain must be recognized and treated promptly by all health professionals for patients with cancer. The purpose of a study by Bostrom, Sandh, Lundberg and Fridlund (2003) was to describe and compare pain and quality of life and correlate, quality of life with pain among cancer patients who experienced either mild or moderate to high pain intensity.

This study included 75 patients from two hospitals in Southwest Sweden who were receiving care from palliative care teams. The patients had to be alert and oriented, over 35 years of age, speak Swedish, diagnosed with some form of cancer, in which they were aware of and receive palliative care instead of curative care, and in need of some type of analgesic treatment due their diagnosis of cancer. All these patients were selected by staff members of the hospitals.

Each patient was given a medical outcomes study short form 36 (SF36) which was an instrument used to measure subjective or perceived well being of the patient. It is an evaluation tool for measuring HRQOL dimensions such as physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health. This information is presented in a questionnaire form answered completely by the patient. In cases when the patient was too weak or ill, the questions were presented in an interview form. A POM (pain-o-meter)-VAS (visual analogue scale) instrument was used for the patients to rate their pain level on a 0 being "no pain"-10 being the "severest pain possible" pain scale. Also, to further aide in describing the patient's pain, a patient

outcome questionnaire was administered which included four selected and modified questions to

evaluate the pain intensity at different times throughout the day:

1. How much pain are you in right now?
2. Please indicate the worst pain you have had in the past 24 hours.
3. Please indicate the average pain you have had in the past 24 hours.
4. Please indicate the level of pain interrupting your sleep.

Each patient was interviewed further for demographic and clinical data (Bostrom et al., 2003).

The SF-36 questionnaire has been validated on general populations as well as on patients with different disease processes demonstrating high reliability and good validity. Cronbach's alpha was 0.70 for the whole questionnaire while the internal consistency coefficients were between 0.76 and 0.88. The reliability and validity of the POM-VAS was satisfactorily with Cronbach's alpha of 0.84 (Bostrom et al., 2003).

Demographic and clinical characteristics of cancer patients in palliative care with both low and high average pain showed that the most common cancer diagnosis was prostate and colon cancers. Forty-seven patients were included in the group with low pain (≤ 3 on VAS) and 28 patients were in the group with high pain (≥ 3 on VAS). Of the 75 patients participating in the study, 75% of the low pain group and 50% of the high pain group were cared for at home versus the hospital setting. Of these patients, 39% of the high pain group stated that pain or fear of increased pain disturbed them most as compared to 36% of the patients in the low group. The results of the correlations between pain and health related quality of life revealed that pain affected general health more

directly for patients in the low group compared with patients in the high pain group (Bostrom et al., 2003).

Although these patients were receiving prescribed analgesia according to the World Health Organization (WHO) analgesic ladder, many of them continued to report high pain intensity from pain groups. This could be due to the barriers created by the nurses and physicians and/or due to the fact that the majority of the patients were being cared for at home leading to a potential risk of incorrectly assessing the patient's pain level. This stresses the importance of the nurse's role in pain management education and the need to improve pain assessment and pain relief even if they do not meet with the patients on a daily basis. Pain is one symptom which is unnecessary and can be prevented or reduced with proper pain management. Further research is needed to explore the patient's evaluation of pain treatment and their view of the relationship between pain and health (Bostrom et. al., 2003).

The prevalence of unrelieved pain is disturbingly high in nursing homes. Nursing home physicians fail to identify pain as a problem or prescribe adequate pharmacological treatment for nursing home residents. Additionally, when these pain medications are prescribed they are not used consistently and contrary to recommended pain management for older adults. The American Medical Directors Association (AMDA) published guidelines for managing chronic pain in nursing homes, which, identify analgesic medications not recommended for use in the nursing home population. Previous studies of hospice care found that hospice patients enrolled in hospital based hospices were less likely than patients receiving conventional non hospice care to have “persistent severe pain” at end of life. These previous studies provide some support for the hypothesis that

hospice care provided in institutional based settings such as long term care facilities may positively influence pharmacologic pain management for dying nursing home residents and thus add value to end of life care. Because pain management has been notoriously poor in long term care settings, Miller, Mor, Wu, Gozalo and Lapane (2002), sought to quantify the extent to which receipt of hospice care is associated with superior analgesic management of daily pain in dying nursing home residents.

The sample for this study was derived from the Systematic Assessment of Geriatric Drug Use via Epidemiology database. The data for each resident was collected using the Minimum Data Set (MDS), drug information; Health Care Financing Administration (HCFA) claims data, and organizational data on nursing home providers. The MDS data was collected from 1992 to 1996 for residents in Kansas, Maine, Mississippi, New York and South Dakota. A total of 2,655 nursing home decedents were identified whose last MDS occurred between 1992 and 1996, who died before April 1997 and who had at least two MDS assessments available. These decedents used for this study included those that had documented daily pain on the MDS closest to the date of death. The median time from the documentation of daily pain and death was about 1 month (Miller et al., 2002).

Drug information was obtained by the nursing staff's documentation of the 18 medications that were taken within the last 7 days using the National Drug Coding (NDC) system. Additional drug information included if the medication was a standing order, as needed, the route of administration and the number of times per day administered. The medications were classified as either opioids, non-opioids or non-steroidal anti-inflammatory drugs (NSAIDs). The drugs were further classified as either

recommended or non-recommended for treatment of chronic pain in long term care setting. Pain management outcome was rated according to the pain intensity rated by the resident. In the absence of the pain intensity, residents receiving analgesics at least twice a day or via a drug patch were considered receiving “regular treatment of daily pain” (Miller et al., 2002).

The results of this study support the hypothesis that hospice care delivered in nursing homes is associated with superior pain management via the regular administration of analgesic treatment. Also, analgesic prescribing patterns for hospice residents were more consistent with recommended prescribing for residents in chronic pain in long term care settings than were prescribing patterns for nonhospice residents. The study findings are consistent with study findings of the hospital based hospice care study done previously. There are several limitations of the study, but according to the results, research must continue to examine the management of chronic pain in nursing homes so as to determine the efficacy of recent efforts at improving pain management in nursing homes (Miller et al., 2002).

Nurses' Knowledge, Beliefs and Attitudes

Although pain management is an important consideration of patient's comfort, research has shown that patient's pain control at end of life is poor. This lack of proper control is due to the nurse's lack of knowledge, existing practice, present beliefs and attitudes in relation to pain management in different patient types. The purpose of a study by Horbury, Henderson and Bromley (2005) is to learn the beliefs of the nurse and their intentions in the administration of analgesia in an acute tertiary facility.

The sample for this study consisted of 886 RN's working in an acute tertiary Australian teaching hospital from all clinical divisions. The experience of these nurses ranged from newly graduated registered nurses to nurses who have had years of experience. The minority of these nurses have completed their nursing degree and the majority of them having completed only a hospital certificate in nursing (Horbury et. at., 2005).

A questionnaire was given to each RN composed of eight patient scenarios describing a variety of hypothetical patient situations. These scenarios ranged from younger patients to elderly patients who were either smiling or grimacing when approached by the nurse. The respondents were asked to select a dosage of pain relief medication they would administer in each patient scenario. Each scenario was composed of several multiple choice questions regarding modes of administration: Intramuscular, Intravenous or Epidural. These questions were adapted from the questionnaire by McCaffey and Ferrell (1994) with slight modifications to be consistent for the study culture. These scenarios were reviewed by experts in pain management whom provided feedback confirming content validity. These scenarios were also pilot tested to confirm validity. The questions were also used in a previous study which identified construct validity and test-retest reliability (Horbury et al., 2005).

The results of this study support that nurses do not necessarily accept the patient's self report of pain. It has been found that nurse's are influenced by the patient's age and their behavior when they are having pain. A nurse is more apt to accept the patient's self report of pain if they were elderly and/or grimacing with pain. Although, nurses may also be more reluctant to administer the needed dose of medication for pain relief in fear that

it may cause respiratory depression (Horbury et. al., 2005). According to a study by Horbury et. al. (2005), more than 60% of nurses administer less than the needed medication that would result in the continuation or worsening of pain for smiling, younger patients. When taking care of a patient with an epidural 15-25% of the nurses wanted to continue the existing setting and provide a loading or optimal dose for the grimacing patients, not for the patients who were smiling.

Although the opportunity is available to attend in-service sessions on effective pain management, many nurses are not taking this opportunity to attend, either due to the fact that they are unaware of knowledge deficit on pain management or that this information is a need to know basis only. The findings of the study by Horbury et al. (2005) suggest that a more active role in providing this information to staff nurses is required. Management needs to explore ways to implement this education if change is to be forthcoming.

According to the National Center for Health Statistics, 56% of all deaths in the United States occur in the hospital setting, 19% in the long term care setting and 21% at home. Advocates from the American Geriatrics Society (AGS) have stated that “Dying patients should be able to receive palliative care in the home, the hospital and the nursing home without a disruption in the continuity of the patient’s care.” Previous studies have suggested that there are many obstacles to providing quality end of life care to patients and families across health care settings and illuminate areas of palliative care that are important to evaluate prior to developing initiative to improve care. Although there have been efforts to improve end of life care and are ongoing, a critical understanding of the barriers and resource needs of health care institutions delivering this care is lacking. A

study was conducted in 1999 by the Wisconsin Coalition to Improve Palliative Care (WCIPC) to assess the needs and establish baseline information about palliative care in health care organizations in Wisconsin and to identify areas on which the WCIPC would focus future initiatives to improve palliative care in the state (Greiner, Buhr, Phelps, & Ward, 2003).

The members of the WCIPC developed a survey instrument based on guidelines to end of life care from published literature and including those put forth by the AGS. The survey instrument included an Eight item demographic section, 45 items in 4 sections to assess current services, staff education programs, barriers to the provision of palliative care, and potential resources that would be useful to the institution to improve palliative care and one open ended question to identify palliative care resources currently available in the institution or community. The survey was mailed to 208 hospitals, 48 hospice agencies, 200 long term care facilities, 180 home health care agencies, and 245 other health care institutions within the state of Wisconsin. A total of 318 (36%) surveys were returned within 3 months of distribution of the survey, 137 (43.1%) being from the long term facilities and 60 (18.9%) from the hospitals (Greiner et al., 2003).

Results of the survey revealed that the most frequently identified end of life services provided to patients and families included: (a) a program to promote advance care planning, (b) a contractual relationship with one or more hospice programs and (c) an interdisciplinary care program for dying patients. A small percentage of institutions have health care providers who are certified in hospice and palliative care. One hundred percent of hospice agencies provided a bereavement program; just more than half of the hospitals and less than a quarter of long term care facilities offer such program. Hospice

and home health care agencies cited quality improvement in pain management and a pain management consultation service with a greater frequency than any other type of institution in the sample. Staff education programs offered in the previous year to nurses on end of life care included: pain management (75%), advance directives (59%), end of life care (42%), and community hospice resources (40%) (Greiner et al., 2003).

The most frequently identified barrier to good end of life care was a lack of knowledge among patients and families (e.g. what is good end of life care? What should I be asking and expecting from my doctor and nurses?) The second most frequently identified barrier was a lack of provider knowledge of pain and symptom control. Both barriers identified were consistent across all institution types except for hospice agencies, which identified poor reimbursement as the second most frequent barrier. A total of 11 barriers were identified to good end of life care. The most frequently cited barrier attributed to both physician and nurses was the lack of knowledge about pain and symptom control (Greiner et al., 2003).

Respondents reported that the following resources would be useful to the institution: newsletter (70%), and speaker's bureau for provider education (63%). Fifty percent thought it would be helpful in establishing a quality improvement program for palliative care. Nearly half of the institutions felt clinical training in palliative care and an annual regional palliative care education conference would be helpful (Greiner et al., 2003).

Results of this study dictate the need for additional institutional support, access to expert resources and provider education programs. Limitations were noted for this study which included small sample size, reporting biases and survey being answered by one

individual that may not accurately represent barriers to palliative care across a variety of service departments. This study could be tailored and utilized by coalitions by other states to determine institutional barriers and needs as well as to establish a benchmark on which future progress in the area of palliative care can be measured (Greiner et al., 2003).

Nurses encounter death in every work setting. However, research suggests that nurses do not feel adequately prepared to provide the care necessary to manage the complex symptoms of palliative patients. One of the main challenges for nurses is that of cancer pain management. It is reported that as many as 90% of patients with advanced cancer are reported as having moderate to severe pain and this pain is not being relieved with pharmacological interventions. Deficiencies in pain management and avoidance of palliative patients and their families occur because many nursing programs do not have a discrete course in palliative care as part of their curriculum. Graduates are then faced with the challenges of managing end of life care situations without adequate education in principles and practices of palliative care. A study was done by McClement, Care, Dean and Cheang (2005) to evaluate a pilot course in palliative nursing care that was designed to improve practicing nurses' knowledge regarding cancer pain management and attitudes toward care of the dying patient.

The participants of the study were drawn from students enrolled in the palliative care course in the Spring of 2000 and 2001, with a total of 33 participants. Of the 33 students only 16 participated in the study. All participants were female and their age ranged between 34 and 48 years. All participants held a nursing diploma. Thirteen of the participants had more than 10 years of experience working in areas of medicine, surgery, intensive care and the community. Only two of the participants had worked on a

palliative care unit. These participants received a 12 week (36 hour) theoretical course in palliative care nursing. The didactic lectures covered information on symptom control, psychosocial care of the patient and family, theoretical models of grief and bereavement, legal/ethical issues, and the role of nursing research in palliative care (McClement et al., 2005).

Nurses' knowledge and attitudes regarding management of cancer pain was measured using the Cancer Pain Role Model Program Test. This tool contains 23 multiple choice questions that evaluate cancer pain knowledge and attitudes. Internal consistency reliability, as measured by Cronbach's coefficient alpha, was 0.62 for the attitude items, 0.66 for the knowledge items and 0.57 for the items incorporating both knowledge and attitudes. Attitudes toward the care of the dying patient were measured by using Part I of the Winget Questionnaire for Understanding the Dying Person and His Family. This tool contains 50 item Likert type scale questions and demonstrated a reliability of alpha= 0.82. All participants answered a questionnaire assessing their knowledge of cancer pain management and attitudes toward care of the dying before the course began, at the end of the course and three months following its completion (McClement et al., 2005).

Results indicated that there was a significant improvement of knowledge and attitudes toward pain management and care of the dying from test 1 to test 2. The improvement was maintained from test 2 to test 3 indicating that participants retained the knowledge they had acquired during the course. This study had some limitations which included, (a) only having women participants, (b) evaluating knowledge of only pharmacological interventions and (c) small sample size. Replication of this project using larger samples and a control group is warranted for future research. It is imperative

that nurses in any practice be knowledgeable of palliative care so they are prepared to provide skilled and sensitive end of life care to their dying patient. Results from this study indicate that a course in palliative nursing care appear to improve registered nurses' knowledge and attitudes regarding pain management, and attitudes toward care of the dying (McClement et al., 2005).

Barriers to pain control are numerous and often not clearly identified and resistant to effective efforts to change them. Successful pain management is crucial in positive patient outcomes and satisfaction. Research continues to indicate that inadequate management of pain continues to be common and an ongoing problem. The attitudes and beliefs of caregivers add to the complexity of the pain management issue, therefore, nursing needs to examine every aspect of the issue of pain control. The focus of a study by Young, Horton and Davidhizar (2006) focuses on the attitudes and beliefs of nurses using an attitude measurement model developed by Fishbein and Ajzen (1975).

A convenience sample of 52 nurses from a unit in a Midwest community hospital in the USA volunteered to participate in the study. They were given a questionnaire that contained the following questions: (a) What are your beliefs about assessment of pain? (b) What are your beliefs about the use of pain assessment tools, and (c) What are your beliefs about the use of pain assessment tools in improving patient's outcome? They were also asked to rate belief strengths in relation to the questions. There were a total of 187 beliefs in relation to the three questions asked. Validity of the Fishbein and Ajzen attitude model was determined from previous studies. Internal consistency reliability is not determined with an open response instrument like the one used in this study. Future studies using a fixed-response instrument would determine reliability (Young et al.,

2006).

Attitude scores ranged from -6 to 28 with an overall mean score of 8.3 indicating a positive attitude towards pain assessment tools. Five of the 52 nurses had negative attitudes towards pain assessment tools. Twenty nine beliefs were reported by the 52 participants stating the tools were subjective and inaccurate and could be improved and were not necessarily considered to be reliable. Data from the study suggested that an increase in years of experience did not necessarily relate to a positive outlook on the use of pain assessment tools and their benefit for patient outcomes. Data also reveals that more than experience is necessary to change attitudes, and that clinical mentors might be an effective way to influence caregiver behavior (Young et al., 2006).

Effective pain management for a patient during their hospital stay is an important problem for nurses and other health care providers. Findings from this study have implications for future pain management outcomes for patients. Continue research will provide a positive knowledge base that will provide a framework for positive beliefs to be established in attempts to change pain management behaviors (Young et al., 2006).

Continuing Education/Palliative Care Intervention

Many people face life-threatening illnesses that require them to make choices about end of life care. One choice these people may make is in regards to palliative care which is the total care received medically, spiritually and psychosocial. Nurses in many cases, are the frontline caregivers for those people who are nearing the end of their life. Pain management is only one aspect of end of life (EOL) care, but one area in which nurses lack information about effective pain assessment and pain control. Despite many advances in knowledge of drugs and pharmacologic interventions to decrease pain, nurses

and other healthcare professionals seem reluctant to follow their patient's desires of end of life treatment. Practicing nurses are still facing many dilemmas and barriers to providing high quality end of life care (White, Coyne, & Patel, 2001). The purpose of a study by White et al. (2001) was to ascertain from practicing nurses the extent and content of continuing education about palliative and end of life care, the topical areas of palliative care in which more competence and proficiency is needed, and recommendations for content in nursing school curricula and programs of continuing education (White et al., 2001).

This study first began in early 1999 with a convenience sample of 56 registered nurses employed at a tertiary medical center in a Southeastern American city who responded to a survey (White et al., 2001). This study identified themes and issues in end of life care leading way to the next phase of the study. The next phase included sending questionnaires to 2334 nurses who were members of the Oncology Nursing Society (ONS) in the states of Georgia, Virginia, Washington and Wisconsin with responses from 760 of those nurses. Selection criteria for the states included size, geographic diversity, similar numbers of ONS members, and states without continuing education requirements for licensure renewal (White et al., 2001). The average length of practice of these nurses is 17.34 years with an average age of 45.8 years. The majority of these nurses practice in a hospital setting with their degrees ranging from Associates to Doctoral degrees. Over three fourths of these nurses work full time with 82% providing direct patient care.

A mailed survey was sent to the respondents with instructions and a postage paid envelope. The survey included questions about the themes that were identified in the first phase of the study. The survey items included items about nurses, the organization of

practice, experience with EOL education in nursing school, EOL continuing education, and rank-ordering of EOL core competencies that they would like to have learned more about in nursing school. Validity of the research instrument was tested by having experts in EOL palliative nursing care, nursing education and survey-research design review and revise it. Input was given by the experts on the survey content, item construction and format.

Most of the respondents (98%) indicated that EOL education is important. Of the 737 responses to this question only 188 (26%) said they had an excellent level of preparation to effectively care for a patient during the EOL period, 400 (54%) reported a good level of preparation, 122 (17%) indicated a fair level of preparation and 27 (4%) reported little preparation. Five hundred fifty three of the 737 respondents indicated they received continuing education related to EOL care in the last 2 years. The nurses who received continuing education indicated that the information that received was useful and current and was able to use the information in their practice. Over half (52%) of the nurses who did not receive any continuing education on EOL work in physician's offices or outpatient clinics (White et al., 2001).

Part of this study required the respondents to rank order 12 topics that comprise EOL care competency that they wish they had learned in nursing school. Almost two thirds of the respondents ranked how to talk to patients and families about dying with 28% ranking pain control techniques second and thirdly 9% ranked comfort care nursing interventions. Rankings were slightly different by state but designated the same three top competencies. Nurses who work in outpatient settings ranked "pain control" higher than nurses practicing in inpatient settings. Finally, nurses born before 1945 were more likely

than younger nurses or those born after 1965 to select pain control as a higher ranked EOL issue (White et al., 2001).

According to White et al. (2001) educators have begun to recognize the importance of EOL care education in nursing schools although many programs do not specialize in palliative care nursing and continuing education is minimal and inconsistent. Findings from this study have reported that EOL dilemmas are common in nursing practice and that barriers exist in providing high quality EOL care. This study has also helped to identify core competencies and their relative importance along with indication from oncology nurses of their educational needs regarding EOL care (White et al., 2001).

According to Barnason, Merboth, Pozehl and Tietien (1998) acute pain is being inconsistently and ineffectively managed as a result of under-medication. Physicians are either under-prescribing pain medications or nurses are not giving the prescribed medications on a regular basis. Researchers believe nurses need a better understanding of acute pain management. The challenge is for nurses to integrate current pain management research into improved patient outcomes in the clinical setting. The purpose of a pilot study by Barnason et al. (1998) was to evaluate the effectiveness of a structured intervention aimed at improving pain management for patients. The goal from this study was to establish more consistency to improve the nursing care of patients with pain by synthesizing "best practice" nursing standards.

The setting for this study was a Midwestern community hospital. The study included two groups of participants. The first group consisted of 47 patients from 12 nursing units in the hospital. The age of the participants ranged from 7 years to 91 years of age with 30 of these patients being women and the remainder being men. Ninety two

percent of these patients were experiencing acute types of pain (e.g. post-operative pain, post-procedure pain) verses those experiencing chronic types of pain (e.g. oncological pain, arthritic pain). The second group of this study consisted of 135 nurses. Those agreeing to participate in the study represented approximately 25% of the nursing staff of that particular institution. Of the 135 nurses 78% were RNs and 22% were LPNs and had an average length of 6.08 years of clinical practice experience (Barnason et al., 1998).

The "Nursing Cognitive Assessment of Pain Management" (NCAPM) tool which consisted of 12 multiple choice and true false items was given to the nurse respondents to answer prior to a structured intervention. The content validity of this tool was established thorough content review by CNSs, Doctoral prepared nurse educators, and a nurse clinician with expertise in both acute and chronic pain management. The mean level of achievement on the cognitive knowledge instrument was 6.42 (SD= 1.70) items correct out of 12 items or 54%. The low scores validated the need for the retooling project and was the basis for measuring improvement of pain management practices over time. This tool was used again after the implementation of a structured intervention which included a workshop offering information on pain management techniques (Barnason et al., 1998).

There were three evaluation tools given to both the nurse respondent group and the patient respondent group that used multiple measures to determine the effectiveness of the structured intervention. The evaluations were given approximately 8 months after completing the educational retooling and the introduction of the institutional Clinical Nursing Standards for Pain Management. The three evaluation instruments included: (a) Patient's Pain Management Interview Guide (PPMIG); (b) Pain Management Experience Evaluation (PMEE) and (c) Nursing Cognitive Assessment of Pain Management

(NCAPM). The tools were derived from the current literature related to pain management and reflected the hospital's established standards related to nursing management of pain. Content validity was established by a panel of CNSs and Doctoral prepared nurse educators with expertise in pain management (Barnason et al., 1998).

The PPMIG which measured patient satisfaction was composed of five items which used a 4-point Likert scale. The items on the satisfaction scale included patient perception of attentiveness to pain needs, pain evaluation by nurses, expectations of pain relief, uses of other pain management techniques, and overall satisfaction with pain management. The overall mean score for the five items was 3.06 (SD=0.42). Analysis of the item of overall satisfaction with pain management showed that the mean for the total sample of patients was 3.36 (SD=0.60). A Pearson correlation was calculated to determine if a relationship between the patient's current level of pain and the patient's rating of the overall satisfaction with pain management. A low correlation value of 0.19 supported the conclusion that a relationship did not exist (Barnason et al., 1998).

The PMEE yielded several findings in regards to pain management for the 47 patients involved in the study. The nurses were consistent in assessing the patient's pain level every 4 hours and reassessing after an intervention was provided. Several items on the PMEE determined whether the nurse had adequate types and amounts of medications to manage pain for their patients. Sixty-six percent of the patients had one to two analgesics ordered with the others having one to nine analgesics ordered. Only 23% (n=11) of the patients had any type of potentiator or adjunctive medication administered in conjunction with the pain management. Eighty-four of the patients did not receive the maximum amount of analgesia ordered by the physician (Barnason et al., 1998).

Independent *t*-test was used for the NCAPM tool to determine if there was a significant difference in the mean scores of the nurses' level of knowledge over time. The nurses average pre-intervention level of knowledge on the 12 item NCAPM tool was 6.42 (SD=1.70) or 54%; after the intervention, the mean level of achievement was 8.34 (SD=1.26) or 70%. These scores were significantly different ($p < 0.001$). The post-intervention NCAPM tool included six additional questions related to calculating equianalgesic conversion (Barnason et al., 1998).

The findings from this study demonstrated improvement in the pain management practices of nurses following a structured intervention. The second outcome of the study was the implementation of clinical nursing standards for pain management. There were some limitations to the study. The first being low turnover of staff members of the time of the study and the second limitation was the lack of structured evaluation data regarding the pain management practices by nurses before the structured intervention (Barnason et al., 1998).

According to Nash, Yates, Edwards, Fentiman, Dewar, McDowell and Clark (1999), nursing staff play a key role in the assessment and management of patient's pain while in the clinical setting. However, studies have shown that nurses are still under-estimating patient's pain and under-medicating patients for their pain by administering analgesia at the lower end of the range of possible dosage that is prescribed by the practitioner. Also, Nash et al. (1999) suggest that according to several studies nurses aspire to reduce rather than completely relieve the patient's pain due to the fact of the lack of knowledge of the properties and actions of narcotic analgesia by the nurse. A study by Nash et al. (1999) was conducted to develop, implement and evaluate

educational interventions aimed at enhancing the attitudes and beliefs of patients and nurses regarding pain and pain management with narcotic analgesia.

The study consisted of a convenience sample of registered nurses in Brisbane, Australia. A total of 19 participants: 13 RNs and 6 Bachelor of Nursing students. Ninety five of the participants were female, 61% holding university level nursing qualifications, and 61% provided direct patient care. More than 68% had been practicing as a registered nurse for more than five years and 26% had been practicing for over 20 years. Participation was voluntary and anonymity was assured (Nash et al., 1999).

Nash et al. (1999), provided focus group interviews which lasted 60-75 minutes in duration and taped with the permission of the participants. A question guide was developed by the project team to facilitate the discussion about nurses' beliefs and attitudes to a pain management. The purpose of the research was explained to participants and a moderator began the discussion with open questions about pain and pain management and proceeded with probing questions to elicit more in depth responses about issues of interest.

The data were analyzed by transcribing the taped interviews. Recurring concepts were extracted from the data, from which themes were generated by grouping phenomena into conceptual clusters. Four major themes emerged from nurses' comments regarding pain and pain management:

1. The pivotal role of nurses in pain management
2. Nursing assessment and its influence on pain management decisions
3. Individual factors influencing nurses' pain management decisions
4. The influence of others on nurses' pain management decisions

The majority of the participants' comments supported the fact that pain management is an important priority in nursing practice. Although according to Nash et al. (1999), nonverbal pain data was documented only 9% of the time, symptomatic data such as vital signs were documented only 4% of the time and patient comments on the intensity of pain was documented only 4% of the time. A recent study showed less than 50% of the information available from the patient about pain was documented. When assessing pain, a recent survey done by Nash et al. (1994) found that the defining characteristics considered to be critical were: guarding the affected area, abnormal positioning, increased pulse rate/tachycardia, immobility, and such data as: verbal complaints of pain, altered facial expression, crying/moaning and requesting of analgesia were of minor defining characteristics.

Impact of others made a notable influence on the nurses' management decision. In some instances, nurses spoke about the pressure to conform to the prevailing "norms" of pain management of others. Also, Nash et al. (1999), notes that if patients do not conform to staff expectations they were perceived as being manipulative and demanding in relation to pain management. These patients may be labeled as not having real pain or being addictive to analgesia.

In conclusion, findings from Nash et al. (1999) research reinforce the significant role played by the nurse in the management of patient's pain. Although the nurses' are aware of this issue there still seems to be barriers such as attitudes, beliefs and behaviors that underpin the proper pain management decisions. The findings from this study support the need for further education to improve nurses' management of pain, in particular, the proper administration of narcotic analgesia. The findings from this study

can not be generalized due to the voluntary nature of the participants, which most likely due to the interest these nurses had in this particular area (Nash et al., 1999).

Summary

Literature reviews have revealed efforts to improve end of life care, although, a critical understanding of the barriers and resource needs of health care providers and institutions delivering this care continues to lack. Although nurses and physicians are aware of pain in the terminally ill literature still indicates that patient's pain continues to be inconsistently and ineffectively managed (Barnason et al., 1998). Pain will not be properly managed if we do not take the front line and make changes by providing proper education to nurses. Specific areas of continued improvement: (a) continue to develop the nursing knowledge base related to effective pain management; (b) improve the clinical decision making by the nursing staff and (c) continue to develop methods to involve the patient in the pain management process (Barnason et al., 1998).

Regardless of where nurses practice they will be involved in the provision of palliative care to terminally ill patients and their family members. The ability to provide skilled and sensitive end of life care requires that nurses receive adequate palliative care education. A review of literature indicates that palliative care nursing appears to improve nurses' knowledge and attitudes regarding pain management, and attitudes toward care of the dying (McClement et al., 2005). Knowledge of end of life care serves to prevent or reduce suffering, which is vital to ensuring a quality dying process for terminally ill patients.

Teaching nurses and other healthcare professionals regarding pain management presents several challenges such as: (a) preexisting attitudes, (b) holism that requires a

significant variety of skills when conducting a pain assessment and developing a plan of care, (c) response to medications is highly variable and (d) the need for good communication between disciplines. Changing attitudes regarding pain requires reflection and honest assessment of the nurse's own beliefs. Pain is recognized as the fifth vital sign and patients have the right to the relief of pain. It is the nurses' responsibility to ensure adequate pain relief through serving as advocates to ensure that such relief is available (Sherman et al., 2004).

It is imperative that further qualitative research be conducted to continue to improve pain management in end of life care. Educational programs need to be developed to educate healthcare providers about quality end of life care. This content on end of life care must be introduced in basic nursing education programs and continued as competencies for nurses. Research has indicated that additional research and educational offerings can be improved to ensure a good death (Beckstrand et al., 2006).

RES 697 Literature Review Table

Source	Problem, Purpose, and Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
1. Weiss, Emanuel, Fairclough & Emanuel (2001)	<p><u>Problem:</u> Unresolved pain has been cited as evidence that EOL care is of poor quality and terminally ill patients are experiencing substantial pain.</p> <p><u>Purpose:</u> To provide additional data on the experience of pain in EOL patients.</p>	Experiences of pain in EOL patients.	988 patients from Birmingham, Al., Brooklyn, NY., Mesa County, CO., St. Louis, MI., Tucson, AZ., and Worcester, MA., who have 6 months or less to live.	Correlational Study Design	Investigators composed a survey with 135 questions encompassing ten domains: physical and psychological symptoms, social support, communication with healthcare providers, spirituality, need for care assistance, plans for end of life care, economic burden of health care, sociodemographic characteristics, views of and	Half or 50% of the patients reported moderate or severe pain, only 30% of these patients wanted additional pain treatment. Most are willing to tolerate pain. Experience of pain is constant across major terminal diseases.

					plans for euthanasia, and stress induced by the interview.	
2. Schroepfer (2007)	<p>Problem: Health care providers not understanding what aspects of the dying process that motivate terminally ill individuals to consider hastening their death.</p> <p>Purpose: To expand on previous research on the topic of the factors motivating terminally ill elders' adoption of different mind frames toward dying and how to improve end of life care.</p>	Critical events in the dying process	96 terminally ill elders from palliative care hospital units, outpatient clinics, and home hospice	Face to face qualitative interviews	Audiotaped face to face interviews from investigator designed questionnaire. Bivariate analyses was conducted.	Four critical events were determined from the interviews: 1) Perceived insensitive and uncaring communication of a terminal diagnosis, 2) Experiencing unbearable physical pain, 3) Unacknowledged feelings regarding undergoing chemotherapy or radiation treatment, and 4) dying in a distressing environment.

3. Tolle, Tilden, Rosenfeld, & Hickman (2000)	<p>Problem: Problems and barriers to achieving desirable qualities of the dying experience across a full range of settings.</p> <p>Purpose: To broaden the field's understanding of family perceptions about barriers to optimal care of the dying.</p>	Guided by the conceptual framework of a good death	475 family informants who had been involved in caring for the patient in the last month of life.	Quantitative data was analyzed using the SPSS 8.0.	Telephone surveys using a 58 item questionnaire developed by the investigator to assess perceptions of three main aspects of end of life care: 1) clinicians respect for decedent's preference for location of death and for amount of life sustaining treatments in the last months of life, 2) satisfaction of support from clinicians in the week before death, 3) barriers to management of pain in the week before death.	Major findings include a high degree of clinical respect for decedent preference about aggressive treatments at end of life, and high levels of pain for significant number of decedents.
4. Bostrom, Sandh, Lundberg & Fridlund (2003)	<p>Problem: Cancer pain in end of life patients is still</p>	Comparison and correlation of pain and HRQOL of	72 patients from two hospital based palliative care teams in	Descriptive Comparative Design	Demographic information was obtained. The SF-36, a general	Pain has a negative impact on HRQOL, especially

	<p>less than optimal.</p> <p>Purpose: To describe and compare pain and Health Related Quality of Life (HRQOL) among cancer patients in palliative care with either mild average pain intensity described as less than or equal to 3 on a Visual Analogue Scale (VAS) or moderate to severe average pain intensity described as greater than on VAS as well as to describe the correlation between pain and HRQOL.</p>	<p>cancer patients receiving palliative care.</p>	<p>Sweden that met the following inclusion criteria: being oriented to person and place, having no major sensorial defects, able to speak Swedish, over 35 years of age with SF-36 Swedish norm data, being in need of analgesic treatment, a diagnosis of cancer and being at the final stage of life.</p>		<p>health questionnaire evaluating eight dimensions of HRQOL. The American Pain Society Quality of Care Committee Patient Outcome Questionnaire which included four questions concerning pain intensity at different times. Pain intensities, location and duration were measured using the VAS on Pain O-Meter (POM).</p>	<p>physical health and that pain increases towards the final stages of life. Patients with moderate to severe pain had statistically significant, fewer months of survival.</p>
5. Miller, Mor, Wu, Gozalo &	<p>Problem: Dying nursing home</p>	<p>Notoriously poor pain</p>	<p>2644 hospice and 7929</p>	<p>Retrospective, comparative</p>	<p>Systemic Assessment of</p>	<p>15% of hospice and 23%</p>

Lapane (2002)	residents who are suffering from inadequate pain management. Purpose: To compare analgesic management of daily pain for dying nursing home residents enrolled and not enrolled in Medicare hospice.	management in long term care settings.	nonhospice nursing home residents from over 800 nursing homes in Kansas, Maine, Mississippi, New York and South Dakota	cohort study	Geriatric Drug Use via Epidemiology database. This database links data from nursing home facility resident assessments collected using the Minimum Data Set (MDS), drug information, HCFA claims data, and organizational data on nursing home providers.	residents received no daily analgesics. 21% of hospice and 29% nonhospice received analgesics not recommended by AMDA. Overall, acetaminophen was use most frequently for non hospice residents and morphine derivatives were used for hospice patients. 51% of hospice residents and 33% non hospice residents received regular treatment for daily pain.
6. Horbury, Henderson & Bromley (2005)	Problem: Pain management is poor due to nurses' lack of knowledge of proper pain management	Knowledge of existing nursing practice and accompanying beliefs and attitudes in relation to pain	221 registered nurses working in the inpatient areas of Surgery, Medicine, Critical Care and Oncology in	Descriptive	A questionnaire derived from McCaffery and Ferrell (1994, 1997) that contained eight vignettes. Each	Nurses were reluctant to accept patients' self report of pain. Nurses were unwilling to administer

	<p>practices. Purpose: To learn of nurses' beliefs and intentions in the administration of analgesia in an acute tertiary facility.</p>	management.	a tertiary Australian teaching hospital.		vignette had several questions in which the nurse had to select a dosage of pain relief medication they would administer based upon a hypothetical situation.	opioids to patients who were not displaying overt signs of pain. Respiratory depression is a concern to nurses when they administer pain relief medication, especially older patients and with epidural use.
7.Greiner, Buhr, Phelps, & Ward (2003)	<p>Problem: Barriers and lack of resource needs of health care institutions providing end of life care.</p> <p>Purpose: To conduct a needs assessment to establish baseline information about palliative care in health</p>	Needs assessment of health care institutions throughout the state of Wisconsin to determine current status of palliative care and identify institutional barriers and opportunities for improvement.	208 Hospitals, 48 hospice agencies, 200 long term care facilities, 180 home health care agencies, and 245 other health care institutions of Wisconsin	Descriptive design	Four page survey instrument that was developed by members of the WCIPC included 1) 8 item demographic section, 2) 45 items in 4 sections to assess current services, staff education programs, barriers to the provision of palliative care and potential	The three most common end of life services present included: 1) programs to promote advance care planning, 2) contracts with hospice programs, 3) an interdisciplinary care program for dying patients. Pain management and advanced

	organizations in Wisconsin and to identify areas on which the Wisconsin Coalition to Improve Palliative Care (WCIPC) would focus future initiatives to improve palliative care in the state.				resources that would be useful to the institution to improve palliative care and 3) one open ended question to identify palliative care resources currently available in the institution or community	directives were the two most common topics of educational programs. Cited barriers included: lack of knowledge among family, lack of pain management and symptom control by healthcare provider, poor reimbursement.
8. MClement, Care, Dean & Cheang (2005)	<p>Problem: Nurses do not feel adequately prepared to provide the care necessary to manage complex symptoms of end of life patients.</p> <p>Purpose: To evaluate a pilot course in palliative nursing care designed to improve</p>	Nurses' knowledge and attitudes toward pain. Lack of palliative care education.	16 students enrolled in a palliative care course from the University of Manitoba in the Spring of 2000.	Descriptive Correlational design	Cancer Pain Role Model Test and Winget Questionnaire given on the first day of class, the last day of class and 3 months after completion of the class.	Effect on knowledge and attitude toward pain management improved significantly from Time 1 to Time 2 ($p < 0.0001$). No significant change from Time 2 to Time 3 ($p = 0.92$). This indicates that participants

	practicing nurses' knowledge regarding cancer pain management and attitudes toward care of the dying patient.					retained the knowledge they had acquired during the course. Attitudes toward care of the dying patient showed improvement from Time 1 to Time 2 ($p=0.0007$), and the improvement maintained at Time 3 ($p=0.064$).
9. White, Coyne, & Patel (2001)	Purpose: To determine end of life care core competencies and educational needs from practicing oncology nurses and to describe the characteristics of the respondents that are associated with selection of the	End of life core competencies and educational needs of oncology nurses	2334 nurses who are members of the Oncology Nursing Society in Georgia, Virginia, Washington and Wisconsin. A total of 760 responses were received for the study.	Surveys	Investigators designed a survey instrument that included information about nurses, the organization of practice, experience with EOL education in nursing school, EOL continuing education, and rank ordering of EOL	985 of the respondents indicated that EOL education is important. Five hundred fifty-three (74%) indicated they had received continuing education related to EOL care in the last 2 years. The three highest ranked

	<p>leading core competencies.</p> <p><u>Research Questions:</u></p> <p>1. How prepared in caring for patients and families with life limiting illness do nurse respondents believe they are?</p> <p>2. How much continuing education about end of life care have the respondents had in the years 1997 to 1999?</p> <p>3. What core competencies do nurses wish they had learned more about in nursing school?</p> <p>4. Are certain characteristics of the respondents associated with rank ordering of</p>				<p>competencies that they would have like to have learned more about in nursing school.</p>	<p>competencies of 12 included: how to talk to patient and families about dying, pain control techniques, and comfort care nursing interventions.</p>
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	core competencies needed in delivering end of life care?					
10. Barnason, Merboth, Pozehl & Tietien (1998)	<p>Problem: Inconsistent and ineffective management of patients with acute pain as a result of undermedication.</p> <p>Purpose: To evaluate the effectiveness of a structured intervention aimed at improving pain management for patients.</p>	The Serial V model for clinical outcomes improvement.	47 patients, a convenience sample, representing 12 nursing units in a Midwestern community hospital with a 316 bed capacity. A convenience sample of 125 nurses from the same hospital.	A Comparative Descriptive Design	1. Patient's Pain Management Interview Guide (PPMIG), 2. Pain Management Experience Evaluation (PMEE), and 3. Nursing Cognitive Assessment of Pain Management (NCAPM).	The findings from this pilot study demonstrated an improvement in the clinical pain management practices of nurses following the implementation of a structured intervention. Another outcome was the implementation of clinical nursing standards for pain management.
11. Nash, Yates, Edwards, Fentiman, Dewar, McDowell &	<p>Problem: Despite increased knowledge and technological</p>	Attitudes and beliefs of patients and nurses regarding pain and pain	3 focus groups. Group 1 consisted of six RN's employed in a major public	Case Study Design	Taped interviews lasting 60-75 minutes. Questions for the interviews were	Pain management is an important priority in nursing practice.

Clark (1999)	resources for pain management, hospital patients continue to experience severe pain. Nurses tend to underestimate patient's pain and under medicate them for their pain. Purpose: To describe nurses' perceptions about patient's pain and explore nurses' beliefs and attitudes regarding the administration of narcotic analgesia.	management with narcotic analgesia.	hospital. Group 2 seven RN's employed in a private hospital and Group 3 consisted of six Bachelor of Nursing (post-registration) students.		developed by the project team. Open questions about pain and pain management with probing questions.	Findings of this study reinforce the significant role played by nurses in the management of patient's pain. The findings from this study also indicate that there is still much need for the development of educational initiatives to further improve nurses' management of pain and administration of narcotic analgesia.
12. Young, Horton, & Davidhizar (2005)	Problem: Numerous, and unidentified barriers to pain control that are challenging and resistant to	The Fishbein and Ajzen Expectancy-Value Model	A convenience sample of 52 nurses on one unit in a Midwest community hospital in the	Questionnaire Design	An open ended instrument that asked the following questions: 1) What are your beliefs about	Attitude scores ranged from -6 to 28 with an overall mean score of 8.3 indicating a positive attitude

	<p>effective efforts of change.</p> <p><u>Purpose:</u> To examine the attitudes and beliefs of nurses towards pain assessment tools and the relationship of these attitudes to education and experience.</p> <p><u>Research Questions:</u></p> <ol style="list-style-type: none"> 1. What is the attitude of nurses towards pain assessment tools? 2. Is there a relationship between attitude towards pain assessment and education and experience? 		USA.		<p>assessment of pain? 2) What are your beliefs about the use of pain assessment tool? 3) What are your beliefs about the use of pain assessment tools in improving patient's outcomes? The participants were also asked to rate belief strengths in relation to these questions as mildly believe, strongly believe, and from very negative to very positive.</p>	towards pain assessment tools
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Chapter III

Methods and Procedures

Introduction

Nurses encounter death in every work setting. As many as 90% of patients with advanced illnesses reported experiencing moderate to severe pain at the end of their lives. Literature indicates that effective pain management for end of life patients is a major challenge for nurses. The challenge lies in the fact that nurses have difficulty in integrating current pain management research into improved palliative outcomes in the clinical setting (Barnason et al., 1998). Changing educational curricula and continuing professional education is the first step toward changing practice. To improve care of the dying, nurses have begun to address these issues in nursing schools and educational organizations such as the American Association of Colleges of Nursing and the National Council of State Boards of Nursing. Although steps have been made to improve curricula in regards to end of life care, practicing nurses have varying exposure to continuing education for effective EOL care (White et al., 2001). This chapter contains a description of the methods and procedures for this study.

Purpose

The purpose of this study is to examine the relationship among the nurses' educational level, the amount of continuing education on palliative care and how prepared they feel in caring for end of life patients. This is an approximate replication of a study by McClement et al. (2005).

Research Questions

This study is based upon the following research questions:

1. How prepared do believe they are in caring for end of life patients who suffer from moderated to severe pain and their families?
2. How much continuing education or in-servicing have nurses had in the past 5 years on effective pain management of end of life patients suffering from moderate to severe pain?
3. What is the effect of a palliative care education intervention on patient and family satisfaction?

Population, Sample and Setting

This study will take place on units that provide care to end of life patients in all acute care hospital settings throughout the state of Indiana. According to data provided by the Indiana State Department of Health there are approximately 163 acute care hospitals in Indiana. The population will consist of all licensed nurses, RN and LPN's, who meet criteria and were willing to participate in the study. The anticipated pool of potential participants is approximately 2500 licensed nurses. The criteria for participation include holding an active Indiana license and full time employment in the hospital as a direct caregiver for at least 1 year.

Protection of Human Subjects

This research proposal will be submitted to the Institutional Review Boards (IRB) of Ball State University and the participating hospitals for review to ensure the researcher is not violating the rights of human subjects. The rights of the participants will be protected at all times. Participants of the proposed study will voluntarily complete a pre study demographic questionnaire sent to them via United States Postal Service. The completed questionnaire will be returned in the preaddressed postage paid envelope supplied to the participant. Each completed questionnaire will be assigned an identification number and serve as implied consent to take part in this study. This method of data collection assures the participant's confidentiality and anonymity. No risks to the participants are foreseen in this study. Permission to use the questionnaires and replication of a 12 week theoretical course in palliative care nursing will be obtained from the original authors of the instruments and educational intervention.

Procedures

After receiving approval from Ball State University and the hospital review boards, an introduction of the research project will be presented to the President, Vice President, Director's of Nursing, staff development personnel and managers of the units of each hospital via email. Research packets will be distributed to those nurses who have completed the pre study questionnaire during a designated staff meeting for each unit. The packet will consist of a cover letter with an explanation of the study,

how to access the instruments via the internet and a time line for completion of instruments and the educational course.

The participants will complete the Pain Management Experience Evaluation tool (PMEE) and the Nursing Cognitive Assessment of Pain Management (NCAPM) tool before beginning the 13 week palliative educational course. The tools will be taken again on the last day of the educational course and again 3 months after completing the course. A Patient's Pain Management Interview Guide (PPMIG) will be given to end of life patients experiencing moderate to severe pain before and after the implementation of the palliative care educational course.

The educational course will occur over a 12 week (36 hours) time frame. The theoretical course will consist of a 3 hour didactic lecture weekly via satellite to all nursing units. This determines that all participants will receive the same information. The lectures will cover topics of symptom control, psychosocial care of the patient and family, theoretical models of grief and bereavement, legal/ethical issues, and the role of nursing research in palliative care. The course will be taught by a multidisciplinary team approach which includes: palliative care nurses, physicians, social workers, chaplains and clinical ethicists (McClement et al., 2005).

Instrumentation

The Pain Management Experience Evaluation Tool (PMEE) will be used to measure process and pain management outcomes related to the established institutional standards for nursing management of pain. The questions from this tool will determine: (a) whether the nurse had other pain management items; (b) whether the patient had achieved an acceptable level of pain; (c) what intervention had been

used when the patient's pain level went above the acceptable level; (d) whether the patient had been evaluated for the effectiveness of the intervention; (e) and whether the patient's pain level had been assessed a minimum of every 4 hours; (f) whether the patient had received the maximum amount of analgesic available; (g) number of available analgesics to the patient and (h) use of adjunctive or potentiator medications (Barnason et al., 1998).

The Nursing Cognitive Assessment of Pain Management Tool (NCAPM) is a self assessment tool containing items that measure the nurses' cognitive knowledge of pain management. This tool will consist of 6 true/false questions and 6 multiple choice questions on pain management. There will be 6 case scenarios related to the nurses' ability to apply equi-analgesic calculations to the conversion of drug dosages. This tool will determine the discrepancy of the nurses' knowledge and practice of pain management compared to current pain management principles and standards (Barnason et al., 1998).

The third tool, Patient's Pain Management Interview Guide (PPMIG), is an 11-item tool that will be used to measure the patient's perception of pain assessment and pain management effectiveness. Six of the eleven items will determine the patients knowledge of the pain rating scale, acceptable level of pain, current rating of pain, patient's highest rating of pain in the last 24 hours. The remaining five items will determine the patient's level of satisfaction by looking at: (a) attentiveness to pain needs by the nurse; (b) pain evaluation by the nurse; (c) expectations of pain relief and (d) use of other pain management techniques (Barnason et al., 1998).

Reliability and Validity of Instrumentation

Instrument reliability describes the consistency of measurements. Reliability of the instruments has been determined in previous studies. Content validity would be established through content review by CNS's, Doctoral prepared nurse educators, and a nurse clinician with expertise in both acute and chronic pain management. The information obtained from the initial PMEE and NCAPM tools would validate the need for a palliative care educational course for improvement on effective pain management for EOL patients. Use of the same tools along with the PPMIG tool on the last day of the class and again 3 months later would evaluate the effectiveness of the educational program and show improvement of pain management practices of the participants of the study. Utilizing several hospitals will assist in determining the degree of reliability and validity for these instruments and this study.

Data Analysis

Demographic data would be analyzed using descriptive statistics. A repeated measure analysis of variance design (ANOVA) would be used to test whether the three points of measurement (prior to, at the end of, and 3 months following the course) were significantly different controlling for Type I error rate at the specified level of 0.05. In addition to reporting the mean improvement score of nurses' knowledge of effective pain control, it is important to report what percentage of nurses' knowledge improved (Barnason et al., 1998).

This data may best be illustrated by plotting the varying degrees of improvement and patient satisfaction. This index would allow for better comparisons of the effectiveness of the educational course on nurses' knowledge and patient

satisfaction of pain control. The characteristics of nurses who experience varying degrees of improvement along with increased patient satisfaction should be described and outliers carefully examined. Outcomes should be measured from a variety of perspectives to obtain a broader perspective of the impact of given clinical interventions.

Summary

This chapter describes the methodology and procedures used to examine the relationship among the nurses' educational level, the amount of continuing education on palliative care and how prepared they feel in caring for end of life patients. A total of approximately 2,500 licensed nurses will be approached for the study from hospitals in Indiana. An outcomes evaluation study will be used to demonstrate the effectiveness of a structured palliative care educational course to improve nurses' knowledge and patient satisfaction of pain management. The results of this study will provide information for quality improvement in future nursing practices related to providing effective palliative end of life pain management.

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