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## Differences Between the Nursing and Family Member Role in Acute Pain Assessment in Senior Nursing Students

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**DIFFERENCES BETWEEN THE NURSING AND  
FAMILY MEMBER ROLE IN ACUTE PAIN  
ASSESSMENT IN SENIOR NURSING STUDENTS**

**By**

**Debra L. Fitzpatrick**

**A THESIS**

**Submitted to  
Grand Valley State University  
In partial fulfillment of the requirements  
For the degree of**

**MASTER OF SCIENCE OF NURSING**

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## ABSTRACT

### DIFFERENCES BETWEEN THE NURSING ROLE AND FAMILY MEMBER ROLE IN ACUTE PAIN ASSESSMENT IN SENIOR NURSING STUDENTS

By

Deb Fitzpatrick

The purpose of this study was to explore how nursing students' decisions regarding pain assessment and analgesic use may be influenced by the role the student assumes in hypothetical situations, specifically the role of nurse or family member. It was hypothesized that there would be no statistically significant difference in pain assessment, in choice of analgesic dose, and in concerns about analgesics.

A descriptive correlational design was used. A sample of 83 senior nursing students within two weeks of graduation was used. The instrument used was one of two surveys created by McCaffery and Ferrell (1997). All respondents were asked to read a short patient scenario and then to respond to three questions regarding pain assessment, analgesic administration, and analgesic concerns.

A statistically significant difference was demonstrated regarding narcotic tolerance. Students who responded as "nurses" were more concerned with narcotic tolerance than students responding as "family members".

## Dedication

This thesis is dedicated to my husband Mike and my children Stephanie and Michael.  
Thank you for all your love, patience, tolerance, and support! You are the best!

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## Table of Contents

<b>List of Tables</b> .....	vi
<b>List of Appendices</b> .....	vii
<b>CHAPTER</b>	
<b>1. INTRODUCTION</b> .....	1
Introduction.....	1
Purpose.....	4
<b>2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW</b> ...	5
Theoretical Framework.....	5
Literature Review.....	8
Hypothesis.....	29
Definition of Terms.....	30
<b>3. METHODOLOGY</b> .....	32
Research Design.....	32
Sample and Setting.....	33
Instrument.....	34
Data Collection Procedures.....	36
Approval.....	38
<b>4. DATA ANALYSIS</b> .....	39
Characteristics of Subjects.....	39
Hypothesis One and Analysis of Hypothesis.....	41
Hypothesis Two and Analysis of Hypothesis.....	42
Hypothesis Three and Analysis of Hypothesis.....	43

<b>5. DISCUSSION AND IMPLICATIONS.....</b>	<b>49</b>
Discussion.....	49
Application to Nursing Education.....	57
Application to Nursing Administration.....	58
Application to Nursing Practice.....	59
Limitations.....	60
Recommendations for Future Research.....	61
Summary.....	61
<b>References.....</b>	<b>72</b>

## List of Tables

Table	Page
1. Demographic Characteristics of Students Completing Pain Surveys	40
2. Comparison of Results Regarding Narcotic Administration Between the Role of Nurse and Family Member.....	43
3. Comparison of Concerns Regarding Narcotic Administration Between the Nursing Role and Role of Family Member.....	45
4. Correct Responses by Nursing Students as Defined by McCaffery & Ferrell (1997) .....	46
5. Incorrect Responses By Nursing Students as Defined by McCaffery & Ferrell (1997).....	47



## List of Appendices

Appendix		Page
A.	Theoretical Framework.....	62
B.	Survey and Demographic Information.....	63
C.	Copy of Verbal Instructions Given.....	66
C.	Permission From McCaffery and Ferrell.....	67
D.	Permission From Human Subjects Committee at GVSU...	70

## CHAPTER ONE

### INTRODUCTION

McCaffery (1972) defined the concept of pain as "...whatever the experiencing person says it is and existing whenever he says it does" (p. 8). Acute pain is described as relatively brief pain (usually less than six months in duration) that subsides as healing takes place (McCaffery & Pasero, 1999). Millions of patients worldwide undergo surgery each year and benefit from knowledge, skills, and sophisticated technology that characterize most aspects of modern surgical treatment. Although effective pain control is essential for optimal care of surgical patients, and despite advances in knowledge of pathophysiology, pharmacology of analgesics, and the development of more effective techniques for postoperative pain control, many patients continue to experience considerable discomfort.

Acute pain and its treatment are important to nursing because the pain experience can be harmful to patients. In addition to the emotional stress of surgical trauma and pain, the substances released from injured tissue evoke stress hormones in the patient. Such responses promote breakdown of body tissue; increase metabolic rate, blood clotting, and water retention; impair immune function; and trigger a "fight or flight" reaction with autonomic features and negative emotions. Pain itself may lead to shallow breathing and cough suppression in an attempt to splint the injured site, followed by retained pulmonary secretions and pneumonia (Acute Pain Management Guideline, 1992).

Unrelieved pain may also delay the return of normal gastric and bowel function in the postoperative patient. Rather than viewing pain as a benign and inevitable symptom of various health care events, nurses should view it as a preventable phenomenon that potentially menaces already compromised patients. In addition to its physical and psychological toll, inadequately managed pain may lead to delayed recovery and lengthened hospital stays with resulting higher healthcare and social costs. For these reasons, even one uncomfortable patient is one too many, and confirms the need for change.

Inadequacy of treatment of pain is due to a variety of factors including poor training of healthcare professionals in pain assessment and management, myths and misconceptions about pain and the use of opioids, and problems with the healthcare system. Pain assessment is a complicated process which can be hampered for a number of reasons including poor communication skills on the part of the healthcare professional, the attitudes and beliefs held by healthcare professionals, by patients, and their families, and finally as a result of the patient's reluctance or inability to express pain. Problems in accurately assessing pain are related to various factors including (a) the subjective nature of pain, (b) lack of adequate measurement tools for accurate assessment and measurement, and (c) the various attitudes of nurses and other health professionals in measuring the presence and severity of pain (McGuire, 1984).

It is the responsibility of the nurse to assess the patient's level of pain, to evaluate information obtained from the assessment, and to make decisions regarding appropriate nursing interventions (Cohen, 1980). As a basis for selecting the appropriate interventions, nurses must also make an objective decision not only as to whether or not

the patient is in pain but also the degree of pain and distress. It is therefore important to isolate the factors influencing assessments and subsequent decisions concerning pain management. Nurses play a key role in making decisions regarding pain and its management. Often analgesics prescribed by physicians provide a wide range of choices in dose ranges and frequency of administration. In these situations, the nurse is responsible for adjusting the dose and frequency to ensure that the patient has adequate pain relief.

There is a need to help nurses become more aware of factors that may be affecting their assessment of pain and their subsequent decisions about interventions. Nurses need to be made aware of possible biases related to pain assessment that may be affecting the effectiveness of pain management. "Health care members may benefit from awareness of the impact their professional role may have on the assessment and relief of pain" (McCaffery & Ferrell, 1997, p. 69). Health care providers have a dual frame of reference, that of the nurse with the responsibility to render care without bias and that of a family member with personal values and preferences (McCaffery & Ferrell, 1997).

Nursing students are also members of the health care team who provide care for patients experiencing pain. Nursing students come into this role with their own personal values and preferences, and it is important to evaluate whether these preferences and values may also be affecting their professional pain assessment and treatment decisions. Senior nursing students were chosen as the target population for this study because they will soon become the nurses responsible for assessing pain and administering medications based upon this assessment.

### Purpose of Study

The purpose of this descriptive study was to explore how student nurses' decisions about pain assessment and analgesic use may be influenced by the role the student assumes in hypothetical situations, specifically the role of nurse or as a family member (McCaffery & Ferrell, 1997). Are decisions regarding the quality of pain management different when the student makes decisions as a family member as opposed to when assuming the role of the nurse? This study used a vignette developed for and published in a study done by McCaffery and Ferrell in 1997.

## CHAPTER TWO

### THEORETICAL FRAMEWORK AND LITERATURE REVIEW

#### Theoretical Framework

King's interacting systems framework provides an appropriate and applicable approach to the phenomenon of pain and its management. King (1981) stated, "human beings are the focus for nursing" (p. 13). Within the context of the metaparadigm concept of person, King included three dynamic interacting open systems--personal systems (individuals), interpersonal systems (groups), and social systems (society)(as cited in Fawcett, 1989) (See Appendix A).

King (1981) characterized individuals, or personal systems as social beings that are rational and sentient. Assumptions about human beings include their ability to perceive, to think, to feel, to choose between alternative choices of actions, to set goals, to select means to achieve goals, and to make decisions. King (1981) conceptualized the individual as a personal system who processes selective inputs from the environment through the senses.

In discussing the phenomenon of pain and its management, the most important concept used to describe the personal system is perception. King (1981) defines perception as "a process of organizing, interpreting, and transforming information from sense data and memory. It is a process of human transaction with the environment. It

gives meaning to one's experience, represents one's image of reality, and influences one's behavior" (p. 24). Age, gender, culture, fear, previous experience with pain and many other factors may affect the patient's perception of pain. The nurse's perception of pain can also be affected by culture, experience with pain, gender, as well as the nurse's own feelings regarding the importance of pain relief. Using King's conceptual framework for pain management, it is imperative to consider the perceptions of both client and nurse in working toward effective pain management.

The interpersonal system as defined by King (1981) is composed of two or three individuals interacting within a given situation. The important concepts for pain management within the system are communication, interaction, and transaction. Communication is an interchange of thoughts and opinions among individuals that is used to establish and maintain relationships among human beings. Verbal communication is effective when it satisfies basic desires for recognition, participation, and self-realization between persons (King, 1981). Gestures, facial expressions, actions, and postures of listening and feeling are all forms of nonverbal communication. To be effective, communication must take place in an atmosphere of mutual respect and desire for understanding. Communication is influenced by the interrelationships of a person's goals, needs, expectation, and is a means of information exchange.

King (1981) defined interactions as the "process of perception and communication between person and environment and between person and person, represented by verbal and nonverbal behaviors that are goal directed" (p. 145). Each individual in the situation brings personal knowledge, needs, goals, expectations, perceptions, and past experiences that influence the interaction. In the interactive process, two individuals mutually identify

goals and the means to achieve them. When they agree to the means to implement the goals, they move toward transactions. "Transactions are defined as goal attainment" (King, 1981, p. 62).

King (1981) makes many assumptions about the nurse client interactions. King believes that the goals, needs, values, and perceptions of nurse and client influence the interaction process. Individuals have the right to knowledge about themselves as well as a right to participate in the decisions that influence their life, their health, and community services. King (1981) believes that health professionals have a responsibility to share information that can help individuals make informed decisions about their health care and that individuals have the right to accept or reject health care. The goals of health professionals and of recipients may be incongruent.

The third piece of King's interactive systems framework (1981) is the social system. A social system is defined as "an organized boundary system of social rules, behavior, and practices developed to maintain values and the mechanisms to regulate the practices and rules" (King, 1981, p. 115). The concept most important for pain and its management is decision making. Decision making is a dynamic and systemic process by which goal directed choice of perceived alternatives is made and acted upon by individuals to answer a question or to attain a goal. In King's theory of goal attainment (1981), decision making is a shared collaborative process in which the patient and the nurse give information to each other. The ultimate goal would be effective pain management and patient comfort.

The ineffective treatment of pain is detrimental to patient's health and well being. King's theory (1981) provides an effective conceptual framework with which to approach



pain assessment, goal setting, planning, intervention, and evaluation of effective pain management.

### Literature Review

This literature review discussed the Agency for Health Care Policy and Research Guidelines for Acute Pain Management (AHCPR), nurses' perceptions and knowledge regarding pain assessment, nurses' personal pain experience on pain assessment and impact, nurses' attitudes toward pain management of pain, pain management in nursing curricula, research results from nursing faculty and curriculum, and other studies done using McCaffery and Ferrell's vignettes (1991a, 1991b, 1992a, 1992b, 1996, 1997).

### Agency for Health Care Policy and Research Guidelines

According to the Acute Pain Management Guideline (1992), clinical surveys continue to indicate that routine orders for intramuscular injections of opioid "as needed" has failed to relieve pain in about half of postoperative patients. This guideline is designed to assist clinicians, patients, and patients' families to understand the assessment and treatment of postoperative and other acute pain. The major goals of the guideline include reducing the incidence and severity of patients' acute postoperative or post traumatic pain; educating patients about the need to communicate unrelieved pain so that they receive prompt evaluation and effective treatment; enhancing patient comfort and satisfaction; and contributing to fewer postoperative complications and, in some cases, shorter stays after surgical procedures.

The Acute Pain Management Guideline (1992) emphasizes a collaborative, interdisciplinary approach to pain control, including all members of the health care team, as well as input from the patient and the patient's family when appropriate. The guideline

suggests an individualized proactive plan developed preoperatively by patients and practitioners since pain is easier to prevent than it is to bring under control, once it has begun (Acute Pain Management Guidelines, 1992). The pain control plan should include assessment and frequent reassessment of the patient's pain. A comprehensive approach to postoperative pain assessment requires frequent evaluation of patient perception, physiological responses, behavioral responses, and cognitive attempts by the patient to manage pain (Acute Pain Management Guidelines, 1992). Physiological responses such as heart rate, blood pressure, and respiratory rate provide critical information in the immediate postoperative period. Once the patient has recovered from anesthesia, the mainstay of pain assessment should be the patient's self-report to assess pain perceptions (including description, location, intensity/severity, and aggravating and relieving factors) and cognitive responses (Acute Pain Management Guidelines, 1992). Patient self-report is the single most reliable indicator of the existence and intensity of acute pain (National Institutes of Health, 1987). Neither behavior nor vital signs can be substituted for self-report of pain, because the patient may be experiencing excruciating pain even while smiling and using laughter as a coping mechanism (Fritz, 1988).

Three common self-reported measurement tools for assessment of pain intensity are a numerical rating scale, a visual analog scale, and an adjective rating scale (Acute Pain Management Guidelines, 1992). A numerical rating scale uses a 0 to 10 system with 0 representing no pain, and 10 representing the worst possible pain. A visual analog scale consists of a 10-centimeter line with one end labeled as "no pain" and the other end "pain as bad as it could possibly be." An adjective rating scale is an example of a simple descriptive pain intensity scale in which a line is drawn and divided segmentally into

sections labeled "no pain," "mild pain," "moderate pain," "severe pain," "very severe pain," and "worst possible pain" (Acute Pain Management Guidelines, 1992). For each of these scales, the clinician should request the patient's self-report, not only with the patient at rest, but also during routine activity such as coughing, deep breathing, or turning in bed (Acute Pain Management Guidelines, 1992). Complaints of pain must be acknowledged. Patients should be observed for behaviors that often indicate pain, such as splinting the operative site, distorted posture, impaired mobility, insomnia, anxiety, attention seeking, and depression. If pain behavior is observed or if the patient expresses feeling of inadequate control, the health care team should reevaluate and revise the pain management plan as needed (Acute Pain Management Guidelines, 1992).

The Acute Pain Management Guidelines (1992) stresses the importance of documenting the patient's preferred tool for pain assessment and the goal for postoperative pain control as expressed by a score on a pain scale in the patient's chart as part of the pain history. Pain should be assessed and documented preoperatively; at regular intervals postoperatively, as determined by the operation and severity of the pain; with each new report of pain; and at a suitable interval after each analgesic intervention such as 30 minutes after parenteral drug therapy and one hour after oral analgesics.

According to the Acute Pain Management Guidelines (1992), there can also be apparent discrepancies between patient behavior and a patient's self-report of pain. A patient may describe pain as an 8 out of 10 on a pain scale, while smiling and walking freely or as a 2 out of 10 while tachycardic, splinting, and sweating. Excellent coping skills may account for the discrepancies between behavior and a patient's self-report of pain. "Patients may deny severe pain for a variety of reasons, including fear of inadequate

pain control or a perception that stoicism is expected or rewarded" (p. 13). It is also possible that patients managed with as-needed analgesia may perceive that medication will only be given if the pain score is very high. Therefore when discussing pain assessment and control with patients, the health care team should emphasize the importance of factual report, avoiding both stoicism and exaggeration.

#### Nurses' Perceptions and Knowledge Regarding Pain Assessment

One of the three questions studied by Calvillo and Flaskerud (1993) was to compare the patient's evaluation of pain being experienced as compared to the nurse's evaluation of the pain the patient was experiencing. The sample consisted of sixty patients and sixty nurses. Data were collected at two major teaching hospitals in southern California. The McGill Pain Questionnaire, amount of analgesics, and three physiologic measures were used to measure patient pain. The Present Pain Intensity scale was used to measure the different nurses' assessment of the patient's pain. A dependent t-test was used to compare nurse's and patient's evaluation of pain ( $t=6.63$ ;  $d.f. = 1.57$ ;  $P=0.0001$ ). The mean score for nurses was 0.75 and the mean score for patients was 1.33 with patients assessing pain as more severe than nurses.

In a nonexperimental, comparative study done by Stephenson (1994), the nurses' and patients' perceptions of post surgical pain were compared. The sample included twenty-five post surgical inpatients and eleven nurses in a 117-bed hospital in the southeastern United States. The age range for the patients was from 27 years to 83 years. All eleven nurses were women, three were licensed practical nurses, seven were associate degree nurses, and one was a diploma nurse. Each of the nurses had been in practice at least one full year, with four of the nurses in practice 16 years or longer. Two tools measuring pain

perceptions were administered to the post surgical patients and their nurses when a patient complained of pain and again when pain had been relieved by medication (Stephenson, 1994). In this study, each patient participant had the same nurse to assess his or her pain relief for a particular episode. The nurse assessing the patient's pain and administering the pain medication was asked to respond to the Visual Analog Scale (VAS) and the McGill Pain Questionnaire, Present Pain Intensity (MPQ-PPI) when the patient complained of pain during the first twenty-four hours after surgery (Time 1). The patient also responded to both tools consecutively. The medication, dosage given, and dosage range were recorded. The patient and the nurse again responded to the VAS and MPQ-PPI forty-five minutes after the oral and intramuscular medications, and two minutes before the end of the interval time for intravenous patient controlled analgesic time (Time 2). Time 2 indicated a time when pain relief occurred, but before a subsequent medication dose.

Nurses' and patients' scores on the pain measurement scale were analyzed in two ways (Stephenson, 1994). The patients' mean scores were compared to the nurses' mean scores to determine if patient's reported higher or lower pain than the nurses ascribed to the patients. A paired Student's t-test was used for this analysis. On the average, at Time 1 and Time 2, nurses gave patients lower scores on the MPQ-PPI than the patients scored themselves. The mean differences between the patients' MPQ-PPI scores and scores given by the nurse at the time of pain complaint was .44, but it was not statistically significant ( $p=.06$ ). The mean differences between patient's pain scores and scores given by nurses after medication administration was .65, which was significant ( $p=.015$ ). Thus

this study showed that nurses perceive that patients receive better pain relief from medication treatment than patients' themselves report.

A study done by Camp (1988) was conducted to gauge the agreement between the assessment of pain as recorded by nurses and the perception of pain as described by cancer patients. The purpose of the study was to discover what percentage of pain assessment is recorded by the registered nurse for each cancer patient's description of pain, and how much agreement there is between the information recorded by the registered nurse and the patient's description or perception of pain (Camp, 1988). This study was conducted on five oncology units in a large teaching hospital in a metropolitan area in the southeastern United States. The convenience sample included nurse-patient dyads that were formed when a nurse identified a patient reporting pain. The nurse-patient dyads consisted of the first thirty cancer patients reporting pain and the registered nurses that were providing care to these patients. During the study, when a patient reported pain, the nurse would complete a pain assessment and administer pain relief. The nurses were informed that after a patient reported pain; the investigator using the interview tool would ask the patient to describe the pain. The nurses were not told that their notes would be audited for pain assessment information, since all registered nurses in the participating hospital had attended required orientation classes on general documentation, including pain assessment. The pain assessment documentation was to include information regarding location, quality, and pattern, intensity, verbal and nonverbal expression, and symptoms associated with pain, aggravating factors, and relief of pain. The institutional policy and procedure for pain assessment and documentation was identical to the information obtained by the nurse researcher.

The range of recorded pain assessment information was from zero to seventy-two percent, with the median being 18.5% (Camp, 1988). As for the pain assessment documentation being in agreement with patient statements, the range was between zero and forty-two percent, with the median being fourteen percent. According to the data obtained by Camp, the majority of cancer patient's responded to seven out of the eight categories in the interview tool. However, the majority of nurses recorded in only two of the eight categories. Sixty-three percent of the nurses recorded the location of the pain; however, only 43% of the nurses' recorded documentation agreed with the patients' descriptions of the location of pain. Of the thirty patients making verbal statements about pain, only 10 nurses were in general agreement with the patient's statement about the pain.

The findings of this study reveal a lack of pain assessment documentation (Camp, 1988). Camp feels that nurses have not found documentation of pain assessment sufficiently important to complete the documentation in the nursing notes. The chart survey revealed that the majority of pain assessments included the location of the pain, a brief patient's complaint regarding pain, and the nursing action to relieve the pain. Camp believes that nurses are obligated to provide quality care to patients experiencing pain, to not only ensure continuity of care, but also for legal considerations. Information obtained during the assessment must be communicated to other health professionals so that changes or adjustments can be made in pain management protocols.

A study done by Paice, Mahon, & Faut-Callahan (1991) followed a correlational ex post facto design that utilized a structured interview to collect data from patients regarding the pain experience and pain treatment. The nurse and physician caring for the

patient also completed brief assessments regarding their perceptions of the patient's pain intensity. The total sample consisted of one hundred patient subjects who were randomly selected from a general surgical population in a large university hospital over a 3-month period. Thirty-four of the one hundred subjects were diagnosed with cancer and it was these thirty-four subjects that were considered in this study (Paice, Mahon, & Faut-Callahan, 1991).

When the thirty-four subjects were asked if they were in pain at the time of the interview, twenty-four subjects (70.6%) responded yes. When the subjects were asked to complete the rating scale for pain intensity however, 26 subjects chose a number other than zero, indicating that 76.5% were in pain.

When dyads consisting of physician/ patient, nurse/patient, and nurse/physician were examined regarding pain intensity scores, there was no correlation between the nurse and patient, physician and patient, or nurse and physician assessments of the patient's pain intensity. The nurse/patient assessment, however, did approach significance ( $p = .059$ ). When questioned if a nurse had asked them about their pain, 21 patient (61.8%) responded "yes". However, 13 patients (38.2%) stated that a nurse had never asked them about their pain during hospitalization. Pain was identified on the nursing problem list in 17.6% of the patient charts. Of the nurses, 73.5% documented pain in the initial postoperative note, and almost all patients had pain mentioned in at least one nursing progress note. This implies that decisions made regarding opiate administration are based on assumptions, and according to this study's results, these assumptions are largely inaccurate.



Results were obtained from data collected on the Brief Pain Questionnaire (BPQ) in which subjects were asked to indicate on a 5-point scale, the degree to which pain interfered with their mood, ability to walk, sleep, and relationships with others (Paice, Mahon, & Faut-Callahan, 1991). Pain interfered with most patients' moods (73.5%), sleep (64.7%), ability to walk (55.9%), and their relationships with others (47.1%). This study supports the fact that patients continue to have poorly managed pain and that pain is affecting the quality of patients' lives.

A study done by Ferrell, Eberts, McCaffery, & Grant (1991) was done to describe nurses' clinical decision making in relation to assessment and relief of pain. This study also examined the conflicts and barriers that are encountered in managing patient's pain.

Surveys were administered to a convenience sample of registered nurses at lectures on pain management presented by Margo McCaffery (Ferrell, Eberts, McCaffery, & Grant, 1991). Approximately 200 surveys consisting of 14 questions were distributed. Fifty-three nurses completed and returned the surveys. "It is important to recognize that this sample represents a skewed population of nurses who had interest in pain management, had attended a pain workshop, and voluntarily completed and returned the survey (p. 293). When questioned regarding assessment and documentation of pain, the most frequently used method of assessing pain intensity and the single most influential factor in determining pain intensity was to ask the patient. Although this approach was found to be used by 91% of the nurses, unfortunately only 45% of the nurses actually regarded it as the most influential factor. To determine the patient's pain intensity, over half of the nurses were influenced by factors other than the patient's self report of pain, such as observing the patient's activity or mobility (87%), and observing patient behavior (81%).

Ethical or professional concerns identified by nurses in this study were perception of inadequate pain relief (76%) and either under medicating (69%) or overmedicating (49%) the patient (Ferrell, Eberts, McCaffery, & Grant, 1991). Other concerns were related to fear of causing respiratory depression (33%), doubting the pain was real (22%), and fear of addiction (22%).

A cross-sectional descriptive study was done by Kubecka, Simon, & Boettcher (1996) to identify the pain management knowledge of hospital based nurses in a rural Appalachian setting, as well as the relationship between the type of nursing education and years of clinical experience. The sample consisted of 123 registered nurses practicing at three hospitals located in a rural area of the mid-Atlantic region of the United States. The number of hospital beds ranged from 53 to 159. The results obtained from this study showed that the nurses' greatest areas of pain management knowledge were to relieve pain before it becomes too great, use of a pain-rating scale is appropriate, and that pain intensity should be rated by the patient. One of the areas of least knowledge was that vital signs should not be relied upon to indicate pain. Kubecka, Simon, & Boettcher (1996) found that there was no significant difference either by educational level ( $p>0.123$ ) or length of experience in a clinical setting and total pain management knowledge ( $p>0.134$ ).

#### Nurses' Personal Pain Experience and It's Impact on Pain Assessment

In a survey done by Holm, Cohen, Dudas, Medema, & Allen (1989), questionnaires were distributed to 205 nurses in three midwestern hospitals in two cities. One hundred thirty-four nurses actually participated in the study. When considering variables such as number of remedies used to relieve personal pain, time of remedies used to relieve

personal pain, time of unrelieved pain. time as a registered nurse, religious preference. degree of pain relief. experience with drug addiction, intensity of personal pain experiences, and total number of painful events were considered, the intensity of nurses' personal pain experience was the only variable that significantly predicted perceptions of patient physical suffering ( $F=4.3214$ ,  $p<.05$ ).

Also, the sole significant finding regarding sociodemographic data was differences in perceptions of physical suffering when subjects were grouped according to religious preferences ( $F=4.71$ ,  $p<. 01$ ) (Holm, Cohen, Dudas, Medema, & Lee, 1989). "A post hoc Scheffe' test showed that respondents who reported a religious preference inferred less pain than those who reported no religious preference ( $p<. 05$ )".

#### Nurses' Attitudes Toward Management of Pain

The aim of a study done by Lloyd (1994) was to investigate nurses' attitudes toward postoperative pain assessment and management. Questionnaires were distributed to four hundred nurses working in surgical wards and in the post-anesthesia and emergency departments in a major teaching hospital. Two hundred and sixty-nine nurses completed the questionnaire.

The results of this study showed that variations in the perception and knowledge of pain relief among qualified nurses was confirmed (Lloyd, 1994). "It is disheartening that 28% of day and 44% of night nurses expect patients to suffer pain" (p. 42). Lloyd also found that despite the fact that sixty-four percent of night nurses agreed that patients experience more pain at night and that management of night pain is unsatisfactory, seventy-nine percent accept that they underestimate pain. "Junior staff displayed the least enthusiasm for drug usage, with 36% to 47% believing that patients should be

encouraged to take minimal analgesia" (p. 42). Lloyd believed that this might be a reflection of the nurse's own lack of confidence in administering pain-relieving medication and/or a deficit in nurse education. Lloyd also found that patients were not receiving intramuscular (IM) analgesics as frequently as prescribed, with fifty to ninety-four percent of nurses agreed that it should be used for as short a period as possible.

Lloyd (1994) found that twenty-two percent of night nurses as compared to sixteen percent of day nurses were concerned about patients developing respiratory problems following analgesia with thirty-one percent of junior night nurses having the greatest concern. Lloyd also found that ninety-six to ninety-eight percent of nurses agree that they need further education in management of pain.

#### Pain Management in Nursing Curricula

The purpose of a study done by Zalon (1995) was to investigate time allocated to pain content, the nature of theoretical content and clinical experiences in nursing curricula, and faculty satisfaction with their graduates' preparation for pain management in baccalaureate (BSN) and associate degree programs (ADN). A random sampling consisting of two hundred ADN and two hundred BSN programs were chosen from the National League of Nursing lists of accredited programs with an eighty percent response rate that included 177 ADN and 174 BSN programs (Zalon, 1995). No significant differences were found between associate degree and baccalaureate programs for the amount of time allotted to pain content, pharmacological management of pain, and nonpharmacological pain relief methods. Zalon promotes the idea that "additional research is needed to assess knowledge and attitudes of senior nursing students or new

graduates in pain management in order to more clearly delineate nursing education's influence on this area of clinical practice" (p. 266-267).

### Research Results Regarding Nursing Faculty and Curriculum

In a study done by Graffam (1990), a check list questionnaire with content validity was mailed to chairpersons of curriculum committees in a random sample of 390 baccalaureate-nursing programs that are accredited by the National League of Nursing. Three hundred and five usable questionnaires were returned. Results showed that 81% of programs included some formal class content on pain management primarily integrated into several courses (88%) or clinical conferences (36%). Only 23 programs (8%) reported a separate course on pain. The survey's finding of only 8% of programs having a faculty expert in pain management suggests that there is a need for faculty to become more knowledgeable about the subject themselves.

In a study done by Ferrell, McCaffery, and Rhiner (1992), 14 major textbooks used in nursing schools for medical-surgical or pharmacology courses were examined to determine the accuracy of content related to the specific area of addiction. Only 1.6% of the textbook pages was devoted to pain content. The terms addiction, dependence, and tolerance were mentioned only briefly in chapters dealing with pain and were discussed more thoroughly in chapters related to substance abuse.

Pain content in nursing and medical schools is a concern in Canada as well. Watt-Watson and Watson (1989) conducted a survey of formal curricular pain content in 26 nursing and 14 medical schools in Canada. Almost half (48%) of the nursing schools reported no pain content or content less than 3.5 hours, and 17% reported minimal or no pain-related content. Of the medical schools, 78% reported minimal or no pain-related

content. Two (22%) medical schools and 12 (52%) nursing schools instructed students in the use of a widely accepted pain assessment tool. Also, 44% of medical school and 22% of nursing school faculty expressed dissatisfaction with current pain content and revisions in curriculum.

A cross-sectional mail survey was conducted through use of a self-administered knowledge/beliefs questionnaire for faculty and a self-report curriculum questionnaire at 14 baccalaureate nursing schools in the United States (Ferrell, McGuire, & Donovan, 1993). This study found that although faculty's knowledge and beliefs were generally commensurate with current pain theories and practices, the fact that their responses to eight questionnaire items were less than satisfactory is of deep concern. If more than 20% of the faculty responding to these eight items had knowledge and beliefs incommensurate with current knowledge, that could potentially translate to 2 in 10 faculty members teaching outdated and inappropriate material (Ferrell, McGuire, & Donovan, 1993).

The goal of treatment was acknowledged to be total relief of pain (American Pain Society, 1989) with the understanding that this goal may not always be achievable. Only 38% of faculty responding to this questionnaire believed that total relief of pain should be a goal (Ferrell, McGuire, & Donovan, 1993). Inadequate teaching about the goal of pain management may result in graduate nurses who do not realize that this goal should guide their practice. "Thus, their efforts may fall short of the desired outcome of pain relief because of their naive and unfortunate beliefs that pain is not relievable" (Ferrell, McGuire, & Donovan, 1993, p. 86).

Faculty problems with items related to pharmacological interventions are an issue because this concrete area is taught most frequently across schools. According to this

study (Ferrell, McGuire, & Donovan, 1993), many faculty were unclear about the site of action of narcotic and non narcotic drugs, were unaware that high doses of narcotics can be given without major side effects, lacked knowledge about duration of action of common narcotics, and did not appreciate the relationship between prn medication and the development of clock-watching behaviors. "This study suggests that in baccalaureate schools of nursing, faculty knowledge and beliefs about pain, as well as the curriculum content related to it may be less than optimal" (Ferrell, McGuire, & Donovan, 1993, p. 87).

#### Studies Using McCaffery's Vignette

Multiple studies have been conducted by McCaffery and Ferrell using vignettes that describes a patient scenario. Data were collected from pretest surveys randomly distributed to a convenience sample of nurses attending pain conferences in the United States. The limitations of the studies include the fact that responses were limited to nurses attending pain workshops who chose to complete the survey (McCaffery & Ferrell, 1997). McCaffery and Ferrell (1997) believe that these limitations strengthen the significance of the results since these nurses have expressed an interest in pain management and may have more knowledge and positive attitudes about pain management than nurses who did not attend. Limitations also included the fact that responses were based on self-reports rather than observations in clinical settings. "The limitation of self-report may also have resulted in a greater tendency to indicate the correct response than actually would have been taken in a clinical situation" (p. 75).

A study was done by McCaffery & Ferrell (1991a) to explore the effect of patients' behavior on nurses' assessment and pain management decisions. Four hundred and fifty-

six nurses completed the vignette survey. Results showed that a patient's behavior strongly influenced a nurses willingness to accept a patient's pain rating and to administer a higher dose of an opioid.

In another study done by McCaffery & Ferrell (1991b), the purpose was to explore the effect of a patient's age on the nurse's decisions regarding pain control. Surveys were collected from 359 nurses from the United States and Canada. In two vignettes, the only significant difference between clients Frank and Edward was their ages. Both clients sustained very similar injuries that were being treated with identical analgesic orders. Both clients were also complaining of the same degree of pain. The results from the surveys showed that age, as well as patient behavior, strongly influenced nurses' decisions about pain assessment and analgesic administration. "Unfortunately, the influence is detrimental to the elderly patient because it generally leads to under medication" (p. 47).

In a similar study done by McCaffery & Ferrell (1992a), the purpose of the research was to explore the effect of patients' vital signs on nurses' decisions regarding pain assessment and analgesic choices. The only difference between the patients in the vignette, John and Cory, was their vital signs. One hundred and sixty-six nurses participated in this survey. The results of this survey showed that nurses were less willing to accept a report of moderate to severe pain from a patient with low-normal vital signs (Cory) than from a patient whose vital signs are slightly elevated (John).

In another study done by McCaffery & Ferrell (1992b), the purpose was to find out whether nurses think that men and women respond differently to pain. Surveys were completed by 362 nurses who attended a workshop by McCaffery & Ferrell. Survey



results showed that nurses have biases about patients based on gender and that nurses could under treat or over treat pain based on the patient's gender. Sixty-three percent of the nurses believed that men and women have the same sensitivity to pain, 47% believed that women tolerate more pain, 41% believed that men have greater pain distress while 41% believed that men and women have the same pain distress. As for willingness to report pain, men were believed to under report pain 53% of the time. Nurses believed neither gender exaggerated pain at 53%, and 48% of women were thought to be more expressive with nonverbals than men. Results of this McCaffery and Ferrell study can help nurses to be alert for possible gender biases in themselves and other health care professionals so that they can keep such biases from interfering with pain relief.

In a study done by McCaffery, Ferrell, & O'Neil-Page (1992), the purpose of the survey was to explore the effects of a patient's life-style on nurse's decisions about pain assessment and analgesic choices. Four hundred fifty-two nurses completed written surveys at pain control workshops. The two vignettes were identical except that one man, Mike, was a married businessman with a child. Ben, on the other hand, was unemployed, drives a motorcycle, and had consumed alcohol before the accident (although his blood alcohol level was not over the legal limit). The results showed that the nurses felt that many of their colleagues would be less willing to accept a report of moderate to severe pain from Ben, the unemployed biker, than from Mike, the middle-class businessman, and would be more likely to under treat Ben.

A similar study was done by McCaffery and Ferrell (1996) to identify the responses of non-nursing college students to vignettes involving patients with pain and to compare these responses with the responses made by practicing nurses. The specific purpose was

to determine how college students' decisions about pain assessment and the use of opioids compare with same aged practicing nurses. In this study, the survey was composed of two patients who were identical except for their behaviors; one patient smiled, whereas the other one groaned. Data were collected from surveys from a convenience sample of 85 students attending a local university and enrolled in undergraduate history classes . None of these students had previous experience in health care or were enrolled in a nursing or medical major. "The sample was selected to represent college students who were not in the health professions to determine if beliefs about pain are developed before nursing education" (p. 186-187).

Contrary to the prediction that college students would have no strong beliefs about pain management and that their attitudes would be positive, the college students' responses to the assessment and relief of pain were remarkably similar to those of practicing nurses. "Accepting of the smiling patient's pain rating of 4 was 38% among college students and 41% among nurses (McCaffery & Ferrell, 1996, p. 187). Sixty-six percent of college students and 72% of practicing nurses accepted the frowning patient's pain rating of 4. As for willingness to increase the dosage of morphine to 15mg, only 12.9% of the college students were willing to increase the dose for the smiling patient and 16.5% for the frowning patient. Thirty-three percent of practicing nurses were willing to increase the morphine to the smiling patient and 54% were willing to increase the dose for the frowning patient. As for concerns about analgesic choice, the concerns regarding addiction were much higher for college students with 25% concerned about addiction for the smiling patient as compared to nurses at only 11%.

The results of this study were of concern because McCaffery & Ferrell (1996) pointed out that students enter nursing programs with "well entrenched, inaccurate information about pain assessment and relief, exaggerated concerns about opioid analgesics, and a basically anti analgesic attitude" (p. 188). Like the general public, students entering nursing programs not only resist using pain medications but also tend to have low expectations about the degree of pain relief that can be achieved. McCaffery & Ferrell believe these misconceptions about pain must be addressed in basic nursing education. "If they are not identified and corrected, they may actually be inadvertently reinforced by nursing faculty and continue to exist in many graduate nurses" (p. 188).

The purpose of a descriptive study done by McCaffery and Ferrell (1997) was to explore how the nurses' decisions about pain assessment and analgesic use may be influenced by the role the nurse assumes in hypothetical situations, specifically the role of the nurse or a family member. Is the quality of pain management different when the nurse makes decisions as a family member as compared to when the nurse assumes the role of the nurse (McCaffery & Ferrell, 1997)?

To study the differences in nurse and family member roles, two surveys were designed based on previous vignettes used by McCaffery and Ferrell in research on nurses' responses to patients with pain (McCaffery & Ferrell, 1997). The two surveys were alike except for the role the respondent was to assume. In one survey, the respondent was told to reply as the nurse, while in the other survey, the respondent was told to reply as the family member visiting a brother in pain.

The patient vignette described a 25-year-old male on his second postoperative day following abdominal surgery (McCaffery & Ferrell, 1997). His vital signs were within

normal limits and he reported his pain as a "4" on a scale of 0 to 5 (0=no pain; 5=worst pain) while he is smiling and joking with a visitor. Those assigned the role of the visiting family member were asked what they thought the nurse caring for the brother should record as the pain assessment. Those assigned the role of nurse were asked to record their assessment of the patient's pain

Respondents were then told that the patient had received 10mg of Morphine intramuscularly (IM) four hours previously and that the patient had continued to rate his pain from 3 to 4 with no side effects noted (McCaffery & Ferrell, 1997). Those assigned the role of the nurse were asked which action to take, and those assigned the role of the family member were asked which action they thought the nurse should take. The choice of options included administering no morphine, 5 mg IM, 10 mg IM, or 15 mg IM. A final question asked what, if any concerns they had as nurses, or they as family members thought the nurse should have in making the analgesic choice (McCaffery & Ferrell, 1997). The options available were respiratory depression, addiction, tolerance, physical dependence, none of the above, or any other concerns to be specified by the respondent.

Data were collected from pretest surveys randomly distributed to a convenience sample of nurses. Approximately half the audience received the survey assigning the role of the nurse and half received the survey assigning the role of the family member. Surveys were anonymous and participation was voluntary (McCaffery & Ferrell, 1997). A total of 607 surveys were returned, with 301 assuming the role of the patient's nurse and 306 the role of the family member. The results of the survey revealed that nurses' assessments of pain and choices of analgesic doses were influenced by the role they are assigned to assume. Of the nurses who were "family members", 86% believed the nurse

should record the patient's pain as a "4", but of those respondents who were acting as the nurse, only 63% actually recorded "4". Family members were more likely to accept the patient's report of pain.

As for the correct analgesic dose, morphine 15mg was correct since the previous dose of 10 mg of morphine caused no side effects and had resulted in very little relief in pain as evidenced by the pain ratings of 3 to 4 (McCaffery & Ferrell, 1997). Of the nurses who responded as "family members", 58% believed the nurse should now administer 15 mg, but of those respondents who were acting as the nurse, only 47% said they would administer 15 mg. Family members were again more likely to provide care consistent with established pain guidelines.

As for concerns about analgesia, McCaffery & Ferrell (1997) promoted the fact that none of the items listed should have been of concern since the previous dose of 10 mg of morphine was safe but ineffective, even if the dose was increased to 15 mg. However, of those responding as "family member", 61% believed the nurse should be concerned with respiratory depression and 49% believed the nurse should be concerned with tolerance to analgesia. Concerns about respiratory depression and tolerance represented only 14% and 16% respectively for those acting as nurses. Neither "nurse" nor "family member" had great concern about addiction (7% to 12%) or physical dependence (3% to 8%).

#### Summary and Implications for Study

As the literature review indicates, there continues to be a discrepancy between what the patient perceives as the intensity of the pain, and what the nurse perceives the patient to be experiencing. McCaffery and Ferrell have done a multitude of studies to show that pain assessment continues to be very subjective according to gender, age, lifestyle,

patient behavior, and vital signs (1991a, 1991b, 1992, 1992a, 1992b, 1996). While McCaffery and Ferrell did study non-nursing students compared to nursing professionals, in assessment of pain, there appears to be a void in studying different types of nursing students in their assessments and perceptions of pain. This study provided further data regarding pain assessment in a nursing population that has not been considered.

### Purpose

The purpose of this descriptive study was to explore how nursing students' decisions about pain assessment and analgesic use may be influenced by the role the student assumes in hypothetical situations, specifically the role of the nurse or as a family member.

### Hypothesis 1

There will not be a statistically significant difference for senior nursing students in pain assessment ratings between the nursing role and the role of family member.

### Hypothesis 2

There will not be a statistically significant difference for senior nursing students in choice of analgesic dose between the nursing role and the role of the family member.

### Hypothesis 3

There will not be a statistically significant difference for senior nursing students regarding concerns about narcotic analgesia between the nursing role and the role of family member regarding. These concerns included respiratory depression, addiction (psychological dependence), narcotic tolerance, physical dependence (withdrawal), none of these concerns, or other concerns to be specified by the respondent.

## Definition of Terms

Nurse: “An individual who provides health care....The ability of a nurse to function in making self-directed judgments and to act independently will depend on his or her professional background, motivation, and opportunity for professional development” (Thomas, 1997, p. 1318).

Family Member: “A group of individuals who have descended from a common ancestor.... A group on people living in a household who share mutual attachments, such as mutual caring, emotional bonds, regular interactions, and common goals, which include the health of the individuals in the family” (Thomas, 1997, p. 705).

Assessment: "An appraisal or evaluation of a patient’s condition by a physician or nurse, based on clinical and laboratory data, medical history, and the patient’s account of symptoms” (Thomas, 1997, p. 162.)

Decision: "The process of using all of the available information about a patient and arriving at a decision concerning the therapeutic plan” (Thomas, 1997, p. 494).

Nursing Student: “An individual enrolled in a school of nursing” (Thomas, 1997, p. 1327).

Addiction (psychological dependence): “An overwhelming and compulsive need to obtain and use drugs for their psychic effects, not for approved medical reasons (e.g. pain relief)”. (Hawthorn & Redmond, 1998, p. 97).

Narcotic Tolerance: “With prolonged or frequent use the body becomes ‘used to’ the effect of a drug and no longer responds to the same extent. A larger dose of

drug is therefore required to maintain its original effect” (Hawthorn & Redmond, 1998, p. 97).

**Physical Dependence:** “A state that develops as the result of adaptation of the body to repeated drug use (tolerance). If the drug is stopped abruptly or an antagonist of that drug is administered, the body needs to re-adjust and withdrawal symptoms occur. The appearance of withdrawal symptoms is the only real evidence that dependence exists” (Hawthorn & Redmond, 1998, p. 97).

**Respiratory Depression:** Respiratory depression associated with opioid use is usually described as clinically significant when there is a decrease in rate and depth of respirations from baseline, rather than by just a specific number of respirations per minute (Pasero & McCaffery, 1994).



## CHAPTER THREE

### Methodology

#### Research Design

A descriptive correlational design was used in conducting this study. This study was done replicating a survey used by McCaffery and Ferrell (1997) to describe the differences between the family member and nurse role of the nurse in making decisions regarding pain assessment and medication administration. This study used a convenience sample of student nurses and compared the differences between nurse and family member role in decision making. Data was collected one time only and was obtained from senior nursing students attending nursing lecture classes in their final semester before graduation. Although use of a randomly selected sample would have enhance the study's generalizability, a convenience sample was used for feasibility.

Threats and limitations of the survey must be considered. The content of a self-report survey is essentially limited by the extent to which respondents are willing to report on the topic (Polit & Hungler, 1995). Students not interested in the topic of pain management may either disregard the survey entirely, or respond without giving consideration to correct answers. Another limitation of the survey method is that information obtained is relatively superficial (Polit & Hungler, 1995). The investigator is unable to delve further into why a subject responded to a particular question.

McCaffery and Ferrell (1997) described one of the limitations of their study as being related to the fact that all responses obtained were limited to nurses attending pain workshops that chose to complete the survey. By attending the workshop, these nurses had already expressed an interest in pain management and may have more knowledge and positive attitudes about pain management than nurses who did not attend. McCaffery and Ferrell (1997) believed that the nurses in their original study may have answered their surveys with more correct responses than the general nursing population because of this expressed interest, increased knowledge, and positive attitudes related to pain management.

The nursing students chosen for this study were all senior nursing students within two weeks of graduation. Responses were limited to senior student nurses attending nursing lecture classes who chose to complete the survey. The responses were based on paper-pencil report of behaviors rather than direct observations in the clinical setting. However, these already listed limitations may actually strengthen rather than diminish the significance of the results. The paper-pencil report may have resulted in a greater tendency to indicate the correct response than actually would have been taken in a clinical situation. Because there are no risks of narcotic side effects when answering a paper-pencil test, more respondents may have been willing to increase the morphine dose to 15mg than would have done so if they actually were to administer the medication.

#### Sample and Setting

A convenience sample of senior student nurses in their final semester of nursing school was used for this study. The convenience sample was obtained from senior nursing students that were present in class on the day that the survey was distributed.

Eligibility for inclusion into the study included the following criteria: (a) a full or part-time student nurse attending an National League of Nursing (NLN) accredited school of nursing in either an associate degree or baccalaureate degree program, (b) English speaking, (c) enrolled in a senior level nursing course and within two weeks of graduation, and (d) student could not already be a Registered Nurse seeking completion of a baccalaureate degree.

### Instrument

The instrument used were two surveys created by McCaffery & Ferrell (1997). These surveys are based on previous vignettes done for research on the nurse's response to patients in pain (See Appendix B for examples of vignettes). The surveys specify the role the respondent is to assume. In one survey, the respondent is to assume the role of the nurse caring for the patient. In the other survey, the respondent is asked to respond as a family member visiting a brother in pain.

The patient vignette briefly describes a 25-year old male on the second day following abdominal surgery. He has normal vital signs and reports his pain as 4 on a scale of 0 to 5 (0=no pain; 5=worst pain) while he smiles and jokes with a visitor. Those assigned to the role of visiting family member are asked what they think that the nurse caring for the brother should record as the pain assessment. Those assigned the role of the nurse are asked to record their assessment of the patient's pain. Because patient self-report is the most reliable indicator of the existence and intensity of pain, McCaffery and Ferrell chose "4" as the correct answer to answer question one.

Respondents are then told that the patient had received morphine 10 mg intramuscularly (IM) 4 hours previously and that in the hours following the injection the

patient's pain ratings had ranged from 3 to 4 and no side effects were noted. Those assigned the role of nurse are asked which action they should take, and those assigned the role of the family member are asked which action they thought the nurse should take. The options are to administer no morphine at this time, 5 mg IM, 10 mg IM, or 15 mg IM. According to McCaffery and Ferrell (1997), the correct dose for morphine is 15 mg since the previous dose of 10 mg of morphine caused no side effects and had resulted in very little relief in pain.

A final question asks what, if any, concerns they as nurses, or they as family members think the nurse should have, in making the analgesic choice. The options are respiratory depression, addiction, tolerance, physical dependence, none of the above or other concerns to be specified by the respondent. As for concerns about analgesics, McCaffery and Ferrell (1997) chose none of the concerns as the correct response since the previous dose of 10 mg of morphine was safe but ineffective, even if the dose was increased to 15 mg.

The case vignettes consists of brief case presentation of two patients designed to illustrate one concept in the treatment of pain. Concepts include variables such as age, pain behaviors, gender, lifestyle, and patient vital signs. Subjects are asked to respond to three questions following each case presentation. The questions ask the subject to 1) rate the patient's pain; 2) select a dose of medication to administer from a range of doses; and 3) identify concerns that influence their responses to the prior questions. The vignette uses a case study method to obtain information about pain assessment, medication choices, and areas of knowledge and belief, such as fear of client addiction, that influence nurses' choices. This survey approach was selected after the investigators, McCaffery

and Ferrell (B. Ferrell, personal communication, February 1, 1999), had conducted several previous studies using more traditional multiple choice or true false formats. The investigators believed that a case study approach might provide a more valid measure of nurses' actual decisions.

### Reliability and Validity

Validity was first established by a review of the vignette by content experts in pain management. These experts provided feedback regarding the content clarity and affirmed that the case was constructed to measure the targeted concept (content validity). Each vignette was then pilot tested in at least 100 subjects. The investigator (McCaffery) (B. Ferrell, personal communication, February 1, 1999) used workshop participants to pilot the vignette and allowed for group discussion in which the participants validated the concept measured and any issues regarding wording of the case. These pilot tests were a valuable step in formulating the final case.

The vignettes are very brief and therefore certain psychometric measures such as test-retest reliability are not possible. The investigators based the three questions following the vignettes on prior pain instruments with established reliability and validity by Ferrell, McGuire, & Donovan in 1991 (B. Ferrell, personal communication, February 1, 1999).

### Data Collection Procedures

Data were collected by this investigator. Subjects were recruited from senior level nursing lecture classes at Grand Valley State University and Grand Rapids Community College. Permission was obtained from each individual instructor and a convenient time was established for data collection. Data collection was completed during class periods. The surveys were distributed to the class on a random basis. Surveys were distributed so

that every other vignette given out was either family member or nurse response. At each site, approximately half of the students received a survey assigning them the role of the nurse, and the other half a survey assigning them the role of the patient's family member. The results were confidential with no identifying piece of information. Associate Degree nursing students received surveys printed on blue paper, Baccalaureate Degree nursing students received surveys printed on white paper. This investigator introduced herself as a Masters of Science in Nursing student studying pain (see Appendix C for verbal instructions given). The investigator explained that the purpose of the study was to explore perceptions of pain and decisions regarding pain management among senior nursing students. Students were not told that two different surveys were being completed. The investigator remained in the classroom while students completed vignettes to answer individual questions. Participation was voluntary, and return of a completed survey was accepted as informed consent. After completing the three questions on the first page, a demographic section was completed on the second page of the survey. The demographics were placed on the second page to decrease possible biases for respondents. Eighty-three students were in class on the day of data collection, and all eighty-three students completed the entire survey.

Risks to students were very limited. Participation was voluntary and information was kept confidential. A possible risk may have been an emotional response to a previous experience with unrelieved pain. The investigator remained with students to provide any emotional support necessary during completion of the survey.

### Approval

Written permission was obtained from McCaffery and Ferrell to copy and distribute their vignette surveys (see Appendix C). Permission was obtained through the Human Subjects Committee at Grand Valley State University to conduct study (see Appendix D). Verbal permission was also obtained from the Grand Rapids Community College Dean of Nursing as Grand Rapids Community College did not have a Human Subjects Committee at the time of the survey.

## CHAPTER FOUR

Eighty-three senior nursing students responded to the surveys and therefore comprised the sample group used for this study. Each item on the surveys was assigned a numerical value and entered onto a coding sheet for purposes of computer analysis. Analysis of the data was computed using the Statistical Package of the Social Sciences (SPSS) software. Data analysis was performed to describe the demographic characteristics of the sample and to answer the research hypothesis. The results of this study are presented with the demographic characteristics first followed by the results of each research hypothesis.

### Characteristics of the sample

Of the eighty-three students responding to the survey, 42 responded as the role of the patient's family member and 41 in the role of the patient's nurse. Characteristics of respondents in both groups were very similar and Table 1 summarizes the demographic characteristics of the two groups. The age for students answering the survey ranged from 21 to 52 with the average age being 28.45 years and 28.46 years for those answering as family members and as nurses respectively. Seventy-eight respondents were female while five were male. Ninety-two percent of the respondents were Caucasian. Almost 44% (36) of the students had experienced abdominal surgery themselves or with a family member, while 56% (47) of the students had no experience with abdominal surgery. Thirty-six students (43.4%) were ADN students and forty-seven (56.5%) were BSN students.



Table 1

Demographic Characteristics of Students Completing Pain Surveys

<u>Characteristics</u>	<u>Groups</u>		
	<u>Family Member</u> (n = 42)	<u>Nurse</u> (n = 41)	<u>Total</u> (n = 83)(%)
Age (in years)			
M	28.45	28.46	
SD	7.20	7.46	
Gender (frequencies)			
Female	39	39	78 (94%)
Male	3	2	5 (6%)
Race (frequencies)			
White	41	36	77 (92.8%)
Black	0	1	1 (1.2%)
Hispanic	0	1	1 (1.2%)
Native American	0	1	1 (1.2%)
Other	1	2	3 (3.6%)
Degree			
ADN	18	18	36(43.4%)
BSN	24	23	47 (56.6%)
Experience with Abdominal Surgery			
Yes	21	16	37 (44.6%)
No	21	25	46 (55.4%)

When comparing the two groups responding in either the role of family member or as nurse, no statistically significant difference was found for age ( $t = -.01$ ;  $df = 81$ ;  $p = .99$ ); gender ( $\chi^2 = .188$ ;  $df = 1$ ;  $p = .66$ ); degree ( $\chi^2 = .009$ ;  $df = 1$ ;  $p = .66$ ); or experience with abdominal surgery ( $\chi^2 = 1.012$ ;  $df = 1$ ;  $p = .31$ ). Because of the small frequencies in cells less than five, the data for race was collapsed into white or nonwhite race categories. Race was also not shown to be statistically significant ( $\chi^2 = 2.98$ ;  $df = 1$ ;  $p = .08$ ).

#### Hypothesis One and Analysis of Hypothesis

It was hypothesized that there would not be a statistically significant difference for senior nursing students in pain assessment ratings between the nursing role and the role of the family member. Question number one addressed the issue of pain assessment. Both surveys described a scenario with a 25-year-old man, Andy, on his second day following abdominal surgery. He was smiling and joking with a visitor. His vital signs were stable and he rated his pain as a "4" at the surgical site (scale of 0=no pain/discomfort, 5=worst pain/ discomfort). Respondents were asked to circle the number that accurately records their assessment. The independent variable within this question was the role that the respondent was asked to assume, whether that of the nurse or the family member. The dependent variable was the actual number that the respondent selected for the assessment of pain. To test the hypothesis, a Mann Whitney was used to evaluate the differences in the scores of the two independent groups. The level of significance for acceptance of the hypothesis was  $p = .05$ .

The "gold standard" for assessing the existence and intensity of pain is the patient's self-report. The patient's behavior, the opinions of nurses and physicians delivering care, or the patient's vital signs are not as reliable as the patient's report of pain and should

never be used instead of what the patient reports (Acute Pain Management Guidelines, 1992). All eighty-three respondents (100%) assessed the pain of the patient as a "4", which was also the pain rating as stated by Andy. There was no statistical difference in pain assessment between students responding as either family member or as nurse.

#### Hypothesis Two and Analysis of Hypothesis

It was hypothesized that there would not be a statistically significant difference in senior nursing students for choice of analgesic dose between the nursing role and the role of family member. The second question on the survey addressed the administration of narcotic analgesics. The respondents were given the information that the Andy had received morphine 10mg IM four hours prior to the pain assessment. During the three hours following the injection, Andy said that his pain ratings ranged from "3" to "4" and that he had no side effects. His physician's order for analgesia was "morphine 5 to 15 mg q 3-4 hours PRN pain relief". The respondent was then asked to check the action that the nurse should take at this time. The independent variable was again the role that the respondent was asked to assume. The dependent variable was the dosage of narcotic analgesic chosen. The choices ranged from administering no medication to administering morphine 15 mg IM now. To test the hypothesis, the Chi-square test statistic was used to evaluate the differences in proportion between the groups. The level of significance for acceptance of the hypothesis was 95% ( $p = .05$ ).

Results obtained are summarized in Table 2. When considering the correct analgesic dose for Andy, 15 mg morphine IM was the correct choice since the previous dose of morphine 10 mg IM had caused no side effects, and had only resulted in pain ratings of "3-4" indicating very little pain relief (McCaffery & Ferrell, 1997). There was no

statistically significant difference between the nursing role and the role of family member in choice of analgesic dose ( $p > .05$ ). Only 48 students (57.8%) were willing to administer the correct dose of 15 mg of morphine IM.

Table 2

Comparison of Results Regarding Narcotic Administration Between the Role of Nurse and Family Member.

Narcotic Administration (frequencies)	<u>Role</u>		
	<u>Family Member</u> (n = 42)	<u>Nurse</u> (n = 41)	<u>Total</u> (N = 83)
Administer no morphine	0	1	1 ( 1.2%)
Administer 5 mg morphine now	2	2	4 ( 4.8%)
Administer 10 mg morphine now	14	16	30 (36.1%)
Administer 15 mg morphine now	26	22	48 (57.8%)

Because of the small frequencies in cells to less than five, data were collapsed with the choices being administering 10 mg morphine or less and administering 15 mg morphine. Even after collapsing the data, there was no statistically significant difference between roles ( $\chi^2 = .58$ ;  $df = 1$ ;  $p = .45$ ).

Hypothesis Three and Analysis of Hypothesis

It was hypothesized that there would not be a statistically significant difference in senior nursing students in concerns about analgesia between the nursing role and the role

of the family member. The third survey question addressed concerns regarding narcotic administration and side effects. Students were asked to contemplate whether respiratory depression, addiction (psychological dependence), tolerance to analgesia, physical dependence (withdrawal), none of the stated major concerns, or other concerns should have been a consideration when deciding Andy's medication choice. The respondent was to check all narcotic concerns applicable to making a decision about narcotic dosing.

As for statistical analysis, the independent variable continued to be the role of the respondent and the dependent variable was the side effects that concern the respondent. The Chi-squared statistical test was used to test the differences between the nurse role and the role of the family member in relation to narcotic concerns. No significant difference was found regarding respiratory depression, addiction, physical dependence, other concerns as specified, or no concerns. As Table 3 shows, the only narcotic concern that showed a statistically significant difference between the nurse role and family member role was narcotic tolerance ( $\chi^2 = 6.39$ ;  $df = 1$ ;  $p = .01$ ). Those in the nurse role were more concerned with narcotic tolerance than those in the family role.

Although not statistically significant, respiratory depression was the greatest for narcotic concerns for 77.1% (64) of nursing students. Narcotic tolerance was second at 44.6% (37 students). Only 15.7% (13) of students chose no concerns for narcotic administration for Andy. Because the previous dose of morphine 10mg IM was safe, but ineffective, none of the items listed should have been major concerns even if the dosage was increased to 15 mg (McCaffery & Ferrell, 1997).

Table 3

Comparison of Concerns Regarding Narcotic Administration Between the Role of Nurse and Family Member.

Concerns regarding narcotic administration (frequencies)	<u>Role</u>		
	<u>Family Member</u> (n = 42)	<u>Nurse</u> (n = 41)	<u>Total</u> (N = 83)
<b>Respiratory Depression</b>			
No	10	9	19 (22.9%)
Yes	32	32	64 (77.1%)
<b>Addiction</b>			
No	38	36	74 (89.2%)
Yes	4	5	9 (10.8%)
<b>Physical Dependence</b>			
No	38	35	73 (88 %)
Yes	4	6	10 (12 %)
<b>Tolerance*</b>			
No	29	17	46 (55.4%)
Yes	13	24	37 (44.6%)
<b>No Concerns</b>			
No	33	37	70 (84.3%)
Yes	9	4	13 (15.7%)
<b>Other Concerns</b>			
No	36	35	71 (85.5%)
Yes	6	6	12 (14.5%)

p = .01

### Findings of Interest

Experts in pain management, like McCaffery and Ferrell (1997) and the Acute Pain Management Guidelines Panel (1992) have established correct answers for the questions examined in this study. Table 4 shows the frequencies of correct responses by the nursing students.

Table 4

#### Correct Responses by Nursing Students as Defined by McCaffery and Ferrell (1997)

Questions in Survey (frequencies)	Role		
	<u>Family Member</u> (n = 42)	<u>Nurse</u> (n = 41)	<u>Total</u> (N = 83)
1. Rates pain as “4”	42 (100%)	41 (100%)	83 (100%)
2. Administer 15 mg morphine	26 (61.9%)	22 (53.7%)	48 (57.8%)
3. No concerns with narcotic administration	9 (21.4%)	4 ( 9.8%)	13 (15.7%)

It is interesting to note that while 100% (83) of the students documented Andy’s self-report of pain, only 57.8% (48) of the students were willing to increase the narcotic dose to 15 mg of morphine. It is also interesting to note that only 13 students (15.7%) had no narcotic concerns, yet 48 students (57.8%) were willing to increase the morphine dose. This research tool provides no insight into the nurses’ decision-making process. Further study regarding how nurses make their decisions with respect to narcotic administration is needed so that education and professional support can be directed toward appropriate effective narcotic administration.

Seventy (84.3%) of the 83 nursing students had at least one narcotic concern. Table 5 displays the results regarding incorrect information obtained in this study. It is of

concern to note that 42% of the students chose to administer 10 mg of morphine or less. The survey paragraph described the patient and clearly stated that Andy had received 10 mg of morphine four hours previous to the assessment. It specified that during the three hours following the injection, Andy said his pain ratings ranged from “3” to “4” and that he had no side effects. Four students (4.8%) chose to give only 5 mg of morphine IM and one student chose to give no medication at all. If these numbers can be applied to the general patient population, 42% of our patients will continue to have unrelieved pain.

Table 5

Incorrect Responses by Nursing Students as Defined by McCaffery and Ferrell (1997)

Questions in Survey (frequencies)	Role		
	<u>Family Member</u> (n = 42)	<u>Nurse</u> (n = 41)	<u>Total</u> (N = 83)
1. Pain rating other than “4”	0 ( 0%)	0 ( 0%)	0 ( 0%)
2. Administer no morphine	0 ( 0%)	1 ( 1.2%)	1 ( 1.2%)
Administer 5 mg morphine	2 ( 4.8%)	2 ( 4.9%)	4 ( 4.8%)
Administer 10 mg morphine	14 (53.8%)	16 (39.0%)	30 ( 36.0%)
3. Concern—Respiratory Depression	32 (76.2%)	32 (78.0%)	63 ( 77.1%)
Addiction	4 ( 9.5%)	5 ( 12.2%)	9 ( 10.8%)
Physical Dependence	4 ( 9.5%)	6 ( 14.6%)	10 ( 12.0%)
Tolerance	13 (31.0%)	24 (58.5%)	37 ( 44.6%)
Other Concerns	6 (14.3%)	6 (14.6%)	12 ( 14.5%)



Twelve students (14.5%) had concerns other than those listed. Students responding as family members listed (a) pain control, (b) his rating of pain, (c) constipation and breakthrough pain, (d) patient's complaint of pain-medicate per rating, (e) tolerance of pain, and (f) lack of pain relief. Students responding as nurses listed (a) level of consciousness, (b) how much he says he wants, how long did 10 mg last, how effective was 10 mg, (c) ratings of pain at "4" need increased dose, (d) not satisfactory relief from previous dose, (e) vital signs indicating pain, patient interacting with family, patient requesting pain meds, and (f) pain rating as concerns. Many of these areas of concerns regarding comfort and inadequate pain relief could easily have been listed as no concern. Constipation, tolerance of pain, level of consciousness, specific patient requests, patient vital signs, and patient behavior are all concerns that could be classified as "other concerns".

## CHAPTER FIVE

### DISCUSSION AND IMPLICATIONS

#### Discussion

This research study examined the relationship between the role the nursing student assumed as either a family member or as a nurse, when assessing pain and administering narcotics, as well as concerns regarding that narcotic administration. Data analysis suggested that there was no difference in pain assessment and narcotic administration when senior nursing students assume either role.

The results of this senior nursing study suggest that nursing education has improved regarding the importance of patient self-report as the only acceptable assessment of pain. A pain rating of "4" should have been recorded in the patient's record (McCaffery & Ferrell, 1997). Of the senior students, 100% of "nurses" and "family members" responded with a "4". This result is greatly improved over the results obtained by McCaffery and Ferrell (1997). They reported that experienced nurses who responded as "family members", 86% believed that the nurse should record a "4", while only 63% of "nurses" actually recorded a "4".

While at first it appears that nursing students' acceptance of the patient's report of pain shows remarkable growth toward effective pain management, the other results suggest that pain management decisions are not greatly improved. "Failure of clinicians to ask

patients about their pain and to accept and act on the patients' report of pain is probably the most common cause of unrelieved pain and unnecessary suffering" (McCaffery & Pareso, 1999, p. 36). Even when appropriate assessments are made, clinicians do not necessarily accept the findings and may not take appropriate action. Multiple studies have shown this to be true (Calvillo & Flaskerud, 1993; Camp, 1988; Ferrell, Eberts, McCaffery, & Grant, 1991; McCaffery & Ferrell, 1991a, 1991b, 1992, 1996, 1997; McCaffery, Ferrell, & O'Neil-Page, 1992; Paice, Mahon, & Faut-Callahan, 1991; Stephenson, 1994). If clinicians believe patients overstate their pain, this would explain why assessments of pain using the patient's self-report does not necessarily improve pain management. The nurse may assess pain accurately but may be planning pain management on the basis of their own beliefs rather than what the patient states. Thus, the amount of opiate administered may be better correlated with the nurses' own pain ratings rather than those obtained from the patient (McCaffery & Pasero, 1999).

When considering the correct analgesic dose for Andy, 15 mg IM is the correct choice since the previous dose of morphine 10 mg IM had caused no side effects, and had only resulted in pain ratings of "3 to 4" indicating very little pain relief (McCaffery & Ferrell, 1997). Even with 100% of nursing student documenting a "4", only 57.8% of the students were willing to increase the morphine to 15 mg. Of the 74.5% experienced nurses who rated Andy's pain at a "4", only 52.4% were willing to increase the dose to 15 mg. The concern then remains that Andy would continue to have inadequately treated pain if cared for by 42.2% of nursing students and 46.6% of experienced nurses.

One possible explanation for the limited number of nursing students who were willing to increase the morphine dose may be related to the limited use of IM narcotics for pain

control. With the advent of epidural analgesia and patient controlled analgesia (PCA), many students may have very limited experience and exposure to the use of IM narcotics and may have chosen the 10 mg dose because the patient had already received that dose and had experienced no side effects.

"As for concerns regarding narcotics, since the previous dose of 10 mg of morphine IM was safe, but ineffective, none of the items listed should have been major concerns even if the dose was increased to 15 mg" (McCaffery & Ferrell, 1997, p. 72). Data analysis suggests a statistically significant difference between the roles in concerns regarding tolerance to narcotics. Senior student nurses assuming the role of nurse were more concerned regarding narcotic tolerance than those assuming the role of family member.

One possible explanation for the large number of nursing students (44%) being concerned with narcotic tolerance may be related to lack of knowledge regarding the definition of tolerance. Because of the limited amount of pain content included in nursing curriculum and the fact that tolerance to narcotics was not defined in the survey, there may have been some confusion between pain tolerance and narcotic tolerance. It is possible that with an appropriate definition for narcotic tolerance included in the survey, narcotic tolerance may have been less of a concern for students.

Narcotic tolerance is "a process characterized by decreasing effects of a drug at its previous dose or the need for a higher dose of drug to maintain an effect" (McCaffery & Pasero, 1999, p. 162). A common misconception regarding narcotic tolerance is that if narcotics are started too soon or escalated too fast, pain relief will be impossible because doses will be fatal or a ceiling on analgesia will be reached (McCaffery & Beebe, 1989).

A related fear is the misconception that how much analgesia opioids can produce is limited (McCaffery & Pasero, 1999).

Narcotic tolerance should be expected after several days of opioid treatment, but thereafter the dose usually stabilizes if pain is stable. In addition, narcotic tolerance is treatable, usually by increasing the opioid dose (McCaffery & Pasero, 1999). No ceiling to the analgesia of opioids exists and patients develop tolerance to respiratory depression. Clinicians should not withhold treatment from patients or delay initiating opioid therapy for fear of encountering unmanageable narcotic tolerance (McCaffery & Pasero, 1999).

One explanation for the differences between roles with regard to narcotic tolerance may be related to misconceptions about narcotic administration and tolerance. Senior student "nurses" have limited clinical expertise. Fears regarding narcotic tolerance may be greater in "nurses" than in "family members" because as nurses, these students are expected to make decisions regarding narcotics doses. These student "nurses" have limited experience with clinical decision making and may be more concerned regarding the problem of tolerance and how the patient's pain may be controlled in the future. They may lack knowledge regarding narcotic ceilings and may not realize that it is possible to increase the dosage of morphine without reaching a narcotic ceiling.

Students acting as "family members" are significantly less concerned regarding Andy developing narcotic tolerance. One explanation may be that "family members" are more concerned with the present situation and their priority is to make Andy more comfortable. These "family members" may not be thinking about future pain management issues, and as such, do not consider narcotic tolerance to be of as much concern. It is not the responsibility of the "family member" to worry about future pain management issues.

Interestingly, the experienced nurses in the McCaffery and Ferrell (1997) study had the opposite responses. The experienced "nurses" were less concerned than the experienced "family members" regarding tolerance to narcotics (49% vs. 16% respectively). McCaffery and Ferrell (1997) believed that concerns regarding narcotic tolerance occurred unnecessarily early in the course of opioid administration and reflected a lack of knowledge about the ease with which tolerance can be handled. This was only postoperative day two for Andy. Physical dependence and narcotic tolerance are a result of repeated administration of the opioid and should be expected if opioids are taken several times a day for a month or longer (American Pain Society, 1992).

McCaffery and Ferrell (1997) also believed that the experienced nurses "exaggerated concern about narcotic tolerance may be confused with the misconception that there is a ceiling on the analgesia of opioids" (p. 75). Experienced nurses explained that their decisions not to increase the opioid dose was based on " their concern that they would have nothing left to give the patient later if the higher dose did not work" (p. 75). These nurses gave a lower dose because they wanted other options available such as giving more opioids, if this dose did not relieve the pain. They seemed to regard the maximum prescribed dose as representing a magic ceiling on analgesia, and appeared to believe a dose higher than the maximum prescribed dose would not be safe or perhaps would not be effective.

Data analysis did not suggest a statistically significant difference between roles in concerns regarding respiratory depression, addiction, physical dependence, no concerns, or other concerns as specified by the respondent. Even though not statistically significant, respiratory depression was a concern for 77.1% of the senior nursing students.

Respiratory depression is assessed on the basis of what is normal for a particular individual (McCaffery & Pasero, 1999). Respiratory depression associated with opioid use is usually described as clinically significant when there is a decrease in rate and depth of respirations from baseline, rather than just a specific number of respirations per minute. The importance of monitoring sedation to prevent clinically significant respiratory depression cannot be overemphasized (McCaffery & Pasero, 1999). As the American Pain Society (1992) states, "No patient has succumbed to (opioid-induced) respiratory depression while awake" (p. 23). This is because more opioid is required to produce respiratory depression than to produce sedation. Because Andy was awake, alert, talking, smiling, and laughing, respiratory depression should have been of no concern to either "family member" or "nurse" in relation to narcotic administration. While it is important for nurses to be aware of possibility of narcotic induced respiratory depression, this is not an appropriate concern for Andy's pain control needs.

Both experienced nurses and senior nursing students were able to distinguish narcotic tolerance from physical dependence and addiction. The results were similar for experienced nurses and senior nursing students. With experienced nurses, neither "nurses" or "family members" had great concern about addiction (7% to 12%) or physical dependence (3% to 8%). Senior nursing students also had minimal concerns as "family member" or "nurse" role about addiction (10% to 12%) or physical dependence (10% to 15%). While these percentages are relatively small, many clinicians continue to have unnecessary concerns regarding narcotic administration based on the patient's clinical presentation (McCaffery & Ferrell, 1997).

When discussing the correct answer for narcotic concerns, McCaffery and Ferrell (1997) chose no narcotic concerns. Although this answer was appropriate for the patient in this survey, it is also important to recognize that with the administration of any medication goes the responsibility of anticipating the possibility of side effects. While no concerns were appropriate for Andy and his clinical situation, it is not always true for each and every patient. Nurses need to recognize that side effects do occur with narcotic administration, and that being aware of these risks does not make them incorrect answers. Nurses are “incorrect” when they allow inappropriate concerns to interfere with the safe and effective management of pain.

Ultimately, the results of this research suggest that pain management is affected by the role that the nurse assumes when caring for the patient. Student “nurses” were more concerned regarding narcotic tolerance than student “family members”. The greater concern though lies in the reality that this research also suggests that over 42% of our patients continue to have unrelieved pain. It is impossible to ascertain from this survey, the decision making process used to treat the pain. Further research is needed to obtain an understanding of reasons for undertreatment so that educational methods can be adapted to the needs of the clinician. Every patient deserves the right to the highest level of comfort possible. Nurses have the professional responsibility to work with their patients to achieve this right.

King's interacting systems framework and provide an appropriate and applicable guide to effective pain assessment and management. King included three dynamic interacting open systems--personal system (individuals), interpersonal systems (groups), and societal systems (society) (as cited in Fawcett, 1989). The individuals involved in the process of



pain assessment and management include the patient, nurse, physician, and family members. Each has the ability to perceive, to think, to feel, to choose between alternative choices of actions, to set goals, to select means to achieve goals, and to make decisions (King, 1981). It is imperative for the patient to verbalize a self-report of pain and to set goals for pain management. The clinician caring for the patient is responsible to make decisions based on the self-reported perceptions of the patient. The clinician cannot feel the patient's pain. King's model emphasizes the importance of patient perception and self-report as of utmost importance in effective pain management.

The interpersonal system (King 1981) is composed of two or three individuals interacting within a given situation. Each individual (patient, family member, or nurse) in the situation brings personal knowledge, needs, goals, expectations, perceptions, and past experiences that influence the interaction. It is important for effective pain management for the individuals to mutually identify goals and the means to achieve them. This includes verbal communication that must take place in an atmosphere of mutual respect in which the self-report of pain is accepted as the "gold standard" and treatment decisions are based on that self-report, not the perceptions of the clinician.

King's (1981) social system is defined as "an organized boundary system of social rules, behavior, and practices developed to maintain values and mechanisms to regulate the practices and rules" (p. 115). The importance of effective pain management and patient comfort should become the only acceptable practice in nursing care. Decision making regarding narcotic administration should be based on patient self-report and patient safety. When the patient is in pain, and narcotic concerns are inappropriate, it

should be standard practice for the nurse to work with the patient to achieve the highest level of comfort attainable.

The ineffective treatment of pain is detrimental to patient's health and well-being. King's theory (1981) can provide an effective conceptual framework with which to approach pain assessment, goal setting, planning, intervention, and evaluation of effective pain management. It cannot be done without the guidance and input from our patients.

#### Application to Nursing Education

Results of this study have important implications to education, administration, and to nursing practice. The results of this research suggest that more education regarding narcotic administration and appropriate treatment of side effects is needed. The role of education is to facilitate the student's progression for novice to expert in the field of pain management. Clinicians, both novice and expert, need education about the importance of regularly scheduled assessment, the responsibility of accepting what the patient says rather than downgrading reports of pain, and the necessity of planning action based on the basis of patient report of pain, rather than their own personal judgements. It is important to realize when it is safe to increase opioid doses, that there is no ceiling on pain relief that can be obtained from morphine-like analgesics, and that a level of pain relief satisfactory to the patient can be achieved in the vast majority of circumstances (McCaffery & Ferrell, 1997). Opioid tolerance, physiological tolerance or physical dependence is unusual in short-term postoperative use in opioid naive patients (Acute Pain Management Guideline, 1992). Likewise, psychological dependence and addiction are extremely unlikely to develop after patients without prior drug abuse histories use opioids for acute pain management. Resources for educational materials can be obtained

through the AHCPR Clinical Practice Guidelines (1992) and from the American Pain Society (1992). Clinicians should become familiar with the recommendations made within these educational materials.

Pain assessment and management of clients across the life span should be taught in the generic nursing programs to ensure an adequate foundation of pain management knowledge. Pain management courses should also be available as elective courses for undergraduate and graduate students. Continuing education should be provided in the clinical setting to enhance pain management knowledge. New employees should receive instructions regarding pain assessment and management. Yearly inservices regarding assessment and management should be mandated. Finally, pain management knowledge needs to be implemented in the clinical setting by standards of care or critical pathways.

#### Application to Nursing Administration

With the advent of health care reform, reimbursement issues, and cost cutting measures, the results of this research also have implications for health care administrators. Unfortunately, this study suggests that pain management efforts are still not as successful as desired. Benefits of effective pain management include increased comfort as well as earlier mobilization, shortened hospital stays, and reduced costs (Acute Pain Management Guidelines, 1992). These reduced costs are of utmost importance to administrators as hospitals struggle to survive.

The Acute Pain Management Guidelines (1992) suggests that at the institutional level, periodic evaluation studies be conducted to monitor the effectiveness and management procedures. Without institutional support for an organized process by which pain is recognized, documented, assessed, and reassessed on a regular basis, staff efforts to treat

pain may become sporadic and ineffectual (Acute Pain Management Guidelines, 1992). To ensure that this process occurs effectively, formal means must be developed and used within each institution to assess pain, and to obtain feedback to gauge the adequacy of its control. The institutional process of acute pain management begins with an affirmation that patients should have access to the best level of pain relief that may safely be provided. Each institution should develop the resources necessary to provide the best and most modern pain relief appropriate to its patients.

#### Application to Nursing Practice

This study also has implications for nursing practice because results again suggest that pain relief is ineffective. The ethical obligation to manage pain and relieve the patient's suffering is at the core of a health professional's commitment (Acute Pain Management Guidelines, 1992). Nurses should view good pain control as a source of pride and a major responsibility in quality care. Nurses should realize that many patients continue to experience ineffective pain relief and that further education in pain management is necessary to both nursing students and experienced staff. Nurses need to be actively involved in self-learning, as well as in instructing colleagues and patients as well as their families about the appropriate use of narcotic analgesics in pain control. Nurses should have the same goals as the guideline for Acute Pain Management Guidelines (1992): to reduce the incidence and severity of patients' acute postoperative and posttraumatic pain; to educate patients regarding the need to communicate unrelieved pain so prompt evaluation and effective treatment can be implemented; to enhance patient comfort and satisfaction; and to contribute to fewer postoperative complications and possibly shorter hospital stays.

## Limitations

Limitations of this study includes realizing that responses were obtained based on paper-pencil reports of behavior rather than direct observations in the clinical setting. This limitation of paper-pencil may actually have resulted in greater tendency to indicate the correct response than actually would have been taken in a clinical situation because the respondent would realize that there would be no risks of narcotic side effects when administering medication on paper as opposed to actually administering the medication.

Another limitation may have been related to the fact that the majority of student respondents were Caucasian (92.8%) and that almost all of the subjects were female (94%). While this was an actual representation of these graduating nursing classes, it may not represent an actual picture of all senior nursing classes, and results may not be representative of the results obtained from all senior nursing students. Results of this study may have shown greater significance with a more heterogenous population. The majority of students in this study were Caucasian females, and all students, ADN and BSN, were at the end of their nursing education. Different findings may have resulted if the subjects varied between beginning nursing students, senior nursing students, and registered nurses returning for their bacheureate degree.

A third limitation is that this study does not render information regarding why the nurse or family member chose a particular dose of narcotic. Was it related to an underestimation of the patient's pain? Was it related to fear of narcotic side effects such as respiratory depression or narcotic tolerance? Was it related to a knowledge deficit regarding narcotic analgesics?

### Recommendations for Future Research

Based on the statistical findings of this study, additional research is needed to assess the knowledge and attitudes of senior nursing students or new graduates in pain management in order to more clearly delineate nursing education's influence on this area of clinical practice. Competency in pain management is not solely a function of content mastery. Therefore, education about pain management should include the critical analysis of issues as well as the development of values. Because it is the knowledge of students, their ability to critically analyze situations, and their personal and professional values that ultimately influence their pain management strategies, further research is needed to determine how analytic abilities and values to pain management in students are developed.

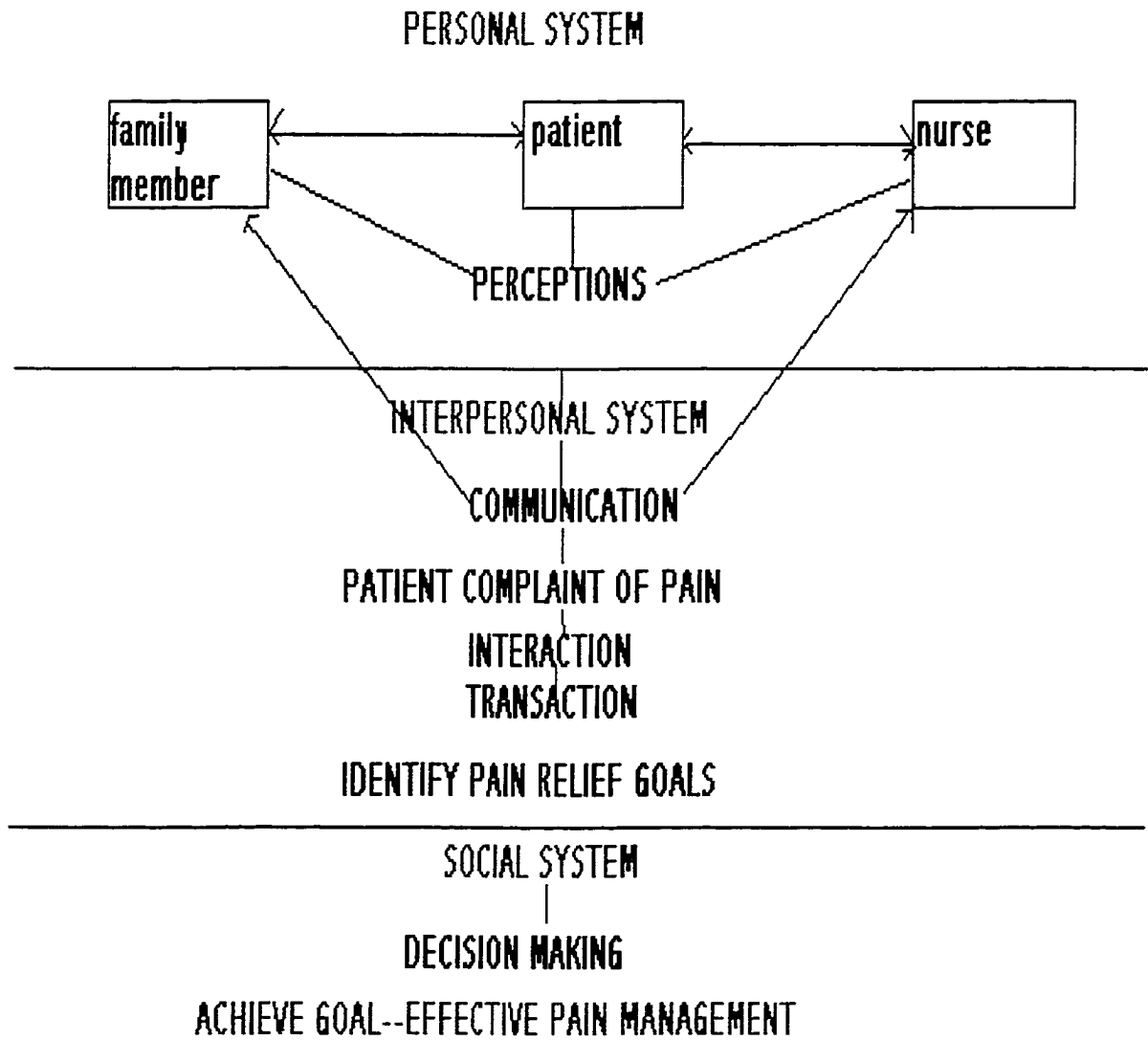
Specific recommendations for future research would be to replicate this study using other senior nursing students to increase the ability to generalize the results. Senior nursing students are the professionals of the future. By studying this population, it may be possible to create a pain management curriculum that addresses the weakness noted in this study so that safe, effective, cost effective management of pain can become a reality.

### Summary

In conclusion, as these results suggest, pain assessment is subjective and pain management continues to be ineffective. Further study is needed into how nurses make decisions. Further study into educational needs should also be addresses after understanding the decision making process. Patients deserve the right to as comfortable as possible. We as nurses have the responsibility to make that comfort happen.

APPENDIX A

King's (1981) Interactive Systems Framework as it Applies to Pain







## Appendix B

### Vignette 2

Andy is 25 years old and this is his second day following abdominal surgery. You are his nurse. As you enter his room to check his vital signs, he smiles at you and continues talking and joking with his visitor. Your assessment yields the following information: BP=120/80; HR=80; R=18; on a scale of 0 to 5 (0=no pain/discomfort, 5=worst pain/discomfort). Andy rates his pain as 4 at the surgical site.

1. On the patient's record, you, the nurse should record:

*Circle the number* that accurately records your assessment.

0	1	2	3	4	5
<b>No pain/discomfort</b>					<b>Worst pain/discomfort</b>

2. The assessment, above, is made 4 hours after Andy received morphine 10 mg IM. During the 3 hours following the injection, Andy says his pain ratings ranged from 3 to 4 and that he had no side effects. His physician's order for analgesia is "morphine 5 to 15 mg q 3-4 hours PRN pain relief". *Check* the action that you as the nurse expect to take at this time.

- a) Administer no morphine at this time.  
 b) Administer 5 mg morphine now.  
 c) Administer 10 mg morphine now.  
 d) Administer 15 mg morphine now.

3. Should your medication choice, above, be determined by any of the following concerns about Andy?

*Check all that apply.*

- a) respiratory depression  
 b) addiction (psychological dependence)  
 c) tolerance to analgesia  
 d) physical dependence (withdrawal)  
 e) other; please specify \_\_\_\_\_  
 f) none of the above are major concerns

## Appendix B

### Nursing Student Demographics

- I. How old are you? \_\_\_\_\_(in years).
- II. 1. \_\_\_\_\_ male            2. \_\_\_\_\_ female
- III. What is your race? Are you:  
1. \_\_\_\_\_ White  
2. \_\_\_\_\_ Black  
3. \_\_\_\_\_ Hispanic  
4. \_\_\_\_\_ Native American Indian  
5. \_\_\_\_\_ Asian Pacific Islander  
6. \_\_\_\_\_ Other  
(Please Specify \_\_\_\_\_)
- IV. Have you or any members of your family undergone abdominal surgery?  
1. \_\_\_\_\_ Yes  
2. \_\_\_\_\_ No

## Appendix C

### Verbal Instructions to Students

My name is \_\_\_\_\_. I am a graduate student at Grand Valley State University in the nursing program and my thesis is on pain management. My study involves looking at nursing students' perceptions of pain and decisions regarding pain management. This survey involves reading a short paragraph describing a patient situation. I would like you to answer the three questions following the paragraph. I am available to answer any individual questions that you may have, just raise your hand or come to me. After completing the questions, please complete the demographic sheet. Thank you so much for your time and cooperation. Completing this survey is completely voluntary and in no way affects your grade in this class. Completion and submission of this survey implies consent. If you have any questions regarding your rights as a human subject, please feel free to contact Professor Paul Huizenga at (616) 895-2472. Your input will be greatly appreciated.

Appendix D

---

**Margo McCaffery, RN, MS, FAAN**  
Consultant in the Nursing Care of Patients with Pain  
8347 Kenyon Avenue  
Los Angeles, California 90045  
Telephone: (310) 649-2219 Fax: (310) 649-0011

February 1, 1999

Dear Ms. Fitzpatrick:

You have my permission to use the vignettes described in the 1997 publication in The Journal of Continuing Education in Nursing. You may also include a copy in your thesis.

In the future when you request assistance from colleagues, it would be courteous to include a SASE. When you are asking for permission, you should also include a letter granting permission that simply requires the author's signature.

Best wishes with your project, and let me know if I can be of further help. I am also enclosing a reference list pertinent to our vignette research.

Sincerely,

A solid black rectangular box redacting the signature of Margo McCaffery.

Margo McCaffery

Appendix D



Betty Ferrell, PhD  
Research Scientist  
Nursing Research and Education

Deb

Attached are the instruments  
you requested. These and  
other tools are on our  
Mayday Pain Resource Center  
website in the "Instruments"  
section. The cover letters  
give permission for use  
and instructions



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# City of Hope

## NATIONAL MEDICAL CENTER

**MAYDAY PAIN  
RESOURCE CENTER**

**MEMORANDUM**

**To: Deb Fitzpatrick, RN, BSN**

**From: Betty R. Ferrell, RN, PhD, FAAN  
Research Scientist  
Co-Director**

**Marcia M. Grant, RN, DNSc, FAAN  
Research Scientist  
Co-Director**

**Jane C. Roach  
Project Coordinator**

**Date: February 1, 1999**

**Thank you for your interest in our materials from The Mayday Pain Resource Center. We hope you will find this useful in your research or clinical practice. If you should require any additional information, please let us know.**

**Many of our documents are available on our Webpage. You may visit our website at <http://mayday.coh.org>.**

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(626) 301-8941 FAX**

*A National Cancer Institute Designated Clinical Cancer Research Center*

Appendix E



**GRAND VALLEY  
STATE UNIVERSITY**

1 CAMPUS DRIVE • ALLENDALE, MICHIGAN 49401-9403 • 616/895-6611

April 26, 1999

Debra Fitzpatrick  
2830 Rosewood  
Hudsonville, MI 49426

Dear Debra:

Your proposed project entitled *Differences Between the Nursing Role and Family Member Role in Acute Pain Assessment in Senior Nursing Students* has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

[Redacted Signature]

Paul Huizenga, Chair  
Human Research Review Committee

## References

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