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A Comparison of Oncology and Non-Oncology Nurses in Their Knowledge of Cancer Pain Management

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Acknowledgments

I would like to thank Susan McMillan and Cindy Tofthagen for being instrumental in helping me accomplish my goals. They have been exceptional as teachers and lecturers. They have encouraged and supported me through the past few years and I will always be grateful to them.

Dedication

I would like to dedicate this work to my husband, Francis, to my parents, and my

in-laws. Thank you for loving me and motivating me to accomplish my goals.

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Abstract

Approximately 1.5 million people are diagnosed with cancer each year. Most of these people will experience pain at some point during or after their treatment. Areas of knowledge that nurses have been shown to have deficits in include assessment and pharmacological management. These types of issues can affect the treatment given to their patients. The purpose of this study is to evaluate the level of knowledge of cancer pain management in oncology and non-oncology nurses and how they compare with each other.

To study these variables, two instruments, the Pain Management Knowledge Test and a demographic survey, were distributed to all nurses during two nursing association meetings. Sixty nurses (30 from each association) chose to participate. Descriptive statistics from demographic data were used to analyze the current knowledge of oncology and non-oncology nurses while a t-test was used to determine if there was a significant difference in oncology verses non-oncology nurses knowledge of cancer pain management.

The oncology sample consisted of mostly baccalaureate degree nurses with a mean age of 49 with an average of 22 years experience and mostly worked as hospital bedside nurses. The non-oncology group consisted of an equal number of diploma/associate degree nurses and baccalaureate nurses with a mean age of 51 and an average of 25 years experience. Test scores

showed that oncology nurses scored significantly higher on the Pain

Management and Knowledge Test overall between the two groups (t=2.1,

p=0.04).

While the oncology nurses have significantly better knowledge of cancer

pain management, the overall scores were low for both groups. It is evident that

nurses would benefit from additional education in cancer–related pain

management in both continuing education programs as well as in schools of

nursing as part of their curriculum.

Chapter I Introduction

The number of patients diagnosed with cancer each year is estimated at approximately 1,529,560 (American Cancer Society, 2010). Many patients with cancer experience pain either during or after treatment. About one-third of patients who are receiving treatment for cancer and two-thirds of those with advanced disease experience cancer related pain (International Association for the Study of Pain, 2010). Adequate management for cancer-related pain is important to preserve not only a desirable quality of life (QOL), but also to maintain comfort for those receiving palliative care. Inadequate management of cancer-related pain could result in significant physiological and psychological consequences for patients such as decreased healing time, a higher rate of treatment complications, anxiety, sleep disturbance, exacerbated fear, and depression (Hollen, Hollen & Stolre, 2000; Zhang et al., 2008; McMillan, Tofthagen & Morgan, 2008).

The World Health Organization (WHO) (2010) provides a pain relief ladder containing its recommendations on pain control. It is estimated that with the use of this 3-step ladder, that 80-90% of cancer pain can be relieved. Despite the availability of this information, cancer related pain remains poorly assessed and inadequately addressed by nurses. With the increased incidence and prevalence of persons living with cancer and cancer related pain, it is critical that nurses in all settings possess the knowledge and skills to assess and manage cancer-

related pain. Nurses are often the first clinicians to detect the presence of cancer-related pain and have an integral role in pain assessment and treatment. Therefore, it is imperative that nurses have the appropriate knowledge and skills to advocate for patients who are experiencing cancer-related pain.

Nurses' knowledge of cancer pain assessment can be lacking. Nursing assessments tend to focus on pain behavior and not on the patients self report of intensity and descriptive characteristics (Rushton, Eggett, and Sutherland, 2003). These kinds of assessment issues can affect the treatment rendered to the patient and result in inadequate pain control and needless suffering on the patients behalf.

Problem Statement

Research has suggested that lack of knowledge of the management of cancer pain has influenced nurses' practice (Rushton, Eggett, and Sutherland, 2003) The purpose of this study is to evaluate and compare the level of knowledge of cancer-related pain management among oncology and non-oncology nurses.

Research Questions

The following research questions are addressed in this study:

1. What is the current knowledge of oncology nurses with regard to cancer-related pain management?

2. What is the current knowledge of non-oncology nurses with regard to cancer-related pain management?

3. Is there a significant difference between oncology nurses and non-oncology nurses with regard to knowledge of cancer-related pain

management?

Definition of Terms

The following terms are defined for the purpose of the proposal:

Pain: "An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (International Association for the Study of Pain, 2010).

Cancer Pain: "Pain that is attributable to cancer or its therapy" (American Society of Anesthesiologists, 1996).

Significance to Nursing

With the growing number of people being diagnosed and living with cancer, it is the responsibility of nurses in all settings to have an appropriate knowledge of cancer-related pain and the evidence-based interventions to manage it. Cancer-related pain is shown to have many detrimental effects that directly affect QOL. Proper assessment and management are imperative for helping patients not only maintain a good QOL but to ensure comfort during the end stages of illness and life. Nurses are in position to have a considerable influence over patient pain management (McMillan, Tofthagen, and Morgan, 2000). Results of this study may shed light on existing deficiencies in nursing education on pain management.

Chapter II Review of Literature

This chapter includes a review of the literature regarding nurses'

knowledge of cancer pain. Six studies were evaluated about this topic. The

information reviewed included the type of study, participants, instrumentation

used, and outcomes of the studies.

A study of knowledge and attitudes of Turkish oncology nurses

concerning cancer pain management was conducted by Yildirim and colleagues

(2008). The study sample included 68 Turkish oncology nurses in two different

university hospitals in Izmir, Turkey. Cancer pain management was measured

using the Nurses Knowledge and Attitudes Survey Regarding Pain (NKARSP)

and a demographic questionnaire.   The NKARSP contains 22 true or false

questions, 13 multiple-choice questions, and two case studies with two questions

each. Study results showed that Turkish oncology nurses have inadequate

knowledge and attitudes about cancer pain management. No significant

relationships were noted between the demographic characteristics of the nurses

and pain knowledge.

Bernardi, Catania, Lambert, Tridello, and Luzzani (2007) conducted a

national survey of Italian oncology nurses about their knowledge and attitudes

with regard to cancer pain and to determine the predictors of nurses' pain

management knowledge. The study included 287 nurses in Italy from 21

oncology wards. The NKARSP (Italian version) and a background information form were used to collect the data. The results of this study showed that 50% of oncology nurses underestimated patient pain; resulting in inadequate cancer-related pain management. In addition it was shown that nurses who attended more pain management courses had higher scores overall.

An exploratory, descriptive study by McMillan, Tittle, Laughlin, and Tabler (2000) focused on nurses' attitudes and knowledge about pain management. A total of 56 registered nurses (RN) and 31 licensed practical nurses (LPN) were selected from six units in two Veterans Administration Hospitals. Those nurses routinely administered medication and managed cancer-related pain. Four different instruments were used in this study. The Pain Management Knowledge Test (PMKT) is a 31 question multiple-choice test that assessed seven areas of concerns in pain management. The Nurses' Attitudes Survey contains 25 items assessing attitudes about pain and the use of opiates. The Pain Survey measures nurses' attitudes towards patients receiving opiates and each item contains a case study followed by multiple-choice questions. Also, a demographic tool was used to obtain information about the sample including information such as gender, nursing education, highest level of education, shift worked and whether the nurse was an oncology nurse. The results of this study show that there are key deficiencies in areas such as physiology of pain and pharmacology of analgesics. Areas where nurses were most knowledgeable were: the importance of asking patients about their pain, around the clock scheduling of pain medication, tolerance, and distraction. A few areas such as

patient age, gender, and behavior showed some inappropriate influence on their decisions. In terms of attitudes, the nurses did not believe that the patients and their families should have the most control of medications scheduling or that a constant level of pain medication should be maintained in the blood. Most nurses incorrectly believed that round-the-clock scheduling could increase the risk of sedation and respiratory depression.

A randomized controlled trial (RCT) by Patiraki and colleagues (2006) looked at the effects of an educational intervention on Greek nursing staff with regard to the nurses' knowledge and attitudes of cancer pain management. One hundred and twelve nurses were randomly assigned to two intervention groups and two control groups. All nurses provided direct care to oncology patients. The intervention groups viewed an educational videotape and case scenarios. The instrument used to evaluate was the Validated Hellenic version of the NKASRP and was administered before and after the intervention. Pre-intervention scores showed that these nurses had many limitations with regard to pain assessment and management with both the intervention and non-intervention groups being relatively equal. Post-intervention scores showed a significant effect on their knowledge regardless of the participant's educational background.

Wilson (2007) conducted a study on nurses' knowledge of pain. The purpose of the study was to determine if education and clinical experience influence nurses knowledge of pain. A true or false questionnaire was distributed to the participants, which included 35 hospice/oncology nurses and 37 general

nurses (n=72). The questionnaire included questions regarding lifestyle factors of patients in pain, inferences of physical pain, general attitudes and beliefs about pain management. The oncology/hospice nurses had a superior knowledge of pain management compared to the general nurses. However, the oncology and hospice nurses' knowledge did not appear to be influenced by the number of years of experience they had, while the general nurses scores increased with years of experience. It would appear that not only educational interventions but also the work environment itself may play a role in nurses' knowledge of pain.

A descriptive study by Rushton, Eggett, and Sutherland (2003) evaluated the knowledge and attitudes of Utah nurses concerning cancer pain. A total of 44 oncology nurses and 303 non-oncology nurses participated in the study. The NKARSP was given to both groups and the results were compared. The results showed that oncology nurses' attitudes and knowledge were more in line with recommended practices than those of non-oncology nurses. Oncology nurses understood the recommendations of cancer pain management but still lacked knowledge of the pharmacology of the medications used.

Summary

Pain management in cancer patients remains a challenging obstacle. As the review of the literature demonstrated, nurses lack knowledge in many aspects of pain management in the cancer population. The demographic characteristics of the nurses had little to do with the knowledge of cancer pain. Nurses who routinely care for oncology patients have a better understanding of cancer pain but still lack knowledge in areas such as assessment and pharmacological management.

Chapter III Methods

This chapter discusses the methods used to evaluate knowledge of cancer pain in two groups of nurses. One group consists of oncology nurses and another group of nurses who do not identify themselves as oncology nurses. Described in detail below are the setting, sample, instruments, procedures, and approach to data analysis.

Setting and Sample

Data for this study was collected at an Oncology Nursing Society meeting and the American Association of Neuroscience Nurses meetings in southwest, Florida. The sample consisted of nurses who attended one of the two meetings and volunteered to participate. Nurses who were not currently practicing nursing were excluded from the study. A sample size of 60 (30 from each organization) was sought.

Instruments

The Pain Management Knowledge Test (PMKT). The PMKT was used to measure the knowledge of cancer pain management in the participants. This instrument is a 31-item multiple-choice test that evaluates the nurses' knowledge in areas such as physiology and characteristics of pain, addiction, dependence, tolerance, goals of pain management, and principles of pain assessment and management. Scores range from 0-31 and a percentage score can be figured

from number of questions answered correctly ranging from 0-100 percent

(McMillan, Tittle, Laughlin, and Tabler 2000). This instrument was chosen

because of its use in similar studies that measured nurses' knowledge of cancer

pain.

Senior nursing students (n=28) were tested before and after a three-hour

pain management course. There was a significant increase in post-test scores

(t=6.76, p<0.00) that supports the validity of the PMKT.

Reliability of the PMKT was evaluated by a test-retest with a one-week

delay using the same group of 28 senior nursing students. The correlation

coefficient of r=0.84 (p<0.00) supports the PMKT reliability.

Demographic Questionnaire. A demographic questionnaire was used to

gather descriptive characteristics about the study participants. It includes items

regarding age, gender, education, oncology vs. non-oncology experience, years

worked, and percent of time spent with oncology patients. No personal identifiers

were included in the demographic questionnaire.

Procedures

Permission to conduct this study was obtained from each nursing

organization and from the Institutional Review Board (IRB) of the University of

South Florida. Permission to recruit participants was sought. After approval was

obtained, the researcher attended one meeting of each group. Explanation of the

risks and benefits of participating in the study was presented to all the attendees

with an opportunity to ask questions regarding the study. Demographic

questionnaires and the Pain Management Knowledge Test were given to all

nurses who agree to participate. Consent was implied if the participant chose to complete and return the survey.

Data Analysis

Descriptive statistics were used to analyze demographic data. Means and standard deviations were used to answer research question 1: What is the current knowledge of Oncology nurses with regard to cancer pain management? Means and standard deviations were used to answer research question 2: What is the current knowledge of non-oncology nurses with regard to cancer pain? Differences between means (t-tests) were used to answer research question 3. Is there a significant difference between oncology nurses and non-oncology nurses with regard to knowledge of cancer pain management?

Chapter IV Results, Discussion, and Conclusions

This chapter reports the results of the Pain Management Knowledge Test along with the demographic surveys distributed during the two nurses association meetings to evaluate knowledge of oncology nurses verses non-oncology's towards cancer pain management. The level of knowledge in each group as well as a comparison of the two different groups is discussed. The limitations and strengths of the study are discussed. Finally, conclusions are drawn from the results presented.

Results

Surveys were handed out to all nurses present at both nursing association meetings. A total of sixty nurses, thirty from each group, chose to respond.

Sample. In the oncology group the baccalaureate degree nurses made up the largest group consisting of 53.3% of the sample. The second largest group was the diploma/associate degree nurses making up 33.3% followed by master degree nurses at 13.3% (Table 1). All participants except two (6.5%) were female. The mean age was 49.2 years old with a range of 24 to 61 years. The mean was 22.6 years of experience with a range of 2 to 39 years (Table 2). Sixteen of the participants (53.3%) categorized themselves as hospital based bedside nurses. Nine of the nurses (30%) categorized themselves as outpatient nurses, two as nurse practitioners (6.5%), and three as research nurses (10%)

(Table 3).

Table 1. Frequency and Percent of Oncology Nurses by Education Level

Variables	Frequency	Percent
LPN	0	0
Diploma/Associates Degree	10	33.3
Baccalaureate Degree	16	53.3
Masters Degree	4	13.3
Doctorate	0	0
Total	30	100

Table 2. Means and Range for Demographic Variables for Oncology Sample

Variables	n	Mean	Range
Age	30	49.20	24-61
Years of Clinical Experience	30	22.63	2-39

In the non-oncology group, baccalaureate and diploma/associate nurses were equal to each other consisting of 40% of the sample. The third largest group, at 13%, consisted of nurses master degrees. The smallest group was the LPN's with 2% of the sample (Table 4). All participants except two (6.5%) were female. The mean age was 51 with a range of 30 to 67 years. The mean years of experience was 25.1 with a range of 3 to 30 years. Twenty-one of the

13

participants (70%) categorized themselves as hospital based bedside nurses.

Six of the nurses (20%) categorized themselves as outpatient nurses while two of

the nurses (6.5%) categorized themselves as nurse practitioners. Only one

(3.3%) was categorized as a research nurse (Table 5).

Table 3. Frequency and Percent of Oncology Nurses by Nursing Role

Nursing Role	Frequency	Percent
Hospital Bedside	16	53.3
Outpatient	9	30.0
Nurse Practitioner	2	6.7
Research	3	10.0
Total	30	100.0

Knowledge of cancer pain management. In order to answer the first

two research questions regarding the current knowledge of oncology and non-

oncology nurses in regard to cancer pain management, the raw scores of the

PMKT were scored, tabulated, and analyzed. The number of questions answered

correctly from the 31-question test ranged from 14 (45%) to 27 (87%) for the

oncology sample and 10 (32%) to 25 (80.6%) for the non-oncology sample. The

mean score was 21.6 (85.8%) with a standard deviation of 3.5 for the oncology

sample. In the non-oncology sample the mean score was 19.8 (66%) with a

standard deviation of 3.11 (Table 7). For this study a total score of 70% was

considered a passing grade. Eighteen of the 30 oncology nurses (60%) passed

the test as compared to 9 (30%) of the 30 non-oncology nurses. Eleven (36.6%)

of the participants in the oncology sample and 18 (60%) of the non-oncology

sample answered 50-69% of the test questions correctly. One (3%) of the

oncology, and 3 (10%) of the non-oncology, participants scored a 50% or less on

the test (Table 8).

Table 4. Frequency and Percent of Non-Oncology Nurses by Education Level

Variables	Frequency	Percent
LPN	2	6.7
Diploma/Associates Degree	12	40.0
Baccalaureate Degree	12	40.0
Masters Degree	4	13.3
Doctorate	0	0.0
Total	30	100.0

Table 5. Means and Range for Demographic Variables for Non-Oncology Sample

Variables	n	Mean	Range
Age	30	51.0	30-67
Years of Clinical Experience	30	25.1	3-30

For the third research question, is there a significant difference between

oncology nurses and non-oncology nurses with regard to knowledge of cancer

pain management, the PMKT means were analysis analyzed. The difference

between the means for the two groups was 1.8 (t=2.1; p=.04) (Table7).

Table 6. Frequency and Percent of Non-Oncology Nurses by Nursing Role

Nursing Role	Frequency	Percent
Hospital Bedside	21	70.0
Outpatient	6	20.0
Nurse Practitioner	2	6.6
Research	1	3.3
Total	30	100.0

Table 7. Independent t-Test Comparison of Oncology and Non-Oncology PMKT Scores

Group	N	Mean	SD	Range	t	p
Oncology	30	21.6	3.50	14-27 (45-87%)		
					2.1	0.04
Non-oncology	30	19.8	3.11	10-25 (32-80.6%)		

Discussion

The mean score for the oncology nurse participants was 21.6 (85.8%) as opposed to a score 19.8 (66%) for non-oncology nurses. Twice as many oncology nurses passed the test as compared to the non-oncology nurses. When comparing these results to a similar study done in the same region at Veterans Hospital by McMillan and colleagues in 2000 the results among the non-oncology

nurses is similar (61%). Oncology nurse participants did have a higher overall score as compared to non-oncology nurses resulting in a significant difference between the two groups (t=2.1, p=0.04).

Table 8. Percent of Questions on the PMKT Answered Correctly by Oncology and Non-Oncology Nurses

Percent Answered Correctly	Oncology Nurses Frequency (%)	Non-Oncology Nurses Frequency (%)
<50%	1 (3%)	3 (10%)
51-69%	11 (36.6%)	18 (60%)
70-100%	18 (60%)	9 (30%)

When comparing the results of this study to McMillan and colleagues (2000), which was conducted in the same geographic area, it appears that the knowledge of nurses in this area has not improved much. This also correlates with other studies that show nurses have inadequate knowledge of not only cancer-related pain but pain management in general (Hollen, Hollen, Stolte, 2000; Bernardi and colleagues, 2007; Patiraki and colleagues, 2006)

There are a number of limitations inherent in this study. First, the sample size is small and may not be representative of the population studied. Second, the PMKT questionnaire does not address the different etiologies of pain that may be encountered among cancer patients (neuropathy, stomatitis, spinal cord

compression), which may have a variety of treatments. Other limitations included data collected in one geographic region and the nurses chose to participate instead of being randomly selected. The fact that the non-oncology sample was a group of nurses from a neuroscience specialty instead of nurses from a variety of different specialties may reflect results not generalizable beyond the sample. Finally, the test questions were not examined individually to identify areas that participants consistently scored correctly or incorrectly.

While it is evident that oncology nurses have a significantly better understanding of cancer pain management, the overall scores on cancer-related pain management remains low. It is evident from the results of this study that nurses would benefit from additional education concerning cancer pain, assessment of cancer-related pain, and evidence-based interventions for cancer pain. Specific education programs addressing the unique pain needs of cancer patients would be beneficial not only for nurses who are currently practicing but also incorporating similar programs in school of nursing curriculums.

With the significant difference between the knowledge of cancer pain management between oncology and non-oncology nurses education in pain management is a reasonable undertaking. It is of concern that so many nurses do not have adequate understanding of principle of caring for cancer patients with pain. It would be useful to repeat this study after education has been administered to both groups of nurses to see how much it affects their scores. Further research needs to be done examine the knowledge base of nurses in a wider range of specialties to obtain a true idea of the knowledge of non-oncology

nurses when looking at cancer pain management.

Conclusion

Although the WHO (2010) provides a 3-step pain relief ladder, that when used has been shown to relieve 80-90% of cancer-related pain; cancer pain is still a problem for patients. It is clear that while oncology nurses have a slightly better understanding of cancer-related pain, all nurses in the sample were lacking adequate knowledge in this area. It is evident that education programs are needed not only for practicing nurses but also to be included in schools of nursing curriculum. In addition, further research needs to be conducted to track the changes in cancer-related pain management after educational interventions have been implemented.

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PAIN MANAGEMENT KNOWLEDGE TEST

Parallel Form

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

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

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

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

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

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

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

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

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

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

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

11. Which group of symptoms are more related to chronic pain?
    a. Decreased appetite, decreased energy, sleep disturbances, apathy, decreased blood pressure.
    b. Grimacing, fast heart rate, fast respiratory rate, elevated blood pressure, sweating.
    c. Thrashing, grimacing, elevated heart rate, cold and clammy extremities.
    d. Groaning, elevated blood pressure, irritability, sweating

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix B

Demographic Data Questionnaire

1. Age _____

2. Gender   M   F

3. Years of clinical experience: _____

4. Highest level of education achieved in nursing:

_____LPN

_____Diploma/Associates Degree

_____Baccalaureate Degree

_____Masters Degree

_____Doctorate

5. Primary nursing role:

_____Hospital bedside

_____Outpatient nurse

_____Nurse Practitioner

_____Research

6. Percent of time spent with oncology patients: _____

7. Do you have a preference for oncology patients? _____Yes   _____No

8. Do you identify yourself as an oncology nurse? _____Yes   _____No

Appendix C

Informed Consent to Participate in Research

Information to Consider Before Taking Part in this Research Study

eIRB Study # 5470

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

We are asking you to take part in a research study called:

- A Comparison of Oncology and Non-oncology Nurses in Their Knowledge of Cancer Pain Management

The person who is in charge of this research study is Nicole Houle. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. Dr. Susan McMillan is guiding her in this research.

The research will be conducted at the meetings of the Tampa, Florida chapters of the Oncology Nursing Society and the American Association of Neuroscience Nurses.

The purpose of this study is to:

- The purpose of this research is to evaluate oncology and non-oncology

  nurses knowledge of cancer pain management and to determine whether

  there is a significant difference between the two groups.

- A Graduate student for the purpose of her thesis is conducting this study.

Study Procedures

If you take part in this study, you will be asked to:

- Complete the survey attached and a demographic questionnaire.

Total Number of Participants

About 50 individuals will take part in this study at this location. A total of 100 individuals will participate in the study at all sites.

Alternatives

You do not have to participate in this research study.

Benefits

You will not directly benefit from participating in this study.

Risks or Discomfort

There are no known risks to those who take part in this study.

Compensation

You will receive no payment or other compensation for taking part in this study.

Cost

There will be no costs to you as a result of being in this study.

Privacy and Confidentiality

We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

- The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff**.**

- Certain university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.

- The USF Institutional Review Board (IRB) and its related staff who have oversight responsibilities for this study, staff in the USF Office of Research and Innovation, USF Division of Research Integrity and Compliance, and other USF offices who oversee this research.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

Voluntary Participation / Withdrawal

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study.

You can get the answers to your questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, or experience an adverse event or unanticipated problem, call Susan McMillan at (813) 974- 9188.

If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the USF IRB at (813) 974-5638.

Consent to Take Part in this Research Study

It is up to you to decide whether you want to take part in this study. If you decide to participate, please complete the attached surveys. Your return of this survey is implied consent.

Appendix D

Oncology Nursing Society Permission to Conduct Survey

August 4, 2011

I have Reviewed and Nicole Houle's thesis proposal related to the comparison of oncology and non-oncology nurses in their knowledge of cancer pain management. I give my approval for Nicole to conduct her survey at one of our up coming Tampa Chapter of the Oncology Nursing Society meetings. Nicole will attend the next meeting and she will be given time on the agenda to conduct her survey.

We are happy to help her gather this valuable data.

Brenda L. Howard, MA, BSN, RN, OCN®

Program Chairperson

August 4, 2011

Appendix E

American Association of Neuroscience Nurses Permission to Conduct

Survey

June 30, 2011

I have Reviewed and Nicole Houle's thesis proposal related to the comparison of oncology and non-oncology nurses in their knowledge of cancer pain management. I give my approval for Nicole to conduct her survey at one of our up coming Tampa Chapter of the Oncology Nursing Society meetings. Nicole will attend the next meeting and she will be given time on the agenda to conduct her survey.

We are happy to help her gather this valuable data.

Theresa Ford BSN RN CNRN
Chapter President Tampa Bay Chapter
American Association of Neuroscience Nurses