The Relationship Between Knowledge of Pain Management

and Pain Asssessment Documentation

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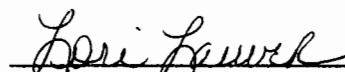
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Abstract

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Pain assessment remains a challenge for nurses in many disciplines. Due to the profound individualization of pain, its management becomes extremely difficult. Therefore, the nurse must possess a great deal of knowledge regarding pain management. Furthermore, consistent documentation of pain assessments is likewise crucial in effective pain control. Without such documentation, communication between health care team members is negligent, and patient pain may remain unrelieved. Effective pain management is especially important in the population of oncology patients. The purpose of this study was to determine the relationship between knowledge of general and pharmacologic pain management possessed by registered nurses who care for oncology patients and pain assessment documentation in an acute care setting in northcentral Pennsylvania. A descriptive correlative design was used. A chart audit utilizing records of oncology patients in a Pennsylvania hospital who signed a consent form over an eleven day time period was performed using the Pain Audit Tool (McCaffery, 1995). Twenty charts were reviewed. Eleven registered nurses who care for oncology patients at this hospital then completed a demographic questionnaire and the Cancer Pain Information Survey (McCaffery, 1995), a knowledge questionnaire. Bivariate inferential analysis of the variables using the Spearman rank correlation was conducted. The results of this study showed that no significant relationship existed between knowledge and pain documentation ($r = -.156$, $\alpha = .323$). The researcher concluded that this is not conclusive in demonstrating that a relationship does not exist but rather the study should be repeated

using a larger sample. However, results may be used by health care providers in an effort

to enhance patient pain management.

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CHAPTER I

Introduction

Pain assessment remains a challenge for nurses in all areas of practice. McCaffery (1983) suggests that "pain is what the patient says it is, and it exists as long as the patient says it does" (p. 14). Due to this profound individualization of pain, its management becomes extremely difficult. Therefore, in order to successfully address patient pain, the nurse must possess a great deal of knowledge regarding pain management. As the nurse tends to spend more time with a patient who is experiencing pain than does any other member of the health care team, he or she is the most likely individual to assess the patient's pain and implement interventions to eradicate it (McCaffery & Ferrell, 1997). The nurse is also the most likely evaluator of pain management interventions and the initiator for further treatment when necessary. Therefore, whether in an acute or chronic care setting, a nurse's knowledge of pharmacologic pain management is essential to control the discomfort that the patient is experiencing.

Furthermore, consistent documentation of pain and the pharmacological intervention used to treat pain are crucial in effective pain control. An absence of pain assessment documentation makes it more difficult to adapt a plan of care for the individual patient and hinders the treatment of pain (Livneh, Garber, & Shaevich, 1998). If a nurse fails to document that a specific pain management intervention has either failed or proved successful for a patient, other members of the healthcare team remain uninformed as to whether treatments should or should not be implemented again. Communicating patient pain through nursing documentation helps to achieve the ultimate goal of pain relief (Malek & Olivieri, 1996).

Effective pain management is of paramount importance in the population of oncology patients. According to the American Cancer Society (1995), about 1,252,00 new cancer cases are diagnosed each year, and 12 million people with cancer are treated by medical professionals annually.   Thirty percent of these cancer patients receiving treatment experience moderate to severe pain (Waller & Caroline, 1996). With the progression of the disease, the incidence of pain increases to 60% to 90%. Since such a large percentage of cancer patients encounter pain, determining what influence the nurse's knowledge of pain management has on pain assessment documentation has become key to the care and comfort of the patient.

The purpose of this study was to determine the relationship between the knowledge of general and pharmacologic pain management possessed by registered nurses who care for oncology patients and pain assessment documentation in a rural, north central Pennsylvania hospital .   Therefore, this study addressed the following question: "What is the relationship between the general and pharmacologic knowledge of pain management of registered nurses caring for oncology patients in an acute care setting and their pain assessment documentation?"

The following terms are defined for the purposes of this study:

Relationship: mutual connection between two or more things as measured by the Spearman Rank Correlation (Guralnik, 1996).

Knowledge: perception of fact; skill from practice (Guralnik, 1996).

General: overall; taken as a whole; pertaining to the majority (Guralnik, 1996).

Pharmacologic: pertaining to drugs or medicine (Anderson, K., Anderson, L., & Glanze, 1998).

Pain: ' unpleasant sensation caused by a noxious stimulation of sensory nerve endings'

(Anderson, K., Anderson, L., & Glanze, p. 1186, 1998). It is subjective. 'Pain is what

the patient says it is, and it exists as long as the patient says it does' (McCaffery, p. 14,

1983).

Pain Management: relief of the patient's pain (McCaffery, 1983).

Knowledge of general and pharmacologic pain management: perception of fact and skill

from practice of overall and drug related relief of the unpleasant, subjective sensation of

pain as measured by the Cancer Pain Information Survey (Anderson, K., Anderson, L., &

Glanze, 1998).

Nurse: a person who is educated and licensed in the practice of nursing and is concerned

with the diagnosis and treatment of human health problems (Anderson, K., Anderson, L.,

& Glanze, 1998). A nurse is the person responsible for assisting an individual, family, or

community in coping with illness and suffering (Travelbee, 1971).

Registered Nurse: a nurse who has completed a course of study at a state approved

school of nursing and has passed the National Council Licensure Examination (NCLEX)

(Anderson, K., Anderson, L., & Glanze, 1998).

Care: to be concerned with (Guralnik, 1996).

Oncology: the branch of medicine concerned with malignancy, i.e. cancerous growth

(Anderson, K., Anderson, L., & Glanze, 1998).

Patient: a recipient of health care (Anderson, K., Anderson, L., & Glanze, 1998).

Registered nurses who care for oncology patients: those persons who are educated in the

practice of nursing, have completed a state approved course of study in nursing, have

passed the NCLEX, and are concerned with those recipients of health care who have a malignancy (Anderson, K., Anderson, L., & Glanze, 1998).

Assessment: an evaluation or appraisal of a condition (Anderson, K., Anderson, L., & Glanze, 1998).

Documentation: recording of pertinent client data in a clinical record (Anderson, K., Anderson, L., & Glanze, 1998).

Pain Assessment Documentation: recording of one's evaluation of the unpleasant, subjective sensation of pain in a clinical record as measured by the Pain Audit Tool (Anderson, K., Anderson, L., & Glanze, 1998).

Rural: pertaining to the country; outside the city (Guralnik, 1996).

Acute: beginning abruptly with marked intensity or sharpness then subsiding after a short period of time (Guralnik, 1996).

Acute-care setting: location in which a patient is treated for an acute episode of illness, for the sequelae of accident or trauma, or during recovery from surgery; acute care is often given in a hospital by specialized personnel using complex equipment. This pattern of care is usually necessary for only a short period of time (Anderson, K., Anderson, L., & Glanze, 1998).

Hospital: an institution that provides medical and/or surgical care for the sick and injured (Anderson, K., Anderson, L., & Glanze, 1998).

During this study, the researcher identified several limitations. The sample used was a convenience sample as it was most accessible to the researcher. This resulted in a decreased ability to identify any bias within the sample. In addition, only one institution was used and the number of subjects and charts reviewed was relatively small as the

institution which participated in the study is a modest, rural hospital. The use of only one hospital and the small sample size caused limited generalizability of the study. Furthermore, the researcher had a time constraint which had to be met in order to complete the study. This hindered the number of potential subjects who could be included in the study, limiting the amount of data collected, thus decreasing the generalizability and validity of the study. Additionally, the researcher of this study was somewhat inexperienced with the research process which may have threatened the validity of the study through deficiencies in data collection and/or statistical analysis.

Finally, this study also made several assumptions which should be taken into consideration. First, the researcher assumed that the nurses in the study answered honestly the questionnaires that were distributed to them. Additionally, the author of this research assumed that the registered nurses in the study wanted to be working at this particular facility with an oncology population. This factor represents attitudes which may have influenced the results of the questionnaires.

Much research has been conducted regarding nurses' knowledge of pain management and pain documentation. However, the author was aware of only one study that considered a possible relationship between the two. By determining if a relationship exists, patient pain may be managed more effectively as nurses strive to increase their pain management knowledge and pain assessment documentation. Generally, research has focused on either nurses' knowledge of pain management, in many cases oncology nurses, or on pain documentation. This is discussed in Chapter II.

CHAPTER II

Review of the Literature

Keeping in mind that the purpose of this study was to determine the relationship between the nurse's knowledge of pain management and his or her use of pain management documentation, the literature review focused on current studies which addressed the issues of nurses' pain management knowledge and the presence of pain documentation. After an exhaustive review of the literature, the author found no research which specifically addressed a possible correlation between pain management knowledge and the existence of pain documentation. Therefore, the author of this study could only rely on related studies.

In a number of studies (Brunier, Carson, & Harrison, 1995; Clarke et al., 1996; O'Brien, Dalton, Konsler, & Carlson, 1996; Ryan, Vortherms, & Ward, 1994) which compared registered oncology nurses' knowledge of pain management with the knowledge of nurses' on other units in the hospital setting, oncology nurses scored significantly better than others on pain knowledge surveys. In fact, in a study conducted by Clarke and associates (1996), oncology nurses scored twelve percent higher than nurses on other units such as surgical intensive care, orthopedic, and medical wards. Likewise, in a study conducted by Buck & Shaffer (1999), the nurses who cared for oncology clients in a long-term care facility acquired a mean percentage score of 88.3% on the Cancer Pain Information Survey, suggesting an adequate knowledge level regarding cancer pain management among these nurses. In a more focused study, McCaffery & Ferrell (1997) found that 62.7% of the 450 nurses in their study, including a group of oncology nurses, correctly answered on a knowledge test that overall, less than

one percent of patients on opioids become addicted, suggesting that the majority of these nurses possess an adequate knowledge of opioid addiction frequency.

While cancer pain management knowledge seemed adequate in these studies, McCaffery & Ferrell (1999) concluded that many of the basics in pain management are lacking among all nurses. These researchers found that less than half of the nurses in their study (n = 71) regarded the patient's self-report of pain as the most reliable indicator of pain (McCaffery & Ferrell, 1997; Waller & Caroline, 1996). Twenty percent of the nurses in McCaffery and Ferrell's study (1997) would not increase an opioid dosage for a smiling patient despite any verbalization of pain but would increase the dose for a client who was grimacing. Brunier, Carson, & Harrison (1995) discovered that forty-four percent of the nurses in their study (n = 514) taken from medical, surgical, and oncology units falsely agreed with the statement that the nurses' perception of patient pain was more accurate than the patient's self-report. In addition, another research team (Vortherms, Ryan, & Ward, 1992) found that 20% of patient's self-reported cancer pain was thought to be exaggerated by oncology nurses as did a study conducted by McCaffery & Ferrell (1995) in which more than a quarter of oncology nurses thought patients overreported pain.

Furthermore, results of varying research studies indicate that the lack of knowledge of analgesics among nurses is disturbing. Research surveys conducted by Ferrell & McCaffery (1997) and Heath (1998) containing 450 and 90 registered nurses, respectively, revealed that major knowledge deficits exist regarding opioid titration, dosage, breakthrough dosing, and pharmacokinetics exist. In a study conducted by Ryan, Vortherms, & Ward (1994), the reseachers discovered that long-term care facility nurses

who cared for oncology patients lacked adequate pharmacologic pain management knowledge when compared to acute care nurses. In 1992 these same researchers found that the mean percentage score on a knowledge test concerning the pharmacologic management of cancer pain was only 56.4% among 789 oncology nurses. Coyne and her colleagues (1999) likewise found that 60% of the nurses (n = 232) studied in their research lacked basic knowledge of opioid analgesics.   Eighty-three percent of experienced oncology nurses (n = 1400) in another study (O'Brien, Dalton, Konsler, & Carlson, 1996) incorrectly answered a question regarding psychological dependence on narcotics for pain relief (Waller & Caroline, 1996).   McCaffery & Ferrell (1995) discovered that one-half of the 1428 oncology nurses from five different countries in their study had a greater fear of addiction to opioids than was warranted. Finally, 53% of the nurses studied by Clarke and associates (1996) incorrectly stated in a pain knowledge survey that patients should receive additional narcotics when the pain was considered moderate by the patient instead of before the pain returns.

Research not only supports that practicing nurses lack knowledge of pain management, but also that the instructors who have educated them contributed to such a deficiency (Ferrell, McGuire, & Donovan, 1993; McCaffery & Ferrell, 1997). Overall, nursing faculty who were involved in a study conducted in 14 baccalaureate nursing schools by Ferrell, McGuire, & Donovan (1993) concluded that their programs were only moderately effective in preparing students to manage pain. In general, the nursing educators who participated in this research displayed adequate knowledge of predominant pain theories. However, they lacked knowledge of goals, processes, and the differences between acute and chronic pain. The most striking deficiency was found to be in

faculty's knowledge of pharmacologic sites of action, major side effects, and the duration of action of common narcotics. Ferrell & McCaffery (1997) further indicated that 13% of nursing students in their final year of college stated that cancer pain management was not adequately addressed in their nursing curriculum when compared to the number of times they encountered this pain in the clinical setting.

Just as the literature suggests varied findings regarding the inadequate level of pain management knowledge among nurses, it also suggests that the situation is the same with pain documentation. In a study regarding systematic pain recording, Faries and associates (1991) discovered that less than 18.5% of patient pain was documented by oncology nurses. Similar results are reported in other studies. Clarke and her associates (1996) found that on 76% of patient charts there was no evidence of nurses' use of the patient pain self-assessment tool despite the fact that 48% of the nurses represented in this study reported frequent use of the tool, and 28% reported that they always use the tool. In this same research study, ten chart audits of oncology patients revealed only one documented use of a patient pain self-assessment tool. Also, Malek & Olivieri (1996) found that less than half of patient health records contained documentation of pain. In research conducted by Livneh, Garber, & Shaevich (1998) only 67% of oncology units had a pain assessment form. Furthermore, none of the remaining documentation forms included a category for the nature and severity of the pain, suggesting that patient pain issues may have been overlooked as a result of insufficient documentation to act as communication among the health care team. Although pain was initially assessed on all the patients admitted to the oncology units, 89% of nursing records did not contain follow-up documentation.

With the development of the Joint Commission on Accreditation of Healthcare Organizations' new guidelines for pain documentation in 1995, more recent research reveals increased documentation efforts (McCaffery & Ferrell, 1999). One such study was conducted by Dalton and associates (1996). These researchers initiated an education program to change oncology nurses' knowledge and documentation practices. They found after a time-series experimental study that although pain assessment documentation was statistically infrequent before the program and at ten weeks after its initiation, documentation frequency increased significantly (x^2 (1) = 29.9, p < 0.001) six months after program completion. In fact, 83% of the oncology nurses in the study were performing and documenting in-depth pain assessments after the initial pain assessment. Clarke and colleagues (1996) also found that despite a lack of pain assessment tools or flow sheets, 79% of the charts in this study contained a written nursing note regarding pain.

Overall, a review of the literature concludes that pain management knowledge and pain assessment documentation are in need of much growth. Despite the fact that oncology nurses have been the forerunners in their endeavors to improve both knowledge and documentation of pain, the literature suggests that oncology nurses still need to enhance their assessment documentation and general knowledge of pain, as they most often encounter patients in a state of discomfort. By exposing oncology nurses to theoretical frameworks which deal with the issue of pain from which nurses can draw, pain management practice may be enhanced as the framework may provide a basis for practice with regards to pain.

Theoretical Framework

Since this study was designed to determine the relationship between nurses' knowledge of pain management and documentation of pain assessments, the theoretical framework naturally centers on the concepts of pain and nursing. Margo McCaffery, a well-established pain expert in the field of nursing examines the constructs of pain and its impact on nursing (Meinhart & McCaffery, 1983). Likewise, Joyce Travelbee (1971), a nursing theorist, explains her view on the human-to-human relationship and how nursing plays a role in pain. The two theories will be interrelated to form the basis for this research study.

Margo McCaffery (1983) states that 'pain is what the patient says it is, and it exists as long as the patient says it does' (p. 14). Nevertheless, she believes that patient pain relief is a realistic goal. Because the nurse remains in close contact with the client, the nurse is always aware of the patient's level of pain and theoretically has the power to manage it. Therefore, the question is not whether a patient's pain can be controlled but how pain relief will be achieved. The nurse becomes the key player in providing and sustaining this relief.

McCaffery (1983) also asserts that the overall well-being of a client is greatly impacted by pain relief. On the physical level, a human being cannot successfully function with the physiological effects that pain has on his or her body. One cannot endure a rapid heart rate, an increased blood pressure, increased respirations, and constant nausea and vomiting which often occur with the experience of pain on a long-term basis. Survival becomes threatened. Therefore, pain must be relieved. This goal can only be achieved when a nurse applies a working knowledge of pain management to

a given clinical situation. Emotionally, the client becomes anxious, confused, depressed, and angry about the discomfort being encountered. Problem-solving becomes deficient, and the patient is unable to cope. Daily living becomes a chore, and the client's ability to deal with life is diminished. Consequently, nursing knowledge of pain management plays a crucial role in the restoration of the patient's coping skills.

Furthermore, the recording of patient pain provides an avenue of communication among health care professionals according to McCaffery (Meinhart & McCaffery, 1983). Since nurses are in much more frequent and consistent contact with a patient in pain, they become the most vital link in that chain of communication. The nurse, therefore, has a responsibility to the patient to document pain and the methods that were used in an attempt to relieve the pain. Full knowledge of a client's pain is necessary to afford a patient the complete benefit of the healthcare team's expertise in its management. Consistent documentation then is an integral part of successful pain management.

Like McCaffery, Joyce Travelbee (1971), a psychiatric nurse practitioner, believes that nursing is responsible for assisting an individual, family, or community in coping with illness and suffering. Nursing is an interpersonal process, because it occurs between the nurse and client, i.e. human-to-human. Travelbee defines the human-to-human relationship as any experience(s) between the nurse and patient in which the client is the benefactor of nursing care. When a person becomes a client, that individual is the receiver of nursing care and thus engages in a human-to-human relationship with the nurse. Therefore, nursing is an integral part of the care and comfort of a patient. Thus, it only stands to reason that nursing is critical to the management of pain. Travelbee further explains her view of person as not just the patient but as a unique individual that is in a

constant state of change. Although persons are all human beings, no individual will ever be like another.

Health is dichotomized by Travelbee (1971) as both subjective and objective. Objective health is the absence of disease as measured by physical examination and laboratory findings. Subjective health is defined as an individual's self-appraisal of emotional and physical well-being. These two aspects are intertwined and become the measurements by which healthcare professionals judge a person's health.

Beyond the classic nursing theorist's definition of nursing, person, and health, Travelbee (1971) explores other pertinent concepts in the human-to-human relationship. The therapeutic use of self asserts that the understanding, interpretation, and knowledge of oneself influence one's ability to effectively assess others. Thus, the nurse's capacity to intervene appropriately on behalf of another human is based upon that self-interpretation. Furthermore, Travelbee explains pain to be a unique experience for each individual. Pain itself cannot be seen. Only the effects of pain can be observed, making it difficult to communicate the situation to another person. Finding a way to relate these concepts to nursing practice becomes an important task in providing quality patient care.

When applying McCaffery's beliefs and Travelbee's model to pain management and documentation, the registered nurse must acquire a well-developed knowledge base in order to act as the key element in pain management. As the nurse is deeply involved in the human-to-human interaction between self and the client, the nurse becomes the most integral part of the holistic care of the patient, and therefore, must be accountable for pain management as suggested by Travelbee. Because of the nurse's close contact with the client, the goal of pain relief can be achieved according to McCaffery (McCaffery, 1983).

In addition, since pain is such a unique encounter for each individual as suggested by McCaffery, the nurse must possess a general awareness of pain management techniques in order to individualize each client's care. Working from a general knowledge base to a more specific one becomes part of the nursing process which can be applied to cancer pain management. As cancer patients frequently experience pain, nurses who care for oncology clients must be able to draw from general and pharmacologic knowledge of pain management in an effort to alleviate pain.

Knowing that pain is such a unique experience for each individual, consistent documentation on each client's record becomes an important part of communication between healthcare professionals. Since each patient encounters pain differently, recording its manifestations and the treatments used to manage it become a necessity according to McCaffery and Travelbee (McCaffery, 1983; Travelbee, 1971). As a significant participant in the human-to-human relationship, the nurse must effectively examine self in order to manage the client's pain as suggested by Travelbee. Self-interpretation can positively affect the nurse by examining self in the "client's shoes" and determining what would be desirable to communicate to members of the healthcare team about the client's pain. Thus, the nurse becomes more keenly aware of the need to document in order to make known to other healthcare professionals that pain exists in a particular client, what was done to manage it, and what was the result of that attempt to manage the pain.

Since knowledge of pain management and documentation seem to be closely related in some way as suggested by McCaffery's belief (1983) and Travelbee's human-to-human relationship model (1971), trying to determine what this relationship is seems

to be part of a logical progression toward better pain management. Keeping in mind that

the purpose of this study is to determine the relationship between the knowledge of

general and pharmacologic pain management possessed by registered nurses who care for

oncology patients and pain assessment documentation in the acute care setting, Chapter

III discusses the methods utilized to measure the relationship between these variables.

CHAPTER III

Methodology

The purpose of this study was to determine the relationship between the registered nurse's knowledge of pain management and pain management documentation.   This section focused on the researcher's selection of the appropriate design, population, sample, subjects, instrumentation, and treatment of data in an effort to reveal the relationship between the two variables.

Design

A descriptive correlative design was used to determine the relationship between the knowledge of general and pharmacologic pain management possessed by registered nurses who care for oncology patients and pain assessment documentation.   This type of design was utilized to facilitate the identification of the aforementioned relationship in a natural setting.   Furthermore, this design was chosen because there is no manipulation of variables (Burns & Grove, 1997).

Population and sample

The population studied by the researcher included registered nurses who care for oncology patients in an acute care setting.   The two criteria to be considered for inclusion as a subject in this study were one's status as a registered nurse and the care of oncology patients.   A convenience sample representing this population was selected from a rural, northcentral Pennsylvania hospital.   A complete list of all registered nurses who care for oncology patients at this facility was acquired to obtain possible subjects.   This list provided the researcher with a total of 31 possible subjects.

All registered nurses on the list met the criteria for inclusion and received the Cancer Pain Information Survey (see Appendix A)—a knowledge questionnaire which also contained demographic information designed by Margo McCaffery (1995)—in their mailboxes at the hospital and were asked to complete it. Each nurse was given a four digit number code which was placed on the questionnaire to ensure anonymity. The researcher maintained a list of the codes and corresponding nurse to enable the researcher to match the questionnaire with the subject. Accompanying the questionnaire was a cover letter which described the study, explained risks and benefits of the research, and ensured confidentiality and anonymity for the subject (see Appendix B). The prospective subjects were advised that by virtue of completing a questionnaire, the consent to be in the study was given to the researcher.

Eleven surveys out of a possible 31 were completed and received by the researcher. This represented a 35% response rate which is considered to be adequate (Burns & Grove, 1997). The number of years in practice for this sample ranged from 8 months to 32 years with a mean of 10 years in practice. Ten of the 11 subjects were female. Three of the 11 nurses indicated that the highest degree which they acquired was the associate's degree in nursing, 3 respondents obtained a diploma in nursing as the highest degree, and 5 of the subjects have a baccalaureate degree in nursing. Six of the respondents reported that they were chemotherapy certified. All of the nurses had inpatient oncology experience by virtue of their current employment, and 3 of the subjects have experience working in the outpatient cancer setting. In addition, 9 of the 11 respondents reported that they work with cancer patients often, and 2 subjects stated that they work with them occasionally. Five of the nurses indicated that they work the day

shift regularly; five stated that they work evenings the most; and one respondent reported working the night shift on a regular basis.

Instrumentation

Two instruments were used in the data collection phase of this study, the Cancer Pain Information Survey which included demographic questions and the Pain Audit Tool. The **demographic questions** developed by McCaffery (1995) contains questions which address the characteristics of the sample (see Appendix A). These questions include years in practice as a registered nurse, gender, frequency with which the nurse cared for oncology patients, experience in an inpatient and outpatient oncology setting, type of registered nurse degree, and status of chemotherapy certification.

The **Cancer Pain Information Survey** which was also designed by Margo McCaffery (1995) was selected by the author of this study because the researcher deemed it as an appropriate way to measure the general and pharmacological knowledge of pain management possessed by registered nurses who care for oncology patients (see Appendix A). This twelve-question tool asks specific knowledge questions regarding pain assessment as well as pharmacologic management of cancer pain. Therefore, it seemed to measure the variable of knowledge with an ample degree of accuracy. This tool was deemed reliable and valid by the author of the Cancer Pain Information Survey as well as by those individuals who have used the tool for other research studies (McCaffery & Ferrell, 1995). However, the author of this study was unable to obtain any information which specifically addressed the tool's reliability and validity from the designer of the tool, despite a request for the same. For the purposes of this study, the researcher obtained an evaluation of face and content validity from a panel of experts.

The survey, based upon on the World Health Organization's publication of cancer pain relief, was designed to test the knowledge of pain management of medical and nursing students as well as practicing nurses and physicians who care for oncology patients and was tested originally on these individuals (McCaffery & Ferrell, 1995).

Scoring of this tool was based on correct responses to questions on the survey. Each of the twelve questions had one correct answer for which the subject received credit. The subject was given an overall percentage score (percent out of 100) for the number of questions answered correctly. A traditional grading system was used to interpret scores from the Cancer Pain Information Survey: a) 90 to 100 indicated superior knowledge of the topic, b) 80 to 89 indicated excellent knowledge of the topic, c) 70 to 79 indicated average knowledge of the topic, and d) 60 to 69 indicated inadequate knowledge of the topic.

The third tool, the **Pain Audit Tool** which was also designed by McCaffery (1995), was selected by the researcher because the author found it to be the most appropriate manner in which to measure pain documentation when using a chart audit (see Appendix C). The Pain Audit Tool was designed to review documentation of pain assessments by registered nurses on varied clinical units including the oncology setting. The tool measures the frequency with which nurses document pain assessments by simply asking the researcher to give a "yes" or "no" response to the presence of pain documentation on a given chart for a specified subject. Thus, percentages of yes and no responses, i.e., presence or lack of pain documentation, are then calculated for each subject.   Therefore, this tool seemed to accurately measure the variable of pain assessment documentation. The Pain Audit Tool was deemed reliable by the author of

the tool and was given content validity after the author of the tool performed an extensive review of the literature and gathered a panel of experts in the field of pain management to evaluate this chart review tool (Clarke et al., 1996). However, the researcher of this study were unable to obtain information which specifically addressed the reliability and validity of this tool, despite inquiry for this data.

Procedure

Prior to conducting the study, verbal approval was obtained from the Internal Review Board at the hospital as well as the nurse manager of the oncology unit. The board provided written permission for the researcher to conduct the study two weeks after verbal consent was given (see Appendix D).

The researcher obtained written permission via an informed consent from oncology patients who were being treated on the unit to review their charts. The informed consent described the study, explained risks and benefits of the research, and ensured confidentiality and anonymity of the subject (see Appendix E). If the patient agreed to allow the researcher to review the patient chart, the client was then asked to sign the consent and was given a copy of the consent form. The researcher gathered consents over an eleven-day time period. Twenty-two oncology patients signed the form and agreed to allow the researcher to perform a chart audit. The chart review was performed after the clients were discharged from the hospital to avoid giving the nurses on the oncology unit any information regarding what the researcher was looking for during the chart review. If the researcher had conducted the audit while the patient charts were still on the unit, this factor may have influenced the nurses' documentation practice as they realized someone was reviewing the records upon which they document.

After consents were gathered and subsequent to client discharge, a chart audit using records of oncology clients who signed the informed consent was conducted. The records used in this study included those of all oncology patients who were admitted to the oncology unit at the institution and who signed an informed consent during an eleven-day time period from February 28, 2000 to March 9, 2000. Although twenty-two patients agreed to allow the researcher to utilize their charts for the audit, only twenty charts were reviewed, as the researcher was unable to access two patient charts that had been forwarded to their respective physicians' offices. Since the subjects (RNs) had not yet been identified, all nurses included on the client medical record were tallied with respect to pain assessment. Specifically, when a registered nurse's signature identified that nurse as the primary caregiver for a particular shift, the pain assessment flow sheet was then reviewed to determine if the potential subject documented the patient's pain status. The Pain Audit Tool, a chart audit tool designed by McCaffery (1995), was utilized by the researcher for this data collection to determine the frequency with which the subjects documented (see Appendix C). Since some of the registered nurses worked more shifts more often than other nurses on the oncology unit, the researcher was able to find the signatures of some of the potential subjects more frequently than other subjects, thus providing the researcher with more data regarding charts for these nurses. As a result, as few as three to as many as eleven records were audited for each potential subject based upon how often the nurse's signature appeared on client records.

After the chart review was performed, the researcher placed questionnaires in all the registered nurses' mailboxes. Nurses were asked to place the completed survey in a sealed envelope provided by the researcher upon completion of the questionnaires. The

nurses were then instructed to place these envelopes in a designated, secured container over an eight-day period for retrieval by the researcher. The researcher collected the envelopes containing the questionnaires on the eighth day after the surveys were distributed. The returned surveys identified actual subjects for the study. The data collected was finalized by choosing only the pain audits obtained by the chart review that matched actual subjects.

Treatment of Data

Demographic data from the questionnaires were summarized using descriptive statistics which included means, frequencies, and percentages. In addition, since a linear relationship between two quantitative variables was being studied and because of the small sample size, the Spearman Rank Correlation was used to determine statistical significance for the data gathered from the Cancer Pain Information Survey and the Pain Audit Tool. This was done in an effort to determine if a relationship between knowledge of pain management and pain assessment documentation existed. Nonparametric tests and correlations were also performed to determine if relationships between selected variables existed. The SPSS statistical computer software package was utilized to perform a statistical analysis of data. The level of significance for all tests performed was $\alpha < .05$. Missing data was not an issue in this study.

Upon completion of data collection and statistical manipulation, the researcher analyzed the findings. These results are discussed in Chapter IV.

CHAPTER IV

Results

Since this study examined the relationship between knowledge of pain management and pain assessment documentation, this section focuses on analyzing data concerning that relationship. It also provides data concerning the subjects studied and specific information regarding the knowledge questionnaire and chart audit.

Demographics

Characteristics of the respondents are summarized in Table 4.1. Ten out of the eleven respondents were female (91%). Twenty-seven percent of the subjects possessed an associate's degree in nursing (n = 3), and 27% achieved a diploma in nursing (n = 3). Forty-five percent of the subjects reported having a bachelor's degree in nursing (n = 5). Eighty-two percent (n = 9) reported that they often work with oncology patients while 18% (n = 2) stated that they occasionally work with cancer clients. The years of experience in nursing as an RN ranged from 8 months to 32 years with a mean of 10 years. Six of the eleven respondents were chemotherapy certified (55%), and 27% (n = 3) of the subjects had experience working in the outpatient oncology setting. All subjects (n = 11) had experience working on an inpatient oncology unit by virtue of their current employment on a cancer unit. Five respondents (45%) reported that they work the day shift more frequently than any other shift, and 5 respondents (45%) indicated that they worked evenings most often. One subject (9%) reported working the night shift most often.

Table 4.1   Demographics of Subjects

	N	%
Frequency of work with cancer patients		
Rarely	0	0%
Occasionally	2	18%
Often	9	82%
Total	11	100%
Highest level of education		
Associate Degree	3	27%
Diploma	3	27%
Bachelors	5	45%
Masters	0	0%
Total	11	100%
Years in practice as an RN		
8 months	1	9%
1.0	1	9%
2.0	1	9%
4.0	1	9%
5.0	1	9%
6.0	1	9%
7.0	1	9%
8.0	1	9%
18.0	1	9%
27.0	1	9%
32.0	1	9%
Total	11	100%
Chemotherapy certification		
Yes	6	55%
No	5	45%
Total	11	100%
Experience in outpatient or inpatient oncology setting		
Inpatient	11	100%
Outpatient	3	27%
Shift worked		
Day	5	45%
Evening	5	45%
Nights	1	10%
Total	11	100%
Gender		
Female	10	91%
Male	1	9%
Total	11	100%

Responses to Cancer Pain Information Survey Items

Prevalence of pain. The first question on the survey asked the subjects to identify what percentage of cancer patients they believed suffered pain at some point during their illness. Possible answers ranged from 0% to 100% in increments of 10. The estimates from the World Health Organization and other groups have reported from 80% to 100% of clients experiencing pain (McCaffery & Ferrell, 1995). The correct answer was given by 82% of the subjects (n = 9) (Table 4.2). Two respondent answered this question incorrectly (18%).

Overreporting of pain. The next survey question asked what the subjects believed to be the percentage of cancer patients who overreport the amount of pain that they have. Possible answers ranged from 0% to 100% in increments of 10 with 0% to 10% being the preferred choice. Some literature suggests that overreporting of pain occurs rarely, probably less than 10% of the time (McCaffery & Ferrell, 1995). This question revealed that the nurses in this study were well aware of this fact with 82% (n = 9) of the subjects answering the question correctly (Table 4.3). This finding contradicts what Vortherms, Ryan, & Ward (1992) found in their study in which 68% of oncology nurses believed that 20% of patients' self-report of cancer pain was exaggerated. In this study, two respondents agreed as they answered incorrectly that 20% of patients overreport pain. Likewise, in a study conducted by McCaffery & Ferrell (1995), more than 25% of oncology nurses thought patients overreported pain.

Table 4.2

Percentage of Cancer Patients Believed by RNs to Suffer Pain During Illness

	N	%
0%	0	0%
10%	0	0%
20%	0	0%
30%	0	0%
40%	0	0%
50%	0	0%
60%	1	9%
70%	1	9%
80%	3	27%
90%	3	27%
100%	3	27%
Total	11	100%

Table 4.3

Percentage of Cancer Patients Believed by RNs to Overreport the Amount of Pain They Are Experiencing

	N	%
0%	3	27%
10%	6	55%
20%	1	9%
30%	0	0%
40%	0	0%
50%	0	0%
60%	0	0%
70%	0	0%
80%	1	9%
90%	0	0%
100%	0	0%
Total	11	100%

Incidence of addiction. The likelihood of addiction occurring as a result of opioid use for pain control is well established as less than 1% (McCaffery & Ferrell, 1995). Possible answers ranged from less than 1% to 100%. Respondents to this question revealed that 55% (n = 5) correctly identified this fact (Table 4.4). This question was the most incorrectly answered question on the survey.

The finding in this study was similar to the results of study conducted by McCaffery & Ferrell (1997) who found that 62.7% of the 450 nurses in their study,

including a group of oncology nurses, correctly answered on a knowledge test that overall, less than one percent of patients on opioids become addicted. On the other hand, the results of a study conducted by O'Brien, Dalton, Konsler, & Carlson (1996) found that 83% of experienced oncology nurses (n = 1400) incorrectly answered a question which stated that less than one in a thousand patients would become psychologically dependent on narcotics for pain relief. Likewise, McCaffery & Ferrell (1995) discovered that one-half of the 1428 oncology nurses from five different countries in their study had a greater fear of addiction than warranted. Four of the 5 subjects in this study who incorrectly answered this question did not deviate from the correct answer very much as they believed that 5% of patients were likely to become addicted to opioids. One subject believed that the likelihood that addiction would result from opioid treatment was 50%.

Table 4.4

Perception of the Likelihood That Narcotic Addiction Will Occur as a Result of Treating Pain with Opioids

	N	%
<1%	6	55%
5%	4	36%
25%	0	0%
50%	1	9%
75%	0	0%
100%	0	0%
Total	11	100%

Initiation of opioids. The subjects were asked to identify at what stage they would recommend maximum opioid therapy for treatment of severe cancer. Choices ranged from prognosis of less than 1 week to any time regardless of prognosis, the latter being the correct response. One hundred percent of the respondents (n = 11) identified this correct answer pain (Table 4.5).

Table 4.5

Stage Recommended for Maximum Tolerated Narcotic (Opioid) Analgesic Therapy for Treatment of

Severe Cancer Pain

		N	%
a.	<24 months	0	0%
b.	<18 months	0	0%
c.	<6-12 months	0	0%
d.	<3-6 months	0	0%
e.	<1 month	0	0%
f.	<1 week	0	0%
g.	anytime, regardless of prognosis	11	100%
Total		11	100%

Appropriate administration route of analgesics.   Current standards in pain

management have also endorsed the oral route as the preferred route of administration of

opioids since it is the least invasive and generally least expensive route of administration

(McCaffery & Ferrell, 1995).   Eighty-two percent (n = 9) of the respondents correctly

identified the recommended route of administration (Table 4.6).   Incorrect answers were

distributed among the possible choices for this question.

Results of this study were dissimilar to a study conducted by Vorthems, Ryan &

Ward (1992).   They found that there were misconceptions with regards to the preferred

route of opioid administration for cancer pain.   Only 36.1% (n=385) correctly identified

that the oral route was the preferred route.   The nurses in this study did not seem to have

difficulty in the identification of the recommended route of narcotic administration.

Table 4.6

Recommended Route of Administration of Opioids to Patients with Prolonged Cancer Related Pain

		N	%
a.	intravenous	1	9%
b.	intramuscular	0	0%
c.	subcutaneous	0	0%
d.	oral	9	82%
e.	rectal	0	0%
f.	I don't know	1	9%
Total		11	100%

The next question related to analgesics asked nurses to identify the drug of choice

for treatment of prolonged moderate to severe pain, with morphine being the correct

choice rather than the other options of Brompton's solution, codeine, meperidine, or

methadone. Ninety-one percent (n = 10) of the nurses in this study correctly identified

the correct drug of choice as morphine (Table 4.7). The only subject who did not record

the correct answer indicated a lack of knowledge regarding which drug should be used.

Table 4.7

Analgesic Medications Considered the Drug of Choice for the Treatment of Prolonged Moderate to Severe

Pain

		N	%
a.	Brompton's cocktail	0	0%
b.	Codeine	0	0%
c.	Morphine	10	91%
d.	Meperidine	0	0%
e.	Methadone	0	0%
f.	I don't know	1	9%
Total		11	100%

Another question related to analgesics asked the preferred schedule for analgesic

administration for chronic cancer pain which should have been identified as around the

clock. One hundred percent of the subjects in this research study responded correctly to

this question (Table 4.8). This finding contradicts those of Clarke and associates (1996)

who discovered that 53% of the nurses in their study incorrectly stated in a pain knowledge survey that patients should receive additional narcotics when the pain was considered moderate by the patient instead of before the pain returns. However, Vortherms, Ryan, & Ward (1992) found that more than 70% of 789 oncology nurses knew that around the clock medication regimens were more helpful in maintaining patient pain relief.

Table 4.8

Schedule of Analgesics for Chronic Cancer Pain

		N	%
a.	around the clock, fixed schedule	11	100%
b.	only when patient asks for meds	0	0%
c.	RN decides when patient needs	0	0%
Total		11	100%

Nurses were also asked to select the most likely explanation of why a terminal cancer patient with chronic pain would request increased doses of pain medication. The correct choice was that the patient was experiencing increased pain, rather than increased anxiety or depression, addiction, or a desire for staff attention. One hundred percent of the nurses in this study correctly responded to this question (Table 4.9). A study conducted by Vortherms and associates supported this finding as 83% (n=657) of nurses studied knew that experiencing more pain is the most likely reason for cancer patients to request more medication.

Table 4.9

Explanation of Why a Terminal Cancer Patient Would Request Increased Doses of Pain Medications

		N	%
a.	patient has increased pain	11	100%
b.	patient has increased anxiety or depression	0	
c.	patient wants more staff attention	0	
d.	patient is addicted	0	
Total		11	100%

Meaning of positive placebo response. Use of placebos to determine pain validity

has been established as inappropriate by numerous professional groups (American Cancer

Society, 1995; McCaffery & Ferrell, 1995; Waller & Caroline, 1996).   Seventy-three

percent (n = 8) of the respondents identified this fact as correct (Table 4.10).   Two

subjects (18%) believed that the action was appropriate, and one (9%) indicated a lack of

knowledge regarding the action.   These findings contradict what a 1992 study found by

Vortherms and colleagues that reported that only 55.3% (n=437) knew that the use of

placebo is not a helpful method to test the reality of pain.

Table 4.10

Use of Placebo to Determine If Pain Is Real

		N	%
A.	true	2	18%
B.	false	8	73%
C.	I don't know	1	9%
Total		11	100%

Determination of pain intensity. The patient is the best judge of pain intensity

because pain is subjective and only the patient can feel the pain (McCaffery, 1983).   This

was correctly identified by 100% of the nurses in this study (Table 4.11). However, the findings in a study conducted by Brunier, Carson, & Harrison (1995) contradict this discovery as they found that 44% of the nurses studied (n = 514) falsely agreed with the statement that the nurses' perception of patient pan was more accurate than the patient's self-report.

Table 4.11

Most Accurate Judge of Pain Intensity

		N	%
a.	the treating physician	0	0%
b.	patient's primary nurse	0	0%
c.	patient	11	100%
d.	pharmacist	0	0%
e.	patient's spouse or family	0	0%
Total		11	100%

Perceived effectiveness of pain management. Respondents were also asked to evaluate the pain relief provided by physicians and nurses. Possible choices ranged from very poor to very good. Forty-five percent (n = 5) of the nurses in this study rated the physicians as very good, and 45% rated them as good (Table 4.12). Nine percent (n = 1) rated the physicians as performing a poor job in relieving cancer pain in their setting. Fifty-five percent (n = 6) of the nurses rated nurses as doing a very good job at cancer pain relief, and 36% (n = 4) believed that the nurses on the unit were good (Table 4.13). Nine percent (n = 1) rated the nurses as doing a fair job at relieving pain associated with cancer.

Similar to these findings, Vortherms, Ryan, & Ward (1992) found that 53% of the nurses in their study believed that cancer pain management among nurses was good. Twenty-seven percent believed that the nurses did a fair job in pain management which is

unlike the results of this study which indicated that 9% of the nurses thought cancer pain relief was fair in their setting. Furthermore, 39% of the nurses in Vortherms, Ryan, and Ward (1992) believed that cancer pain management among physicians was good and only 6% believed it was poor. The findings of these researchers are not unlike those in this study.

Table 4.12

Perceptions of Effectiveness of Physicians

		N	%
a.	very poor job	0	0%
b.	poor job	1	9%
c.	fair job	0	0%
d.	good job	5	45%
e.	very good job	5	45%
f.	not applicable	0	
Total		11	100%

Table 4.13

Perceptions of Effectiveness of Nurses

		N	%
g.	very poor job	0	0%
h.	poor job	0	0%
i.	fair job	1	9%
j.	good job	4	45%
k.	very good job	6	55%
l.	not applicable	0	0%
Total		11	100%

Overall scores. Respondents received scores on the knowledge questionnaires that ranged from 70% to 100% (Table 4.14). Fifty-five percent (n = 6) of the subjects achieved a 90% on the survey. One nurse scored a 100% on the questionnaire (9%), and one subject scored a 70%, making the overall mean score 86%.

Table 4.14

Overall Pain Knowledge Scores

	N	%
0%	0	0%
10%	0	0%
20%	0	0%
30%	0	0%
40%	0	0%
50%	0	0%
60%	0	0%
70%	1	9%
80%	3	27%
90%	6	55%
100%	1	9%
Total	11	100%

The current study differs in comparison to a study by Vortherms, Ryan, and Ward

(1992) who found that the mean percentage of correct answers to a pain knowledge test

was only 56.4% (n=789) among oncology nurses. The researcher of this present study

found that the mean score on the Cancer Pain Information Survey, a knowledge

questionnaire, was 86%. However, this finding is consistent with other studies (Brunier,

Carson, & Harrison, 1995; Clarke et al., 1996; O'Brien, Dalton, Konsler, & Carlson,

1996) which discovered that nurses who care for oncology patients scored quite well on

pain management knowledge tests with an average of 89%.

Chart Audit Results

A total of 20 charts were reviewed with at least 3 charts for each of the 11

subjects. Some subjects worked more shifts more often and thus cared for the patients

whose charts were reviewed more frequently. As a result, some nurses had more charts

reviewed by the researcher. Overall chart scores were based on the number of charts on

which a pain assessment was documented on the pain assessment flow sheet out of the

total number of possible charts on which the subject could document based upon the

presence of the subject's signature. This provided a percentage score for each subject.

For example, if a nurse documented 1 assessment on a chart out of the possible 8 on which the nurse's signature was found, the overall percentage score would be 12.5% for that nurse. Chart scores, i.e. frequency with which documentation was found, ranged from 0% to 20% (Table 4.15 and Table 4.16). Only 18% (n = 2) of the nurses who participated in the study documented a pain assessment on the pain assessment flow sheets of the charts which were reviewed. Eighty-two percent (n = 9) of the subjects failed to document at all on the pain assessment flow sheets.

Table 4.15

Subjects' Chart Scores

Subject	Chart #1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	%
Subject #1	no	no	no	no								0%
Subject #2	no	no	no	no	no							0%
Subject #3	no	no	no	no	no	no	no	no	no	no	no	0%
Subject #4	no	no	no	yes	no	no	no	no				12.5%
Subject #5	no	no	no									0%
Subject #6	no	no	no									0%
Subject #7	no	no	no	no								0%
Subject #8	no	no	no	no	no	no	no	no	no			0%
Subject #9	no	no	no	yes	no							20%
Subject #10	no	no	no	no	no	no	no	no				0%
Subject #11	no	no	no	no	no	no	no	no				0%

- Total of 20 charts reviewed – 2 containing pain documentation (10%)

Table 4.16

Percentage of nurses' documentation practice

| Chart Score %	N	%
0%	9	82%
12.5%	1	9%
20%	1	9%
Total	11	100%

The results of this study were similar to those of Faries and associates (1991) who found that 76% of patient charts had no evidence of nurses' use of the patient pain self-assessment tool. In the same research study, ten chart audits of oncology patients revealed only one documented incidence of the utilization of a patient pain self-

assessment tool.   Like the study conducted by Faries and associates (1991), the researchers of this current study found evidence of the use of a self-assessment tool in this acute care setting on only two records. Furthermore, Malek & Olivieri (1996) found that less than half of patient health records contained documentation of pain.   The findings of this current study reveal a much poorer figure with only 18% of the charts reviewed containing a pain assessment documentation on the pain assessment flow sheets.

Relationship Significance

The Spearman rank correlation was utilized with the aid of the SPSS statistical computer software package to determine the relationship between knowledge of pain management and pain assessment documentation (Figure 4.1). The overall knowledge score and the chart score, i.e., frequency with which subjects documented pain assessment, were the variables that were correlated. The results of this bivariate inferential statistical analysis revealed that no significant linear relationship existed between knowledge of pain management and pain assessment documentation ($r = -.156$, $\alpha = .323$) in this study.

Figure 4.1
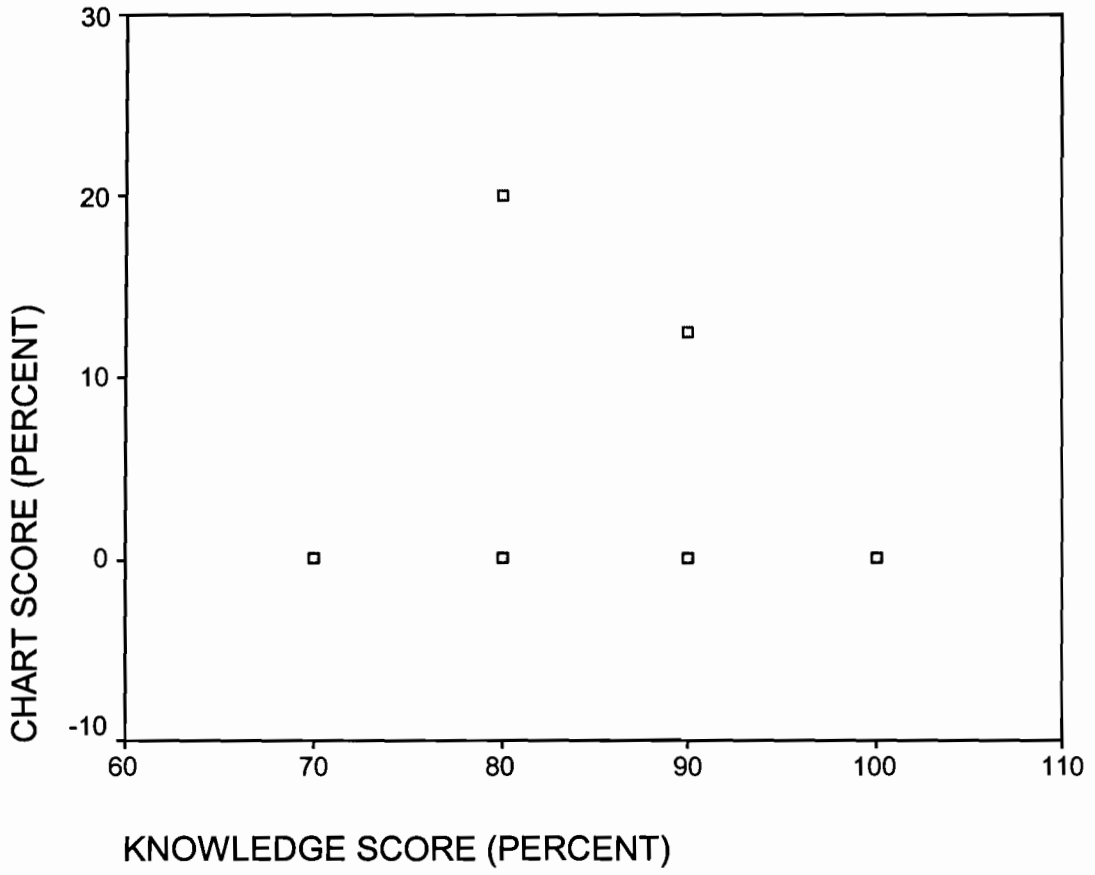
Interesting Findings

Although no significant correlations existed between knowledge of pain management and pain assessment documentation, some ancillary findings were discovered by the researcher upon analysis. For example, the 5 subjects who received a bachelors of science in nursing degree (BSN) did not achieve the highest scores of all the subjects on the knowledge survey, with a mean score of 82%. In fact, one BSN prepared nurse acquired the lowest knowledge score (70%) of all respondents. Both the nurses with the associates degrees and the diplomas in nursing scored higher with mean scores of 87% and 93% respectively. The researcher believed that the nurses with the BSN would score the highest as baccalaureately prepared nurses are supposedly more educated on pain management (Ferrell, McGuire, & Donovan, 1993). Additionally, 4 out of the 5 nurses who were baccalaureately prepared failed to identify the correct answer for question #3 which addressed the issue of narcotic addiction due to the treatment of pain with such drugs (see Figure 4.2). All of these subjects indicated that they believed a higher percentage of patients become addicted than is actually true, with one nurse believing the percentage was as high as 50%. The researcher believed that these nurses would be more able to identify the correct percentage of clients who become addicted as BSN nurses are supposedly more educated on drug addiction as a result of narcotic analgesic use. In contrast, the researcher found that all of the diploma nurses achieved the correct answer, and one of the associate degree nurses answered incorrectly. However, the relationship between educational level and question #3 was not statistically significant ($r = -1.56$, p = .118).

Related to question #3 which addresses narcotic addiction, upon analysis of the findings through the use of nonparametric statistics, the author discovered that those subjects who incorrectly answered this question were in a concentrated time period of practical experience in nursing ranging from approximately 1 year to 8 years of experience in nursing (see Figure 4.3). Although there was a slight overlap between the years of experience in those who answered correctly and those who did not, a definite concentration lies within the 1 to 8 year time period. This finding may suggest that pain management was not emphasized to these nurses in their schooling and training which took place prior to and/or during the 1 to 8 year time period or that experience adds to the knowledge base of pain management.
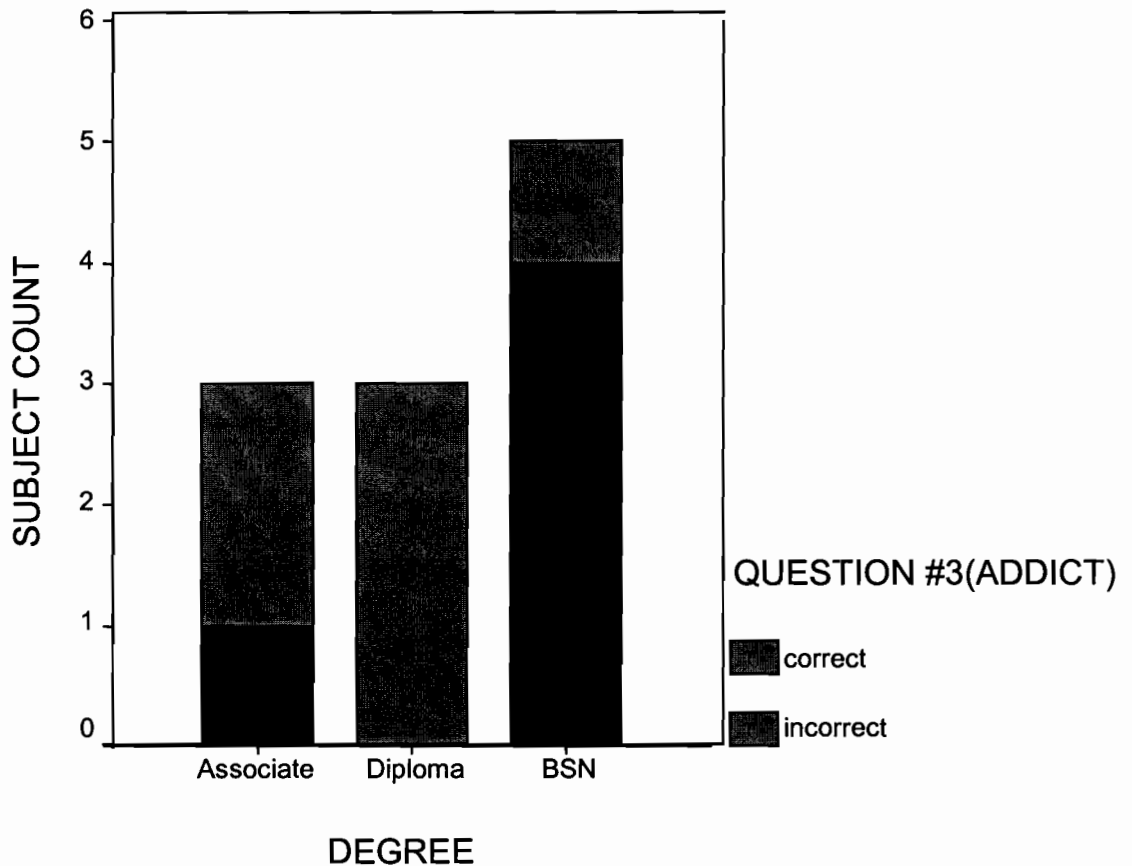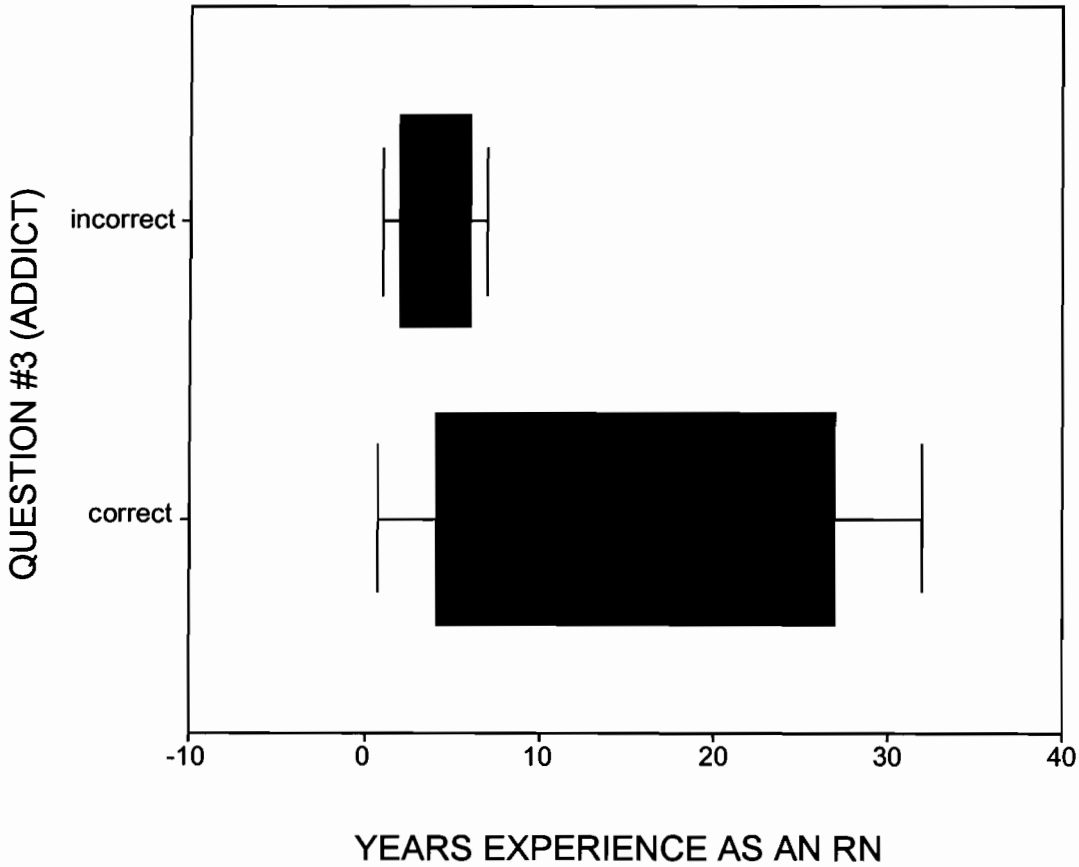
**Figure 4.2**

Figure 4.3

YEARS EXPERIENCE AS AN RN

Another interesting finding which the researcher discovered after an analysis of the results is that the registered nurse with the greatest amount of years in practice, 32 years, indicated on the survey the belief that 80% of cancer patients overreport the pain that they are experiencing, while in reality, 0% to 10% overreport their pain (McCaffery & Ferrell, 1995). The researcher believed that this nurse would correctly identify the appropriate answer because of the considerable experience in nursing. However, this finding may indicate that nurses who have been practicing for many years may have been educated during their nursing training many years ago to believe that clients commonly

overexaggerate pain. Thus, these nurses may need to undergo more current training regarding pain management.

In addition, the author of this study discovered some added information, although it was not statistically significant ($r = -.788, p = .431$). Those subjects who had outpatient oncology experience appeared to perform better on the knowledge questionnaire (see Figure 4.4). This finding may suggest that those nurses who had outpatient experience underwent more training and may have received more education in cancer pain management or that acute, inpatient oncology care, in some way, underachieves education that nurses receive regarding pain management.

Figure 4.4
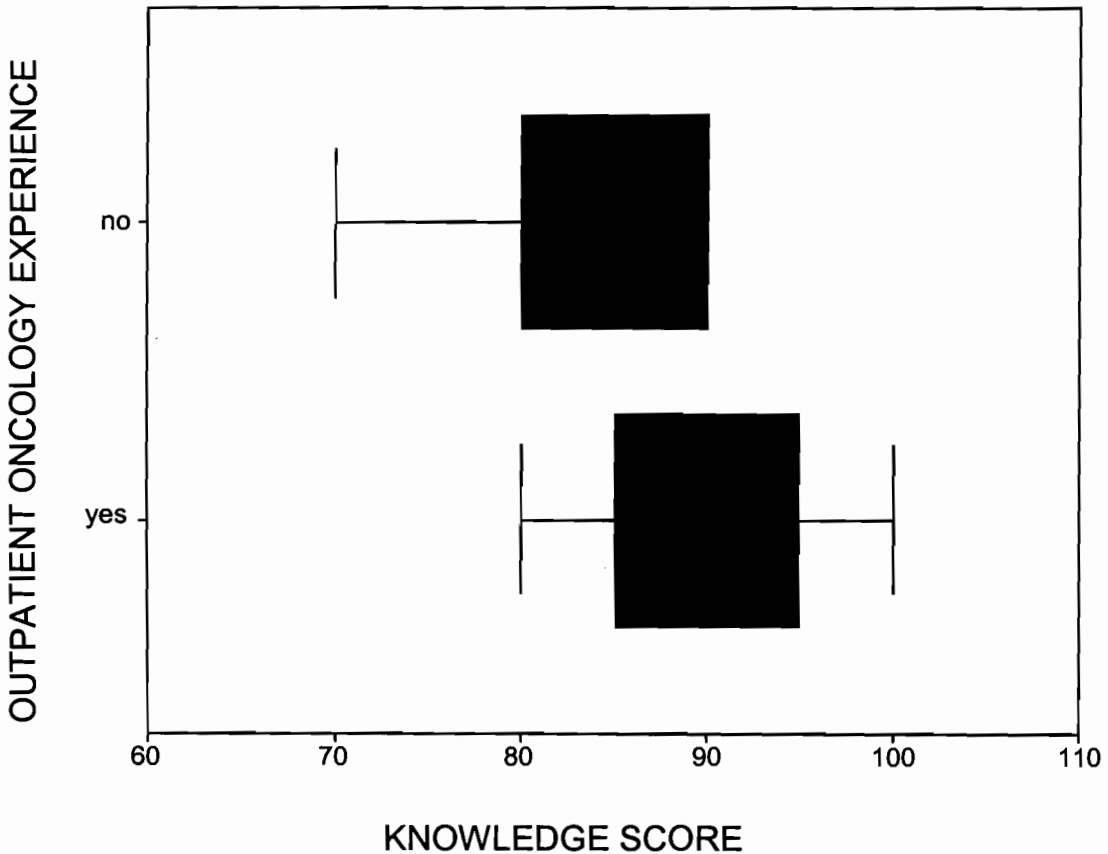
Yet another ancillary finding was discovered by this author which also did not reach statistical significance ($r = .000$, $p = 1.00$). After an analysis of the results, the researcher found that those respondents who scored higher on the Cancer Pain Information Survey rated the nurses' ability to relieve cancer pain on this oncology unit at a lower level than those who achieved a lesser percentage on the survey (see Figure 4.5). This finding may imply that the nurses with a greater knowledge, i.e., higher percentage score, may be more aware of how well cancer pain is relieved on this unit due to an increased knowledge base.

Figure 4.5

RN'S VIEW OF PAIN MANAGEMENT (QUESTION #12)
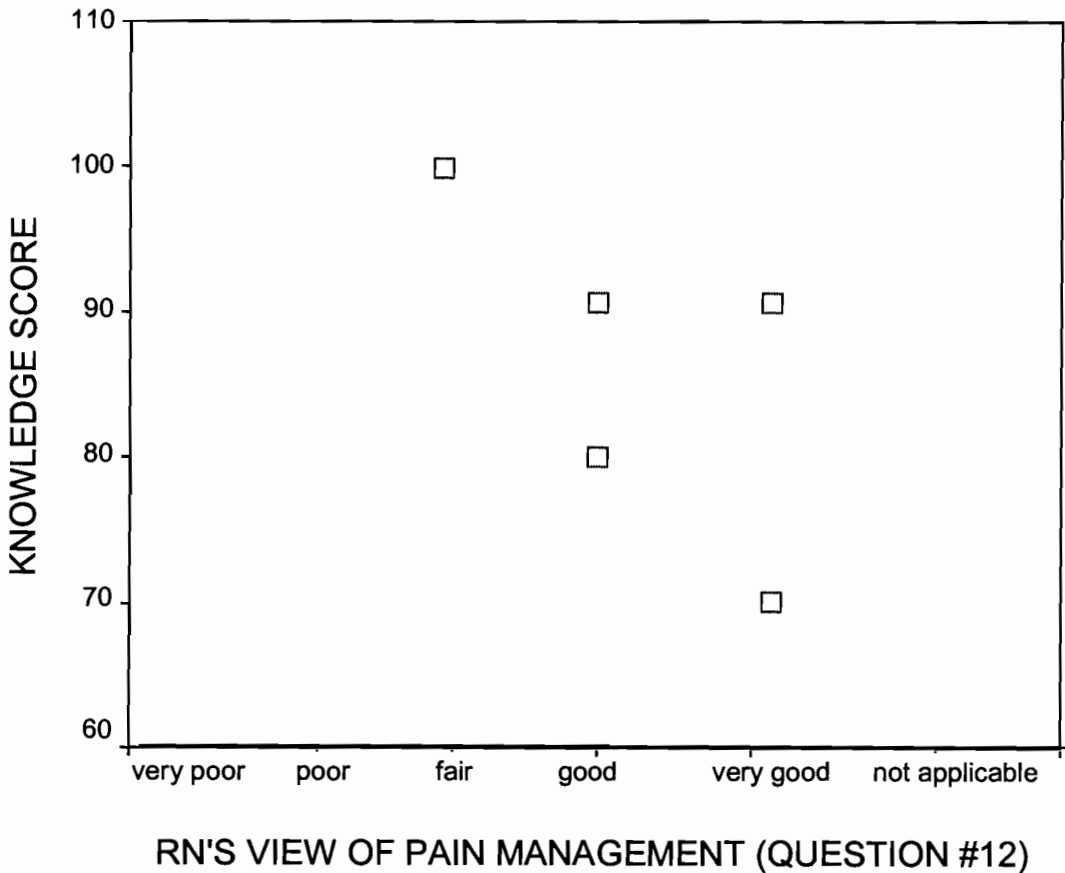
Perhaps the most surprising findings in this study resulted when the researcher compared current results to those of another study conducted by Buck & Shaffer (1999) which examined the relationship between pain management and pain assessment documentation in the long-term care facility. In the study performed by Buck & Shaffer (1999), 50% of the 12 charts reviewed contained pain assessment documentation on the facility's pain flow sheet whereas in the current study 10% of the charts reviewed contained pain assessment documentation on the pain assessment flow sheet. The finding that the registered nurses in the long-term care facility documented more overall than those in the acute-care setting was unanticipated by this researcher, particularly because the subjects in the study conducted by Buck & Shaffer (1999) were not chemotherapy certified, did not work on an oncology unit per say, had only 5 years of experience in nursing as an RN, and involved only one subject with a BSN. The researcher thought that since 55% of the nurses in the current study were chemotherapy certified; all of them worked on an oncology unit; the mean years of practical nursing experience was 10 years; and 45% of the respondents had their BSN that these subjects would document more. These findings seem to suggest that education and experience have little to do with documentation practice in this sample of nurses.

Threats to Validity

The researchers of this study identified several factors which may have threatened both internal and external validity. These items were identified as follows:

Internal Validity. The main threat to internal validity which the researcher has identified is instrumentation. Both the Cancer Pain Information Survey and the Pain Audit Tool were designed by the same author who indicated that these tools were both

reliable and valid (McCaffery, 1995). However, the researcher of this study did not receive specific information regarding these matters upon the researcher's request, although various studies have used the instruments for their data collection. The author of this study used these tools regardless, because the tools were deemed to be the instruments that would best measure the variables to be studied. However, the researcher did obtain face and content validity for the tools from a panel of experts.

Secondly, sampling may have affected internal validity. Since the researcher had such a limited time frame in which to complete this study, randomization was not possible. As a result, a convenience sample was used as it was most accessible to the researcher. Therefore, this sample may not be a total representation of the population.

The researcher does not believe that any other threats to internal validity existed. Attempts to minimize such threats were taken into great consideration by the author of this study.

External Validity. The first threat to external validity which the researcher identified is the subjects' knowledge of the study, i.e., the Hawthorne effect. By virtue of subjects knowing that they were involved in a research study, they may have answered questions on the knowledge survey based on what they thought the researchers wanted them to answer rather than what they believed to be true or how they practiced. This factor may have affected validity.

Secondly, the limited number of subjects may have also affected external validity. With such a small sample size as eleven, possible significance was much more difficult to acquire. Therefore, the results of this study may have a decreased validity.

Lastly, the varying number of charts reviewed for each subject may have affected validity. As nurses work many different hours, documentation is affected. The more often the RN works, the more chance the nurse has to document information on patients compared to a nurse who rarely cares for clients. Thus, chart audit information was difficult to acquire with some subjects. Therefore, the results of this study may have a decreased validity due to the inconsistent number of charts reviewed among subjects.

The researcher does not believe that external validity was threatened in any other way. Attempts were made by the researchers to minimize threats such as performing the chart review after patients were discharged to decrease the chance that the nurses would alter documentation practice and asking the subjects to answer the knowledge questionnaire after the audit was complete to minimize the chance that they would gain knowledge from taking the test which could affect documentation practice.

Although the results indicated that there was no significant relationship which existed between knowledge of pain management and pain assessment documentation, the results did provide evidence that the acute-care nurses in this study possessed an adequate knowledge of general and pharmacologic pain management with a mean score of 86%. The findings also provided evidence of an overall lack of pain documentation (which was only documented on 18% of the charts reviewed). Such findings offer implications for nursing in the acute care setting. These implications and conclusions are discussed in Chapter V.

CHAPTER V

Discussion

As suggested by the results ($r = -.156$, $\alpha = .323$), no significant relationship exists between knowledge of general and pharmacologic pain management possessed by registered nurses who care for oncology patients and pain assessment documentation in the acute care setting in northcentral Pennsylvania. This lack of significance may be due the small sample size ($n = 11$). However, results of this study indicated that the nurses in this institution did possess an adequate level of knowledge regarding pain management (x = 86%). In addition, the chart audit revealed a lack of documentation at this institution with only 10% of the records having a pain assessment charted and with only 18% of the registered nurses documenting a pain assessment on the flow sheet. Although no statistical significance was found with regards to the relationship between knowledge of pain management and pain assessment documentation in this study, the findings generated by it may be clinically significant and offer pertinent information about pain management for the field of nursing.

Implications

As the literature suggests, a significant lack of pain assessment documentation exists in nursing (Faries et al., 1991; Clarke et al., 1996; Malek & Olivieri, 1996). Without such documentation, pain management becomes an even greater challenge as no communication between the health care team exists to inform others of a patient's pain, what was used to treat it, and which methods proved successful for that patient. Nurses are the primary caregivers and as such, are the individuals who are most likely to be aware of and able to relieve pain. However, without documentation of that pain, the

client's pain may remain unrelieved or subordinately managed. The chart review performed by the researcher of this study revealed that only 10% of the charts audited contained a documented pain assessment. Such a finding suggests that 90% of the time, a patient's pain may go unrelieved if proper communication of that discomfort is lacking between staff members at this facility. Nurses must become responsible for documenting patient pain in an effort to better manage an already difficult situation of pain.

Although many studies (McCaffery & Ferrell, 1997; Brunier, Carson, & Harrison, 1995; Vortherms, Ryan, & Ward, 1992) suggest a general lack of pain management knowledge, this study revealed that the level of knowledge was sufficient with a mean percentage score of 86% in a sample of acute care oncology registered nurses. Such results should serve as encouragement to nurses in this study as their efforts to gain more knowledge and better understand pain have become apparent. This is not to say that registered nurses in this setting do not need to seek out further information and knowledge regarding pain management. Rather, this finding should act as an impetus for nurses to continue to attempt to increase their knowledge base to better manage patient pain as this issue continues to be of great importance to health care recipients. Since the majority of people who seek medical attention do so because they are experiencing pain, nurses must continue to expand their knowledge to be able to deal with even the most intractable and unyielding pain or even the simple, easy to relieve pain (Livneh, Garber, & Shaevich, 1998).

Recommendations

The fact that no significant relationship (r = -.156, α = .323) was found in this study does mean that a relationship does not exist. Since the sample size in the study was

quite small, statistical significance was difficult to achieve. Other studies with larger sample sizes of registered nurses who care for oncology patients should be conducted to determine if a relationship really exists.

Furthermore, because all of the nurses in this study were from the same institution, the researcher of this study recommends studying subjects from several oncology units from a variety of facilities. By acquiring a sample of oncology nurses from various institutions, the population of registered nurses who care for oncology patients may be better represented.

Lastly, the researcher recommends ascertaining the number of years each subject has cared for oncology patients. This information may help to determine whether or not nurses with more oncology experience score higher on the knowledge questionnaire and/or document more pain assessments.

Information gathered from research studies like the one conducted by this researcher must be shared with others in order for patients to benefit. Providing the results of such a study by distributing copies of it to nurses who care for oncology patients in hospitals, nursing homes, outpatient cancer centers, and nursing schools may help nurses as well as nursing students become more aware of pain management issues as well as ways in which they can better manage patient pain. Furthermore, nurses may benefit from an oral presentation about such a study as this one to learn about the results generated by the researcher and to personally ask questions about the research conducted and the way in which the results impact their nursing practice.

Conclusions

Since the nurse is the most likely evaluator of pain and the initiator of treatment for it, a sufficient level of knowledge regarding general and pharmacologic pain management must be in place. Diligence must underlie the pain documentation practice in an effort to communicate assessment findings with other members of the health care team. Without this communication, pain may remain unrelieved as the issue of pain is overlooked by staff. If a finding of pain is not documented, then, the presence and the assessment of pain are difficult to determine. If this is the case, a patient's actual pain may never be relieved. Nurses must be unsatisfied with such a fate and must act to change it. By increasing the knowledge of pain management and by increasing pain assessment documentation, the nurse becomes the forerunner in better pain management.

Appendix A
Cancer Pain Information Survey

Demographics

How frequently do you work with patients that have cancer?

❏ Rarely   ❏ Occasionally   ❏ Often

Highest level of education:

❏ Associate Degree   ❏ Diploma   ❏ Bachelors   ❏ Masters

How long have you been a registered nurse? _____

Are you chemotherapy certified?

❏ Yes   ❏ No

Have you ever worked in an outpatient oncology setting?

❏ Yes   ❏ No

Have you ever worked in an inpatient oncology setting?

❏ Yes   ❏ No

What shift do you more frequently work?

❏ Day   ❏ Evening   ❏ Night

Are you male or female?

❏ Female   ❏ Male
Questions

Directions: Please **circle** your response to each of the following questions:

1. What percentage of cancer patients do you think suffer pain at some point during their illness?

    0   10   20   30   40   50   60   70   80   90   100%

2. What do you think is the percentage of cancer patients who *overreport* the amount on pain they have?
    0   10   20   30   40   50   60   70   80   90   100%

3. *Narcotic addiction* is defined as psychological dependence accompanied by overwhelming concern with obtaining and using narcotics for psychic effect, not for medical reasons. It may occur with or without the physiological changes of tolerance to analgesia and physical dependence (withdrawal).
Using this definition, how likely is it that narcotic (opioid) addiction will occur as a result of treating pain with narcotic analgesics? **Circle one number** closest to what you consider the correct answer:

<1%   5%   25%   50%   75%   100%

Directions: Please **check** the box next to your response to each of the following questions.

4.   At what stage would you recommend maximum, tolerated narcotic (opioid) analgesic therapy for treatment of severe cancer pain?

❑ a. Prognosis of less than 24 months.   ❑ e. Prognosis of less than 1 month.
❑ b. Prognosis of less than 18 months.   ❑ f. Prognosis of less than 1 week.
❑ c. Prognosis of less than 6-12 months.   ❑ g.Anytime,regardless of prognosis
❑ d. Prognosis of less than 3-9 months.

5.   The recommended route of administration of narcotic (opioid) pain relievers to patients with prolonged cancer-related pain is:

❑ a. intravenous   ❑ d. oral
❑ b. intramuscular   ❑ e. rectal
❑ c. subcutaneous   ❑ f. I don't know

6.   Which of the following analgesic medications is considered the drug of choice for the treatment of *prolonged moderate* to *severe pain* for cancer patients?

❑ a. Brompton's cocktail   ❑ d. meperidine (Demerol)
❑ b. codeine   ❑ e. methadone
❑ c. morphine   ❑ f. I don't know

7.   Analgesics for chronic cancer pain should be given

❑ a. around the clock on a fixed schedule
❑ b. only when the patient asks for the medication
❑ c. only when the nurse determines the patient has moderate or greater discomfort.

8. The most likely explanation for why a terminal cancer patient with chronic pain
    would request increased doses of pain medication is:

❑ a. the patient is experiencing increased pain
❑ b. the patient is experiencing increased anxiety or depression
❑ c. the patient is requesting more staff attention
❑ d. the patient requests are related to addiction

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

❑ a. True
❑ b. False
❑ c. I don't know

10. The most accurate judge of the intensity of the cancer patient's pain is:

❑ a. the treating physician
❑ b. the patient's primary nurse
❑ c. the patient
❑ d. the pharmacist
❑ e. the patient's spouse or family

11. How good a job do you think physicians in your setting do in relieving cancer pain?

❑ a. a very poor job
❑ b. a poor job
❑ c. a fair job
❑ d. a good job
❑ e. a very good job
❑ f. not applicable (I do not work with any cancer patients)

12. How good a job do you think nurses in your setting do in relieving cancer pain?

❑ a. a very poor job
❑ b. a poor job
❑ c. a fair job
❑ d. a good job
❑ e. a very good job
❑ f. not applicable (I do not work with any cancer patients)

Thank you very much for participating in this survey. Your completion of this survey
will be regarded as your informed consent.

Appendix B
Informed Consent Cover Letter

Study Title: The Relationship Between Knowledge of Pain Management and Pain Assessment Documentation
Investigators: Ashley Buck, Lycoming College Nursing Student

      Ms. Buck is a senior undergraduate nursing students at Lycoming College who is studying the relationship between knowledge of general and pharmacological pain management possessed by registered nurses who care for oncology patients and pain assessment documentation in the acute care setting. The focus of this research is on oncology patients since much current research indicates that these clients are the most challenging when the issue of pain control is at hand. Although this study will not benefit you directly, it may provide information, which will enable health care professionals to supply more effective pain control for their patients, particularly in an oncology population.

      The study and its procedures have been approved by the appropriate people at Lycoming College and Susquehanna Health System. The study procedures involve no foreseeable risks or harm to you or your employment at Susquehanna Health System. The procedures include: 1) responding to a questionnaire about your knowledge of pain management and 2) completing a demographic data sheet. Ms. Buck will also perform a chart review of oncology patients who have been admitted to the hospital over a four-week time period. Your participation in this study will take approximately 10 minutes. You are free to ask any questions about the study or about being a subject, and you may call Ms. Buck at (570) 321-4224 which will connect you to the Lycoming College Nursing Department. Michael S. Serwint, M.D., chairperson of the Institutional Review Committee, may be contacted as well regarding the rights as a research subject at (570) 326-8470.

      Your participation in this study is voluntary; you are under no obligation to participate. You have the right to withdraw at any time. You will not be penalized in any way by your participation or non-participation in this study.

      The questionnaire will be coded so it will not be linked to your name. Your identity will not be revealed at any time during or after the study except to the researcher. All raw data will be collected by Ms. Buck, stored in a secure place, and not shared with any other person without your permission. Questionnaires will be retrieved by Ms. Buck on March 17, 2000.

      By virtue of completion of the questionnaire, you have agreed to be a participant in this study. Please keep this cover letter for your own records. Upon completion of the questionnaire, place the survey in the provided envelope, seal it, and deposit it in the designated container located in the nursing lounge. Thank you in advance for participating in this study.

Sincerely,
Ashley Buck

Appendix C
Pain Audit Tool

Circle Yes or No to indicate if pain was documented on the chart per institutional guidelines.

Total number of charts reviewed_____

Subject #	Chart #1	Chart #2
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No
	Yes No	Yes No

Susquehanna Health System

Appendix D
Permission for Research

Divine Providence Hospital - Muncy Valley Hospital
The Williamsport Hospital & Medical Center

Richard W. DeWald
Chairman of the Board

Sister Jean Mohl
Vice Chairperson

Donald R. Creamer
President, CEO

TO: Ashley Buck

FROM: George A. Manchester, M.D.
Senior Vice President of Medical Affairs

DATE: March 14, 2000

RE: **Approval of Research Protocol: Relationship between knowledge of pain management and pain assessment documentation.**

The research protocol you submitted was approved by the Institutional Review Committee on February 28, 2000. The Committee's approval was with the following provisions:

1. The chart review be conducted prior to nursing staff completion of the questionnaire.

2. The chart review be conducted in the Health Records Department following patient discharge.

3. Nursing Staff be asked to complete questionnaire at a staff meeting. If the nursing staff is not present at the staff meeting, the questionnaire may be put in the nurse's mailbox as long as there is a cover letter to explain the study.

4. Consent form be modified to specify what information is being reviewed in the patient record and to also include a statement that the data will not be reviewed by anyone other than Ashley Buck and that the raw day will not be linked with the patient's name.

If you have any questions regarding this action, please feel free to call me.

/asb

cc: Michael S. Serwint, M.D.
Chairman, Institutional Review Committee

Candy Dewar

Appendix E
Informed Consent for Patients

Study Title: The Relationship Between Knowledge of Pain Management and Pain Assessment Documentation
Investigators: Ashley Buck, Lycoming College Nursing Student

Ms. Buck is a senior undergraduate nursing student at Lycoming College who is studying the relationship between knowledge of general and pharmacological pain management possessed by registered nurses who care for oncology patients and pain assessment documentation in the acute care setting. The focus of this research is on oncology patients since much current research indicates that these clients are the most challenging when the issue of pain control is at hand. Although this study will not benefit you directly, it may provide information, which will enable health care professionals to supply more effective pain control for their patients, particularly in an oncology population.

The study and its procedures have been approved by the appropriate people at Lycoming College and Susquehanna Health System. The study procedures involve no foreseeable risks or harm to you and in no way will your care be affected. By signing this consent, you are giving the researcher permission to review the pain assessment flow sheet in your inpatient record. You are free to ask any questions about the study or about being a subject, and you may call Ms. Buck at (570) 321-4224 which will connect you to the Lycoming College Nursing Department. Michael S. Serwint, M.D., chairperson of the Institutional Review Committee, may be contacted as well with questions regarding rights as a research subject at 570-326-8470.

Your participation in this study is voluntary; you are under no obligation to participate. You have the right to withdraw at any time. You will not be penalized in any way by your participation or non-participation in this study.

All data collected will be coded so it will not be linked to your name. Your identity will not be revealed at any time during or after the study except to Ms. Buck. All raw data will be collected by Ms. Buck, stored in a secure place, and not shared with any other person without your permission. The chart review will by conducted by Ms. Buck. No further data will be collected.

Please keep a copy of this consent for your own records. Thank you in advance for participating in this study.

Sincerely,   _____
Ashley Buck   Patient's Signature

                                                       _____
                                                       Date

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