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**PATIENTS' BELIEFS ABOUT MORPHINE AND ITS
EFFECTIVENESS FOR PAIN CONTROL**

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Patients' Beliefs About Morphine and Its
Effectiveness for Pain Control

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Abstract Summary

The purpose of the study was to examine the beliefs of patients regarding the use of morphine to control cancer pain. In addition, the study explored fears that concerned subjects about morphine use. A twenty-item questionnaire originally developed by Ward (1993) was adapted for use with patients taking oral morphine. The questionnaire was given to patients currently receiving radiation or chemotherapy treatments at local cancer centers and hospices in a mid-Atlantic region.

Responses from a total of sixty-four subjects were obtained including thirty subjects who used morphine, and thirty-four who did not use it. Questionnaires were distributed by staff at the various cancer centers. In order to be included in the study, subjects had to have a diagnosis of cancer.

The study posed three research questions. The first question addressed whether morphine users and non-users had different general beliefs regarding morphine. Additional questions asked whether differences existed between morphine users and non-users on the addictive properties of morphine and whether there were any perceived differences in side effects of morphine between the two groups. Lastly, a preliminary validity assessment was done using an

exploratory factor analysis to identify if factors in the current questionnaire reflected those found by Ward (1993).

Using Mann-Whitney analysis, the study found significant differences between the two groups on eight items of the questionnaire. These items pertained to the ability of MS to control pain (three items), the addictive nature of morphine, the fatalism of its use, the possibility of morphine causing one to say embarrassing things, the side effect of nausea, and the avoidance of health care workers to talk about pain. Using Chi-square analysis, no significant differences were found for the two groups regarding morphine and its addictive properties or with perceived differences in side effects of the drug. Lastly, the exploratory factor analysis did not find that items from the current study grouped together into the subscales found in Ward's (1993) original study.

Replication of the study was recommended in order to increase the validity of factor structure of the tool. Secondly, future research is needed on morphine use with a larger number of subjects.

To my husband, Bruce, for giving me the strength and
support to complete this thesis.

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Chapter 1

Introduction

Chapter one will introduce the topic and provide an overview of the study. In addition, the research problem, the research questions, and the hypotheses of the study will be introduced. The purpose of this study is to investigate the beliefs that patients have regarding the drug morphine sulfate (MS) and its ability to control their cancer related pain.

Overview

Among cancer patients, 40% experience moderate to severe pain with metastatic cancer and up to 90% suffer dramatically in advanced stages (Ward, S., Goldberg, N., McCauley-Miller, V., Mueller, C., Nolan, A., Plank-Pawlik, D., Robbins, A., Stormoen, D., & Weissman, D., 1993). In "Cancer Pain Control", Diekmann found that ".... worldwide it is estimated that everyday 3.5 million people suffer from cancer pain, and 25% of those with cancer die without relief from cancer pain" (Diekmann, Engber, & Wassem, 1989, p. 219). With the high percentages noted above, one can see that controlling a patient's pain is a priority for health professionals. Not all cancer patients develop pain, but for the majority who do, pain is best managed by a multi-disciplinary approach (Wilkie, 1990).

In recent years, the number of studies regarding the use of morphine in controlling cancer pain has increased. "Morphine binds to opiate receptors in the brain, brain stem, and spinal cord to alter one's perception and emotional response to pain" (Fulton, & Johnson, 1993, p. 36). One author states, "... taking opiates for pain restores a reasonably normal functional lifestyle to a patient and improves his or her quality of life" (Vallerand, 1994, p. 14). Another leader in cancer pain management, Michael Levy states, "... the combination of analgesics and co-analgesics can provide comfort and function in 85% to 95% of patients with cancer pain" (Levy, 1994, p. 718). Caserta (1989) cautions that pain is different in everyone and no one responds to pain in the same way.

Nurses spend more time with patients than any other health professional and are in a position to be primary advocates for patients who have pain. Pain can interfere with all aspects of life, including decreasing the quality of life (Ferrell, & Schneider, 1988). "The American Pain Society (APS) developed quality assurance standards for relief of cancer pain and suggests that pain should be recognized and treated promptly" (Ward & Gordon, 1994, p. 299). This statement obligates nurses, under quality assurance standards, to make their patients as comfortable as possible.

The purpose of this study was two-fold, first it examined patients' beliefs regarding the use of MS in managing and controlling cancer pain. Secondly, the study explored barriers to patients' acceptance of using MS to control pain. The study only examined the use of oral MS such as short acting pills, long acting pills (MS Contin), or liquid MS. It did not investigate the use of injectable MS because it was believed that including this route would confound the beliefs regarding MS. Various authors have suggested reasons why patients are reluctant to take MS. Many patients believe they should wait to take the narcotic, because if they take it, it may mean active treatment of their disease is over (Cleeland, 1984). Others believe that MS can have addictive properties, and many think that they are not good patients if they complain of pain (Cleeland, 1984). Lastly, patients believe MS will make them act differently than they normally do (taking MS makes some people confused or makes them say things they normally would not) (Ward, & Gatwood, 1994).

Possible barriers to patients' acceptance of MS were also be explored in the study. The current study uses an adapted form of the Barriers Questionnaire by Ward et. al (1993), which asks subjects about certain fears they may have which may inhibit them from using MS for pain control. Ward et. al (1993), grouped subjects fears into what she

titled as barriers. Barriers included by Ward et. al (1993) were: fear of addiction, fear of side effects from the drug, desire to be a good patient and resistance to pain medication, fear of distracting the physician from looking specifically at their disease, fear of using narcotics too early, fear that using pain medication means disease progression, and fear of fatalism which means patients believe nothing will ease their discomfort. Although researchers have studied the issue of pain and how health professionals should address it with patients, there has been no research exploring the reasons why patients choose to use or not use MS. Although previous research done by Ward et. al (1993) looked at reasons patients may not want to use pain medications in general, this study focused specifically on morphine.

Findings of the study may be useful to both health care professionals and to patients. Health care providers may have a better understanding of why patients may or may not be willing to use MS for pain control, while cancer patients may also gain a better understanding of the drug. In addition, results of the current study may be used by health educators to design patient education materials.

Research Questions and Hypothesis:

What follows are three main questions asked in the research study. The questions focus on the concerns of subjects (both MS users and non-users) about using MS for pain relief from cancer.

1. Do beliefs regarding morphine differ between individuals who use morphine for pain control and those who do not?
2. Do beliefs regarding possible addictive properties of MS differ among MS users and non-users?
3. Are there differences in perceived side effects between MS users and non-users?

The following hypotheses for the present study include:

1. There are differences in beliefs regarding MS in those cancer patients who take morphine and those who do not.
2. There are differences which between among MS users and non-users on the addictive properties of MS.
3. Morphine users and non-users hold different views regarding side effects of the drug.

Lastly, a preliminary construct validity assessment measure was conducted on the tool to determine if the same subscales emerged from this study as those which were identified by Ward et. al (1993) in the adapted questionnaire. The original Barriers Questionnaire by Ward et. al (1993) identified eight subscales in the study. The

current study explored the stability of these subscales in the adapted questionnaire regarding morphine.

Throughout this work, the terms below will be used according to these conceptual definitions:

1. Morphine users- those patients who currently take the oral drug form as part of their pain control regime.
2. Morphine non-users- those patients who currently do not take MS and have never taken it for cancer pain in the past. Patients in study may be taking another drug for pain control.
3. Beliefs- ideas and concerns that MS users and non-users have about the use of MS for pain control.
4. Barriers- reasons which may prevent patients from using MS for pain control. Examples of barriers include fear of addiction, fear of disease progression, fear of fatalism, fear of distracting the physician from therapeutic treatment, desire to be a good patient, fear of tolerance to the drug, and fear of side effects.

Assumptions of Study

In the conception of this study, the researcher made three assumptions for the study based on findings found in the review of literature.

1. Most patients believe that some pain is inevitable with cancer.
2. Patients have beliefs about medications that may affect their willingness to use the drug.
3. People have an expectation about the effectiveness of medicine in controlling cancer pain.

Summary

Chapter one introduced the topic of the study and asked the central research questions. Possible barriers to MS use to help control cancer pain were identified. Findings of the study can be used to enlighten health professionals and patients on beliefs held on the use of MS for cancer pain. In chapter two, research relevant to the topic will be presented.

Chapter 2

Introduction

Chapter two will review the literature related to studies done on MS and its use for controlling pain. Secondly, common side effects of the drug as well as interventions that help ease the discomfort from these side effects are included. The first analysis included in chapter two looks at differences in levels of pain as rated by the patient versus level of pain as rated by their health professionals. Other studies in chapter two look at the public's attitudes towards pain control. Studies highlighting the differences in perception of pain control held by patients and health professionals will be reviewed. In addition, the questionnaire adapted from Ward and Gatwood (1994), and the theoretical frameworks used in the current study are incorporated.

Literature Review

Use of Morphine in Controlling Cancer Pain

A commonly used drug to relieve cancer pain for patients is the drug MS. It is a narcotic analgesic which binds to specific opiate receptors and decreases or eliminates one's perception of pain (Foley, 1987). In order for MS to have a lasting effect on pain control, patients need to have the medication on a regular basis to maintain

the plasma level necessary to inhibit pain from returning (Foley, 1987).

Persons with cancer may choose not to use MS to help control their pain because of adverse reactions. MS can cause such reactions as constipation, sedation, respiratory depression, nausea and vomiting, and fear of addiction. Constipation from MS results from the drug binding to receptor sites in one's gastrointestinal tract. The drug then slows down peristalsis and takes out liquid from the bowel causing lack of defecation (Haviley, et. al., 1992). Secondly, persons with cancer who are taking MS for pain control may have a decreased appetite, exercise less, and not take in enough fiber in their diets to help them promote their bowel regimen (Cameron, 1992). In order to counteract the constipation effects, it is recommended that patients take laxatives such as bisco-dyl, senokot, or cascara, along with MS to enhance bowel activity and encourage peristalsis (Cameron, 1992).

Nausea and vomiting caused by MS is another serious concern to patients who anticipate taking the drug, or who have just started to take it. MS stimulates the chemoreceptor zone in the medulla of the brain and delays gastric emptying, thus nausea and vomiting result (Haviley, et. al, 1992). Research has found that this discomfort usually subsides within a few days after starting on MS

(Haviley, et. al, 1992). In order to help decrease a patient's nausea and vomiting, it is suggested that a health care professional prescribe an antiemetic to be given as soon as a patient starts on MS. It is also suggested that patients eat cold foods and avoid foods with strong odors to decrease their nausea and vomiting (Fulton, & Johnson, 1993).

Another fear patients have about using MS is drowsiness and sedation. Drowsiness and sedation caused by the direct effect of morphine on the central nervous system usually subsides in two to five days after a patient has been on MS and a steady state has been achieved (Haviley, et. al, 1992). When a patient is still drowsy and sedated after a few days of (MS) therapy, the drug should be decreased, or the doctor should add a medication along with MS to help the patient with drowsiness (Fulton, & Johnson, 1993).

To compound the adverse reactions, respiratory depression from MS is also life threatening. Respiratory depression usually occurs in the first few days of therapy when the MS decreases the respiratory centers sensitivity to carbon dioxide, this decreases the amount one breathes per minute (Haviley, et. al, 1992). As stated previously, respiratory depression usually diminishes after the first few days of being on MS (Fulton, & Johnson, 1993).

Lastly, fear of addiction to MS may concern patients when considering the use of the drug for pain. This fear may not be entirely grounded since reportedly less than "1% of the addicted population is medically addicted, and among cancer patients addiction is even less of a problem" (Haviley, et. al, 1992, p. 344). While this research argues that only a small percentage of MS patients become addicted, too many patients still hold the popular addiction fallacy. According to the Controlled Substance Act, (1990), "... the term addict refers to any individual who uses a narcotic drug to endanger public morals, health, safety, or welfare" (Vallerand, 1994, p. 14). Vallerand states that "patients on narcotics for pain are not addicts, and that being on narcotics for pain positively affects their life" (Vallerand, 1994, p. 14).

A study was done to see if MS Contin (controlled released Morphine), administered around the clock, could be substituted for other opioids in relieving cancer pain (Lapin, et al., 1989). Patients in the study, previously on other opiates (ie: Codeine, Demerol, Percocet), were switched to the oral MS. All of the patients participating in the study had advanced cancer with some having metastasis (Lapin, et. al, 1989). Of thirty-seven patients who completed the study, results showed that MS Contin tablets taken by patients two to three times a day could effectively

replace shorter acting opiates and control cancer pain (Lapin et. al, 1989). The study did not discuss whether patients used MS elixir or other forms of MS in addition to MS Contin tablets to help control their pain.

Patients' Rating of Pain Versus Health Care Professionals Rating

Recently, a number of studies in cancer research has focused on pain relief . In 1991, a study was done at the Johns Hopkins Oncology Center in Baltimore, Maryland, to determine if patients' rating of their own pain correlated with the assessment of their pain by health professionals. This study by Grossman, Sheidler, Swedeen, Mucenski, & Piantadosi, (1991) supported the argument that patients' ratings of their pain were different from the evaluations of those who manage their medical treatment. Results showed that when patients rated their pain as a 7 on a scale of 1-10 (10 being severe pain), the nurses' assessments agreed with the patients' only 7% of the time, house officers agreed 20% of the time, and oncology fellows agreed 27% of the time (Grossman, et. al, 1991). These results indicate that a difference does exist in how patients perceive their pain level and what care providers believe their level of discomfort to be (Grossman, et. al, 1991).

Public Attitudes Toward Pain

Public attitudes towards cancer pain can have a great impact on a patient's willingness to accept a pain control regimen. Levin, Cleeland, & Dar (1985), examined stereotypical beliefs about cancer pain and how these attitudes may deter treatment or lead a patient to avoid pain medications altogether. Data were obtained for the study by the use of a structured interview. Researchers conducted random sampling on the general public and completed 496 interviews (Levin, et. al, 1991). The Chi-square test supported the subjects perceived cancer pain as more painful than other medical conditions (Levin et. al, 1991). Results indicated that 26% of subjects felt pain was an early sign of cancer, 62% believed increased pain meant the cancer was getting worse, and 57% believed that being diagnosed with cancer meant a painful death (Levin et. al, 1991).

Questionnaire Designed to Measure Patient Attitudes on Pain

Ward et. al (1993) designed a barriers questionnaire to see if patients had certain beliefs regarding the use of analgesics for their pain, and if those beliefs influenced their attitudes towards achieving pain control. The questionnaire focused on eight subscales which are as follows: addiction to narcotics, fatalistic beliefs towards pain, side effects of narcotics, desires to be a good

patient, not wanting to bother physicians with pain matters, increased pain leads to worsening of disease, fear of using pain medication too early, and fear of injections (Ward et. al, 1993).

The purpose of the study was to determine the concerns that patients have which might interfere with the decision to take medicine for control of pain. Participants in the study were 270 subjects from various hospital settings. The Barriers Questionnaire, which is a twenty-seven item questionnaire, was completed by patients while they waited to see their physician (Ward et. al, 1993). The study showed 85% of the participants felt that constipation was or would be a problem when taking a pain medication (Ward et. al, 1993). When reviewing demographic variables, it was found that age was positively correlated with patients not wanting to complain of discomfort. When Pearson correlation's were used to examine the differences in beliefs regarding side effects held by men and women, it was found that women were more concerned about side effects than men ($p < 0.05$) (Ward et. al, 1993). The authors stated that based upon the results of their study, they had data which supported the need for medical staff to discuss pain control with patients.

Ward and Gatwood (1994), used the Barriers Questionnaire to assess concerns regarding pain and use of medication to ease discomfort for subjects with and without cancer. Data were obtained from the University of Wisconsin Cancer Center and community groups (Ward and Gatwood, 1994). The questionnaire was given twice, at one-week intervals, to ensure test-retest reliability. The total number of participants enrolled in the study was 93 (53 with cancer, 40 without cancer). The results showed that persons with or without cancer do not differ in their concerns about reporting pain and using pain medications. In conclusion, the researcher suggested that when first seen by a health professional, patients should be given information on side effects of medications to ease some of their fears and concerns (Ward, and Gatwood 1994).

In 1987, a similar study was executed by Donovan and Dillon to examine the frequency of pain for cancer patients in a hospital setting and the characteristics of their pain. The purpose of the study was to evaluate the effectiveness of a care plan used at Memorial Sloan-Kettering Cancer Center, to determine the number of times cancer patients experience pain, and to describe characteristics of their pain (Donovan & Dillon, 1987).

Four medical and four surgical areas were randomly selected for the study. Interviews were done on 96 subjects

chosen randomly on the designated units. Of the 473 subjects asked to participate, 19 refused because they were "too tired", or "too busy" (Donovan & Dillon, 1987). Of the 454 remaining, only 96 had a confirmed diagnosis of cancer. Of these, only 69 of the 96 had pain, so 69 patients were evaluated in the study (Donovan & Dillon, 1987). Interview questions were taken from the McGill Pain Questionnaire and the Present Pain Intensity Index (Donovan and Dillon, 1987). The interview questions included inquiries about the incidence of pain, how long their pain had lasted, location and pattern of pain, severity of pain, effects of pain on sleep patterns, roles of the nurse in treatment of pain, variables affecting pain, and use of analgesics (Donovan & Dillon, 1987). A panel of five experts assessed the questions used in the interviews for content validity and, before the interviews were done, a pilot study was conducted with ten subjects (Donovan & Dillon, 1987).

It was found that 56% of the patients' pain started just in the last few days as the study was conducted, and that the most common site of pain was the abdomen. Of the subjects interviewed, 42% said their pain was continuous or constant and all but 11 of the subjects had experienced moderate or severe discomfort during their hospital stay (Donovan & Dillon, 1987). Only 43% of the patients could remember a nurse discussing their pain with them (Donovan &

Dillon, 1987). The investigators recommended that all cancer patients should be evaluated for pain, that non-traditional approaches to pain should be looked at, and that the reasons why care-givers sometimes do not acknowledge patients' pain should be explored (Donovan & Dillon, 1987).

Theoretical Frameworks

A review of the literature supports that pain is a part of daily life for many cancer patients and that there is a need for effective pain control. The current study was based on two theoretical frameworks. The Gate-Control Theory of Pain has been used to guide this study along with the Health Belief Model.

The Gate-Control Theory of pain was proposed by Melzack and Wall (1965). This theory of pain concludes that pain comes from a physiological and emotional perspective (Hauck, 1986). The theory states that, "... a neural mechanism in the dorsal horns of the spinal cord acts like a gate which can increase or decrease the flow of nerve impulses from peripheral fibers to the central nervous system" (Melzack, 1973, p. 153). The small fibers are believed to start the pain process and open the gate of pain. When the pain becomes severe it transmits from the original site of the pain to other parts of the body (Melzack, 1973). The substantia gelatinosa, located in the spinal cord, is the main site for the spinal gating mechanism which transmits

signals to the brain that pain is occurring (Melzack, 1973). Melzack and Wall (1965, 1970) also suggest that the receptors located in the spinal cord note changes in the pressure, temperature, and chemical changes of the skin and project this also to the brain (Melzack, 1973).

In addition, Melzack and Wall discovered that attention, anxiety, anticipation, and past experiences have a powerful influence on the pain process (Melzack, 1973). The Gate-Control Theory of pain also addressed the issue of referred pain that many patients experience. Melzack and Wall found that referred pain is caused by trigger zones (Melzack, 1973). It is known that many cancer patients have pain in other areas of their body other than the original site where their cancer was diagnosed.

A study by Wilkie, Lovejoy, Dodd, & Tesler, (1988) used the Gate-Control Theory as the framework for their study. The authors used the theory as the basis for their research because the theory focuses on the interaction of affective, behavioral, cognitive, and physiological-sensory variables in looking at one's pain (Wilkie, et. al, 1988). Fifteen patients participated in the study. The subjects were interviewed over a four-day period. The first day consisted of an interview with patients about their pain and what helped to relieve it. The other three days consisted of researchers observing patients engaging in different

types of behavior and reporting whether their pain increased or decreased (Wilkie, et. al, 1988). Certain behaviors, such as applying heat, pressure manipulation, positioning, immobilizing an area, and distraction, all seemed to help at varying degrees of pain (Wilkie, et. al, 1988). This study found that nurses should be aware that other agents besides analgesics help decrease patients' pain. The researchers also found that nurses should document in a patient's chart his/her most comfortable position and whether distraction decreases a patient's pain (Wilkie, et. al, 1988).

The purpose of the Gate-Control Theory, in regards to studying pain, is for researchers to be able to search for ways to modulate sensory input (Melzack, 1973). The hope of the current study is to say that morphine is a drug which can alter sensory input and relieve pain associated with cancer, and that certain fears patients have towards morphine can effect whether they choose to use the drug.

Developed in 1965 by Melzack and Wall, the Gate-Control theory helped physicians to realize that the concept of pain is complex and that certain psychological aspects patients exhibited, such as distraction and position changes, aided in decreasing or increasing their pain (Melzack, & Wall, 1983). The theory proposed by Melzack and Wall over thirty years ago has allowed researchers to focus on non-pharmacological methods of reducing patient's pain instead

of always changing patient's pain medication. In adapting the Gate-Control theory, Ferrell & Schnieder (1993), conducted a study and interviewed care givers of patients with cancer. Family members told interviewers that methods such as massage, use of lotion, relaxation techniques, sleep, position changes, and heat helped their loved ones achieve comfort (Ferrell, & Schnieder, 1993).

The other theoretical framework used to in the current study is the health belief model. The purpose of the health model by Rosenstock (1974) is to demonstrate that beliefs people have about health care affect the way they respond to or accept health care treatment (Becker, 1974).

The model looks at people's beliefs on how susceptible they are to an illness and secondly, whether they believe the illness can be a threat to their well-being (Becker, 1974). Social class, personality, and friends people associate with can affect greatly how they react to the severity of their illness or condition (Potter, & Perry, 1989).

The model also focuses on the prevention of illness and how likely people are going to change their risky health behaviors in order to increase their chances of being healthy in the future. Once again whether people choose to engage in preventative health care depends on demographic and socio-psychological factors mentioned previously, along

with what people watch on television, or read in newspapers, and whether a close relative or friend has had a recent illness (Potter, & Perry, 1989). According to Rosenstock (1974), persons do not participate in preventive health care unless they have some level of knowledge and motivation, believe that at some point they could become ill, view illness as a threat to their well-being, and have certain feelings about following a health regimen (Stanhope, & Lancaster, 1988). MS is a means to prevent uncontrolled pain.

Whether patients choose to be on MS for cancer pain can be effected by their beliefs about the drug. Their past experiences with MS could be personal or they may have read or seen on television problems associated with MS use that makes them apprehensive to use MS.

Summary

Chapter two presented the review of literature examining the issue of patient acceptance with the use of MS and the associated side effects. Patient versus health care professionals' beliefs on pain control were presented, and the original questionnaire that was adapted for use by the current researcher was discussed in its entirety. Lastly, theoretical frameworks by Melzack and Wall (1965), and Rosenstock (1974), were discussed.

Chapter three will discuss the methodology of the study which includes criteria for selection of the population and the study variables. Also included in chapter three, will be a detailed description of the Barriers Questionnaire to be adapted by the researcher.

Chapter 3

Methodology

Chapter three will present the methodology of the study including a description of the pertinent variables. The population, sample, and instrument used for data collection will be described. Data collection procedures along with data analysis will be explained.

The study was a descriptive, cross-sectional design, which took place at three rural cancer centers and two hospice organizations located in the mid Atlantic region. Data were collected by use of a questionnaire adapted from Ward et. al (1993), which examined the issue of pain control in cancer patients. The questionnaire used in the study was piloted on a graduate nursing class to see if questions were clearly written and easy for participants to answer.

Study Variables

The following dependent variables are defined for the purpose of this study. Each variable named correlated with subscales names by Ward and colleagues in her (1993) study. In addition, the operational definition of each will be given.

1. Fear of addiction- patients' hesitance to use MS based on beliefs that MS can be addictive.

Responses to subjects' beliefs about addiction and MS are found in items one, twelve, and nineteen of

the questionnaire.

2. Fear of side effects- Patients' unwillingness to use MS secondary to concerns regarding constipation, respiratory depression, nausea, and vomiting are addressed in items two, four, seven, nine, ten, eleven, fifteen, and eighteen of the questionnaire.
3. Fear of disease progression- Patients' beliefs that taking MS means that the disease is progressing is found in item three in the questionnaire.
4. Fear of fatalism- Patients' beliefs that it would not do them any good to complain of pain because their physician would not care anyway. Item sixteen of the questionnaire addresses this fear.
5. Fear of loss of attention- Patients' believing that a physician who is concerned with providing pain control, will not focus on the cure of the disease. In the questionnaire, this fear is addressed in items eight and thirteen.
6. Fear of not being a good patient- Patients' perception that if they do not complain of pain that they are a good patient. Item twenty from the questionnaire looks at this concept.
7. Fear of low tolerance to pain- Patients' concern that MS will not control their pain. Items five,

six, fourteen, and seventeen focus on this fear on the questionnaire.

The independent variable for the present study is the classification of cancer patients as MS users or non-users.

Population

The subjects in the study consisted of patients diagnosed with cancer. The population consisted of ambulatory patients receiving palliative or curative treatment from three cancer centers and two hospice organizations. Age or gender distinctions were not used as criteria for inclusion in the study because the researcher was interested in beliefs of all persons with cancer and how they feel about MS for pain control.

Sample Criteria/Selection:

Below is a listing of the criteria used for inclusion of subjects in the study.

1. Subjects were ambulatory patients with some form of cancer.
2. Subjects were receiving cancer treatment for palliative or curative reasons.

For the purpose of this study, subjects may or may not be on morphine for pain. In addition, the presence of pain from cancer was not a relevant criterion for inclusion.

The Sample

The sample, one of convenience selected from the population, consisted of sixty-four subjects including thirty subjects who were MS users and thirty-four non-users. A sample size of at least thirty subjects in each group was used as this number traditionally represents the number for a small sample for the planned analysis. The researcher looked at both MS users and non-users to see if differences existed between the groups on using MS to alleviate pain. One subject was included in the study who was presumed to have the diagnosis of cancer although a definitive diagnosis had not been made. The subject was on MS for over a year for pain control and was receiving hospice care.

Instrumentation

The instrument used in the study was a survey adapted from an original study by Ward et. al (1993) at the University of Wisconsin and used with permission. The original questionnaire consisted of twenty-seven items. The adapted version of the questionnaire consists of twenty items. Questions related to injections of morphine were omitted from the study. The current study increased the number of questions on side effects over the number on the questionnaire designed by Ward et. al (1993). The current review of literature indicated that beliefs regarding side effects from morphine as being of great concern to patients.

The original study grouped the twenty-seven questions into the following eight subscales: fatalism, addiction, side effects, being a good patient, not distracting a physician, disease progression, tolerance to pain medication, and fear of injections. "Fatalism" was defined as the belief that it did not do patients any good to complain of pain because their physician would not care any way (Ward, et. al, 1993). The "addiction" subscale was a patients' concern regarding pain medicine being addictive. "Side effects" was another subscale which asked subjects about various side effects from pain medication. "Being a good patient" was the fourth subscale addressed which asked subjects if they felt a good patient was one who did not complain of pain (Ward, et. al, 1993). The "distraction" subscale focused on a patients view that telling their physician about pain might distract them from curing their cancer. The sixth subscale, on "disease progression" asked participants in the study whether they believed that pain, was a sign that their disease was getting worse. (Ward, et. al, 1993). The "tolerance" subscale addressed subjects concern that taking pain medicine too early might not take away their pain later when it got worse. The last subscale used in the study by Ward and Gatwood (1994) asked subjects how they felt about injections to relieve pain.

The original Barriers Questionnaire had three questions each on fatalism, addiction, and injections. The distraction and disease progression subscale each had four questions on the questionnaire. The tolerance and being a good patient subscale each had two questions on the questionnaire. The subscale which had six questions on the questionnaire dealt with side effects.

In the current study, questions from all subscales were included except fear of injections. Questions related to fear of injections were not included in the present study because most patients on morphine at the cancer centers used in the study take the medicine orally rather than by injection. The current researcher reworded questions from the original questionnaire (Ward et. al 1993) to be specific to morphine and increased the number of questions on side effects. The adapted questionnaire had eight questions on the subscale of side effects since a review of literature showed side effects of pain medication in particular (MS) to be a concern of patients. Four questions were asked on the subscale of "fatalism". Three questions were asked on the issue of "addiction" to MS. The subscale of "tolerance" had two questions. The subscales of "being a good patient", "distracting a physician", and "disease progression", each had one question on the adapted Barriers Questionnaire.

The original questionnaire was used with two-hundred seventy subjects, and the reported alpha was 0.89 (Ward, et. al, 1993). In replicating the study at the University of Wisconsin Cancer Center with ninety-three subjects, the alpha was 0.92 (Ward & Gatwood, 1994). The questionnaire, given two times, revealed that people with and without cancer do not differ in their concerns regarding pain (Ward, & Gatwood, 1994). The questionnaire also showed (for all subscales) test, re-test reliability to be 0.90 and alpha to be 0.89 (Ward & Gatwood, 1994). The original research was also replicated in Taiwan and Puerto Rico to improve test validity. The study in Taiwan found subjects with lower levels of education to have more concerns with pain (Lin & Ward, 1995). The value of alpha in the Taiwan study was 0.78 (Lin & Ward, 1995). The barriers study in Puerto Rico found alpha for all subscales to be 0.82. Examining each subscale separately, Cronbach's alphas ranged from 0.37 to 0.76 (Ward & Hernandex, 1994).

The current researcher piloted the adapted questionnaire for clarity, readability, and face validity with a group of graduate nursing students. The graduate students believed that questions related to MS should be integrated throughout the questionnaire. Secondly, the graduate students suggested removing the items relating to fear of injections since that was not used as much today with present pain

control regimens. These two recommendations were incorporated in the study.

Data Collection

Before beginning the data collection process, consent from Human Subjects Committee at Salisbury State University was obtained. The researcher also obtained permission to conduct the study from the administrators of the three cancer centers and the two local hospices used in the study. The majority of the questionnaires were distributed to the subjects by the staff at the cancer centers and the hospices. A few questionnaires were mailed to subjects who did not present to the cancer centers on a regular basis. Responses to the questionnaires were anonymous. Patients were asked to indicate whether they were MS users or non-users. Although subjects were asked to self-report their current MS use or non-use, the staff at the cancer centers and the hospices verified the patients' use or non-use of MS as the questionnaires were returned in order to avoid errors stemming from patient confusion regarding their medication. In order to obtain a sample size of thirty subjects on MS, the researcher had to ask some of the subjects the items from the questionnaire over the phone. Verbal consent was obtained from the subjects who were patients from one of the cancer centers used in the study. If the subjects had any

questions they were to call the researcher or their oncologist.

After participants completed the questionnaires they were provided with a fact sheet on MS that acted as an educational tool to address any concerns they had about MS. In addition, the researcher's phone number was in the event that the questionnaire raised any issues they might have regarding MS. (See Appendix F).

The questionnaire, (See Appendix E) was distributed to the patients by staff members at the cancer centers and hospices. Approximately 10-15 minutes were needed to complete the questionnaire. Written instructions on how to complete the questionnaire were included. A cover letter assured confidentiality to the subjects (See Appendix C). Questionnaires from patients were returned to the staff at the different sites from which the researcher obtained them. Staff at the cancer centers and local hospices were instructed on how to administer the questionnaires to subjects. Subjects in the study were also given the name of the researcher and her instructor along with phone numbers to reach them in case subjects had anything they needed to address. Lastly, subjects were told to ask their physician regarding any problems or questions they may have had as a result of being in the study

Analysis

Data were analyzed by using SPSSx, version 6.2 at Salisbury State University. Demographic variables included in the study were age, race, religion, educational level and marital status. Frequency distributions were computed on the demographic variables and were used to describe the beliefs that patients had regarding the use of morphine. Cronbach's alphas were computed on subscales which were addressed in the questionnaire in order to establish internal consistency. Cronbach's alpha was computed separately on the groups of morphine users and non-users to determine separately the reliability of the questions.

Research question one related to whether differences exist between the beliefs of MS users and non-users. This question was analyzed by testing the differences in ranks on the beliefs by using the Mann-Whitney test. The Mann-Whitney test was conducted at the .05 level.

Research question two related to differences in beliefs regarding the possible addictive properties of MS. Chi-square tests were used to test the proportion of responses of each subject on items one and twelve from the questionnaire. Next a Chi-square test was done on item one and twelve separately to see if any differences arose. The Chi-square tests were conducted at the .05 level of

significance. These tests would enable the researcher to draw conclusions on research question two.

Research question three asked whether there were differences in perceived side effects of MS among MS users and non-users. Chi-square tests were conducted on the items related to side effects including items two, four, seven, nine, ten, and fifteen. The Chi-square tests were conducted at the .05 level of significance. Questions eleven and eighteen related to side effects from MS were omitted from Chi-square testing. These questions were general questions regarding side effects and did not refer specifically to one side effect.

Lastly, a preliminary construct validity assessment of the tool was conducted to explore the subscale structure. Using an exploratory factor analysis procedure on the twenty items of the Barriers Questionnaire, a principal components (PC) extraction method was done.

Summary

Chapter three presented the methodology, variables, the population, data collection, and how data were analyzed in the study. Chapter four will focus on the results of the study.

Chapter 4

Results

The statistical results of the research study will be presented in this chapter. The overall purpose of this study was to see whether differences existed between patients on beliefs about the drug MS and its ability to control pain. Secondly, the study was done to see what barriers may prevent patients from accepting the use of MS for pain control.

Sample Characteristics

The subjects used in this research study consisted of a convenience sample of thirty MS users and thirty-four MS non-users. Ages of the subjects ranged from thirty-four to eighty-nine. Results showed that fifty-seven (89.1%) were Caucasian, and seven (10.9%) were black. Of the entire population studied, forty-five out of sixty-four subjects were married (70.3%), twelve widowed (18.75%), five were divorced (7.8%), and two were single (3.1%). Religious affiliation of the groups, consisted of thirty Methodist (46.8%), three were Baptist (4.7%), eleven were Catholic (17.2%) and twenty subjects were a denomination other than the ones mentioned (31.3%).

The educational background of the subjects was also assessed. Three of the participants in the study had completed more than four years of college (4.7%), six

finished four years of college (9.4%), sixteen had gone one to two years beyond high school (25.0%), and twenty-three had a high school diploma (35.9%). Of the remaining subjects, ten had completed more than grade school but did not have a diploma, (15.6%), and six subjects only completed grade school or less (9.4%).

Demographics related to location indicated the largest number of subjects, twenty-eight, came from Caroline County in Maryland (43.75%). Residents from Talbot County comprised fourteen subjects in the study (21.9%). Wicomico, Somerset, and Worcester counties were grouped together and had a total of seven subjects (10.9%) in the study. Table 1 shows the frequencies and percentages on demographic data obtained from the questionnaires.

In order to evaluate the consistency of the items asked on the questionnaire, Cronbach's alphas were computed. When tested with both groups included, the alpha was .8148. Cronbach's alphas on the MS users and non-users remained high even when the groups were separated. Group one (the MS users) had a Cronbach's alpha of .8147. The MS non-users had a Cronbach's alpha of .7774.

Since the researcher had difficulty obtaining subjects for the study from a single site, multiple sites were chosen to obtain additional subjects. Three of the sites were from rural cancer centers and two were from local hospice

Table 1

Frequencies and Percents on Demographic Data
(N=64)

<u>Variable label</u>		<u>Frequency</u>		<u>Percents</u>	
		User	Non-User	User	Non-User
Race	White	29	28	45.3	43.8
	Black	2	5	3.1	7.8
Marital Status	Single	0	2	0.0	3.1
	Divorced	2	3	3.1	4.7
	Widowed	6	6	9.4	9.4
	Married	23	22	35.9	34.4
Religion (N=63)	Catholic	5	6	7.8	9.4
	Baptist	1	2	1.6	3.1
	Methodist	16	14	25.0	21.9
	Other	9	11	14.1	17.2
Educational Level	Grade school Or less	3	3	4.7	4.7
	More than Grade school	4	6	6.3	9.4
	High School (HS) Completion	10	13	15.6	20.3
	1-2 years beyond (HS)	12	4	18.8	6.3
	Four years of college	1	5	1.6	7.8
	Beyond 4 years of college	1	2	1.6	3.1
County of Residence	Talbot	2	12	3.1	18.8
	Queen Anne	3	1	4.7	1.6
	Caroline	16	12	25.0	18.8
	Kent CO MD	1	3	1.6	4.7
	Kent CO DE	0	2	0.0	3.1
	Sussex CO DE	2	0	3.1	0.0
	Wicomico, Somerset, Worcester	7	0	10.9	0.0
	Other	0	3	0.0	4.7

organizations. Table 2 shows frequency distributions and percentages from the sites where subjects were obtained.

Table 2

Frequency/Percent of Number of Subjects from Various Sites
(N=64)

<u>Sites</u>	<u>Frequencies</u>			<u>Percents</u>
	<u>Users</u>	<u>Non-Users</u>	<u>Total</u>	
Rural Center #1	16	31	47	73.4
Rural Center #2	0	3	3	4.7
Rural Center #3	7	0	7	10.9
Hospices	7	0	7	11.0

Research Question One: Beliefs

The first research question asked whether beliefs about MS differed between users and non-users. It was hypothesized that there are differences in beliefs regarding MS in cancer patients who take MS and those who do not. Mann-Whitney U tests revealed significant differences at the .05 level between MS users and non-users on eight items of the questionnaire including items six, seven, nine, twelve, thirteen, fourteen, sixteen, and seventeen (See Table 3 for complete results). The first hypothesis was partially supported.

Research Question Two: Addictive Nature of MS

The second question of the study asked if beliefs regarding possible addictive properties of MS differ between MS users and non-users. Subjects who indicated high agreement to the questions related to the addictive nature of morphine were identified (a response of three or higher on items one and twelve). The proportion of subjects in these two groups was tested by the Chi-square analysis procedure. The same procedure was used to test the proportion of subjects in high agreement with items one and twelve combined. Results indicated that there were no significant differences in the separate or the combined items at the 0.5 level (See Table 4 for results). The second hypothesis was not supported.

Table 3

Comparisons of Beliefs Between Users and Non-users of Morphine

	Item	Mean Rank		M-W U	p
		Users (N=30)	Non- users (N=34)		
1	Addictive Danger	28.53	36.00	391.0	0.1009
2	Drowsiness	32.32	31.71	485.5	0.8933
3	Pain=worsening	28.76	33.91	399.0	0.2524
4	Confusion	29.20	35.41	411.0	0.1760
5	MS postponement	27.80	34.10	369.0	0.1558
6	No personal pain relief	25.18	34.32	299.0	0.0341*
7	Nausea	22.77	35.02	231.5	0.0042*
8	Cure not control	30.19	32.65	440.5	0.5822
9	Embarrassing	23.93	36.65	259.0	0.0025*
10	Constipation	28.77	28.19	382.0	0.8933
11	Pain rather than side effects	27.28	34.38	356.0	0.1018
12	MS is addictive	26.32	35.76	331.0	0.0347*
13	Avoid pain talk	25.28	38.11	293.5	0.0042*
14	Pain control effective	34.37	25.48	304.0	0.0387*
15	Resp depression	24.88	31.24	290.5	0.1285
16	Close to end	24.57	35.69	282.0	0.0093*
17	MS not effective	24.83	35.81	285.0	0.0118*
18	Side effects ok	34.16	28.14	372.5	0.1701
19	MS not addictive	33.91	26.47	324.5	0.0880
20	Good patient	29.60	33.28	423.0	0.3964

* $P < 0.5$.

Table 4

Comparison of Proportion of High Agreement Responses on Addiction Items Between MS Users and Non-Users

Item(s)	Observed Cases		Chi-Square	p
	Users (N=30)	Non-users (N=34)		
1 MS Addictive danger	19	29	2.0833	0.1489
12 MS is Addictive	18	27	1.8000	0.1797
Combined items	17	25	1.5238	0.2170

Research Question Three: Side Effects of MS

The third question proposed by the researcher was whether there were any differences in perceived side effects between (MS users and non-users). Items related to side effects on the questionnaire included items two, four, seven, nine, ten, eleven, fifteen, and eighteen. These items asked subjects how they felt about the side effects that can accompany MS. In order to test if differences existed between the two groups, Chi-square tests were conducted. The proportion of subjects indicating high agreement with the problematic nature of side effects, (a response of three or higher) were tested using the Chi-square procedure. No significant results were found at the .05 level of significance between the two groups. (See Table 5 for Chi-square results). The third hypothesis was not supported.

Table 5

Comparison of Proportion of High Agreement Responses on Items
Related to Side Effects Between MS Users and Non-Users

Item(s)	Observed Cases		Chi-Square	p
	Users (N=30)	Non-users (N=34)		
2 Drowsiness	15	15	0.0000	1.0000
4 Confusion	13	17	0.5333	0.4652
7 Nausea	7	16	3.5217	0.0606
9 Embarrassing	3	5	0.5000	0.4795
10 Constipation	17	14	0.2903	0.5900
11 Pain rather than side effects	5	9	1.1429	0.2850
15 Resp Depression	12	13	0.0400	0.8415
18 Side Effects ok	21	27	0.7500	0.3865

Preliminary Construct Validity: Factors Found in Barriers Questionnaire

As a preliminary construct validity assessment of the adapted questionnaire, an exploratory factor analysis was done on the twenty items of the Barriers Questionnaire using the principal components (PC) extraction method. In order for an item to be considered a factor, it needed to have a Eigenvalue of at least 1.00. A varimax rotation was designed to extract six subscales to attempt to replicate the findings found by Ward and colleagues in the 1993 and 1994 studies. Ward identified eight subscales that were defined as barriers preventing subjects from using medication for pain control. In the current study, six factors explained 70.3% of the variance. (See Tables 6 and 7 for summary of factor analysis results). These factors did not appear consistent with Ward's original subscales. Due to the preliminary nature of this analysis and the limited sample size, no further discussion or labeling of these factors was warranted.

Summary

Chapter four presented the statistical findings from various tests on the data. In order to answer research question one, Mann-Whitney tests were conducted to see how MS users and non-users differed in responses from items one through twenty. Research question two focused on whether

groups one and two differed in opinion on whether MS was addictive or not. Chi-square tests were conducted to conclude if any differences did exist between the two groups. Question three addressed whether groups one and two differed in agreement that side effects from MS are a problem. Again Chi-square tests were conducted to see if the two groups differed. Lastly, exploratory factor analysis was conducted to see if subscales arose from the twenty items on the questionnaire similar to those found by Ward and colleagues in the 1993 and 1994 studies.

Table 6

Barriers Questionnaire: Factors Obtained from Varimax
Rotation

Factor	Eigenvalue	Pct of Var	Cum Pct
1	4.91595	24.6	24.6
2	2.99254	15.0	39.5
3	2.17533	10.9	50.4
4	1.43805	7.2	57.6
5	1.35563	6.8	64.4
6	1.17894	5.9	70.3

Table 7

Data Reductions on Items from Barriers Questionnaire

	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
1	Addictive danger		0.89751				
2	Drowsiness					0.70907	
3	Pain=worsening		0.44948		0.58023		
4	Confusion					0.55887	
5	MS postponement	0.55472	0.57276				
6	No personal pain relief	0.73434					
7	Nausea	0.44659		0.63782			
8	Cure not control	0.73262					
9	Embarrassing			0.78853			
10	Constipation						0.76438
11	Pain rather than side effects	0.61073				0.35028	
12	MS is addictive		0.88911				
13	Avoid pain talk	0.52386		0.49528			
14	Pain control effective				0.80234		
15	Resp depression						0.79131
16	Close to end			0.62694			
17	MS not effective	0.85229					
18	Side effects ok				0.79873		
19	MS not addictive						
20	Good patient						

* Sorted if ≥ 0.35

Chapter five will interpret and discuss findings from research questions one through four. Also included in chapter five is a discussion on limitations of the study, and recommendations for future study.

Chapter Five

Summary and Conclusions

This study was designed to investigate differences in beliefs about MS' use to help alleviate cancer pain among MS users and non-users. This chapter will discuss the results reported in the previous chapter. Lastly, limitations of the study and recommendations for future study will be explained.

Demographics

Results from demographic data computed showed that most of the subjects were married at the present time, or had been married previously. Subjects ranged in age from thirty-four to eighty-nine years of age which indicates that cancer affects all ages of adults.

The county having the greatest number of subjects for this study was Caroline County representing forty-three point two percent (43.8%) of the total subjects in the study. The reason for the predominance of subjects from Caroline County was the fact that one local cancer center was the site of most of the data collection for this study. The demographic data indicated that most subjects had a spouse who would be a support system for them in dealing with their cancer. Secondly, the data also showed that most patients in the study were educated at either the high school level or above. These findings may be useful to the

health professional when establishing office routines or preparing educational materials. Since a number of subjects in the current study had less than a high school education, the reading level of materials used to educate subjects may need to be directed at a lower level of comprehension.

Conclusions Research Question One: Beliefs of MS

The first research question revealed some differences exist between MS users and non-users in their beliefs about MS. Eight items found to be significantly different were those related to MS being able to control pain (items 6, 14 and 17), side effects associated with MS (items 7 and 9), MS having addictive properties (item 12), health professionals needing to talk more with patients about pain (item 13), and lastly, taking MS decreases life expectancy (item 16).

The differences found indicated that patients still may have some misconceptions about the side effects of MS. These differences between the two groups (MS users and non-users), may be minimized by more directed education about all aspects of pain management. This would lessen the stereotypical view regarding MS which seems to be prevalent in cancer patients and the general public.

Once accurate information is provided to patients, they may share this information with other patients. This patient to patient sharing may be another way to disseminate

knowledge regarding the effectiveness of MS and to educate patients that side effects from MS can be controlled.

Prior to this study, the researcher thought that more differences would exist than were found regarding beliefs about MS among MS users and non-users. The literature reviewed discussed all the problems patients have when they anticipate being on MS or are already on MS for pain control. The researcher believed that MS non-users would have greater concerns about MS use than MS-users since they were currently not on the drug. A possible explanation for the current findings may be that patients are being educated by health professionals on positive aspects of MS use. In addition, patients are being advocates for themselves and are gathering information themselves on MS from their health professionals, their pharmacists, or by reading medical literature.

A second possible explanation for the limited differences between the two groups may be the advertising campaign that hospices have in place. People are becoming much more knowledgeable of what hospice does for terminal cancer patients and how they, along with physicians, can control one's cancer pain at home with oral MS. Families of patients who died while in hospice care, are informing others about how MS helped their family member to have a better quality of life, that side effects of MS can be

controlled and that their family member was allowed to die peacefully at home.

Significant differences in eight items on the questionnaire indicate there is still a need to educate patients on MS and how it can achieve effective pain control for them. The findings also show that subjects do still believe that concerns about MS are an issue and that time must be taken to talk with them about the issues that may prevent them from using MS.

Conclusions Research Question Two: Addictive Nature Of MS

The second research question focused on whether MS had addictive properties. Chi-square tests concluded that there were no significant differences between the two groups on the addictive properties of morphine.

While the current study did not find any significant differences between MS users and non-users on MS and its addictive properties, recent literature continues to support that the addictive nature of MS is a concern to patients. Vallerand (1994) states that addiction may be an obstacle that concerns patients regarding starting on MS. She also discussed that while the topic of addiction should be addressed, more emphasis should be put on teaching patients how pain medication can allow them to rest and allow them to participate more in daily activities (Vallerand, 1994). In addition to recent publications, speakers at hospice

conferences continue to address responses to questions related to the addictive properties of MS. The strategy endorsed by a recent conference speaker emphasized that MS should be first used to get one's cancer pain under control.

Once this is achieved, the patient and family can see that the drug works and that it can enhance the quality of life for a cancer patient (Sobel, B., Perdue Frederick Representative, 1996). Applying the use of MS in this manner, may minimize the issue of the addictive properties of MS.

The clinical practice guidelines on Management of Cancer Pain by the U.S. Department of Health and Human Services (1994) state that there are few options for effective pain control for cancer patients if they do not choose a narcotic for pain relief. Moreover, they define "addicts" as people who endanger the welfare of others, rather than people who use narcotics to achieve pain relief from a disease (Public Health Service Report, 1994, p. 18). This shift of the definition of addiction may offer some relief to the concerned patient. Thus, there is recent evidence that the concern that MS is addictive is still very prevalent among cancer patients and the general public. Perhaps an increase in the number of subjects by replication of the study would detect additional differences.

Conclusions Research Question Three: Side Effects of MS

As mentioned in the review of literature, fear of side effects was an issue for patients with pain. However, this research indicated that there were no significant differences in beliefs regarding side effects of MS between MS users and non-users.

The review of recent literature did indicate to the researcher that patients are still concerned about MS side effects. In the researcher's clinical practice, patients continue to indicate that constipation and nausea are the most frequently reported problems that patients encounter with MS use. Therefore, further research is recommended to explore the disparity between the empirical and experimental evidence.

Conclusions on Preliminary Construct Validity: Factors Found In The Barriers Questionnaire

The study attempted to explore the factor structure in the adapted Barriers Questionnaire. The researcher had conceptualized that certain items would load together as subscales. If items had grouped together as anticipated, it would indicate that subjects had strong feelings towards certain issues related to MS. The researcher expected to see all items on side effects load on a factor, questions related to addiction load on a factor, and ideas on disease progression load on another factor. Thus, the logical

groupings of similar items would parallel the subscales in the Ward et. al (1993) study. Further, comparative analysis was not possible because of the absence of the factor analysis procedure on the original instrument (Ward, 1993).

The inability of the current factor analysis to identify subscales may have been the result of the limited number of subjects used in the study. A sample size of fifteen subjects per item is usually required for exploratory factor analysis.

Incorporation of Theoretical Framework into Study

Melzack and Wall (1973) in their Gate-Control Theory discussed how anxiety and past experiences have an impact on how one responds to pain. Persons who have never used MS may have anxiety about its use for pain control. The concerns surrounding MS use may affect whether cancer patients use the drug for pain control. Health professionals can help these patients by focusing on positive aspects of MS and how side effects from MS can be controlled and/or minimized. Melzack and Wall (1973) also believed that distraction, such as engaging in hobbies or watching TV, can decrease one's pain. Once again, education by health professionals based on research seems to be one answer in helping patients ease their discomfort.

Potter and Perry (1989) talked about the health belief model and how a person's belief on illness can affect

his/her ability to choose health care. Whether patients choose health care for possible curative treatment or for pain control alone, health professionals need to assist them in making good choices about how their pain control is managed. The health belief model can aid medical professionals in learning why patients may choose a certain pain control regime to follow.

Limitations of Study

Certain limitations of this study were present which may have affected the results of this study. Three limitations of this study were found.

1. Small sample size
2. Use of hospice organizations to find subjects on MS
3. Subjects in study chosen by a convenience sample

Recommendations for Future Study

Based upon the current research, future research is recommended to be done with increased numbers of subjects in order to increase the possibility of obtaining significant results. Also, additional questions should be added to the questionnaire to strengthen the reliability of the questions. More than one question would be asked about each side effect of MS to help ensure the validity.

A further recommendation is that the issue of addiction with MS use should be studied using a separate instrument. Since the current questionnaire included several topics

related to MS, the importance of the addiction issue with the drug may have been minimized. Only three questions on the questionnaire related to MS and its addictive properties, which may not have adequately reflected the importance of this topic is to cancer patients.

For future research items related to the side effects of morphine should be reworded. Questions should be asked from a first person perspective and not a third person perspective. For example, "Do you feel, that nausea from MS is or would be a problem for you?" This approach, may be more likely to obtain personal feelings.

Other recommendations include the following. The study should be extended geographically to the entire Eastern Shore of Maryland, Delaware, and Virginia in order to enhance its generalizability. Other recommendations include increasing the number of questions on the questionnaire to increase the internal consistency of items, questions could also address how anxiety and subjects' beliefs regarding their health affect their choices regarding pain control. Lastly, instead of limiting the study to subjects having a diagnosis of cancer, the study should include all subjects who are on MS for pain control regardless of diagnosis.

In summary, the study found some significant differences in patients' beliefs about the drug MS. Although, no significant differences were found in patients

beliefs about the addictive properties of MS, recent literature continues to support that the issue of addiction does concern patients. Recent literature also indicated that side effects from MS are an issue for patients, although the current study did not find any significant differences between the two groups studied.

Issues related to MS use with cancer patients have been presented together with ways to help patients ease their concerns. In the future, it is hoped that research will contribute to the body of knowledge that eventually leads to the obliteration of the fear of the use of morphine by patients with cancer.

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Appendix A



School of Nursing
University of Wisconsin-Madison

Center for Health Sciences
Clinical Science Center
600 Highland Avenue
Madison, Wisconsin 53792-2455
FAX: 608/263-5332

April 7, 1995

Laura Patrick, RN
RD 3 Box 108
Harrington, DE 19952

Dear Ms. Patrick:

Enclosed is a copy of the Barriers Questionnaire (BQ) and information about its scoring and psychometric properties. If you have any further questions, please feel free to write or call.

Sincerely,

Sandra Ward Luk
Sandra Ward, PhD, RN

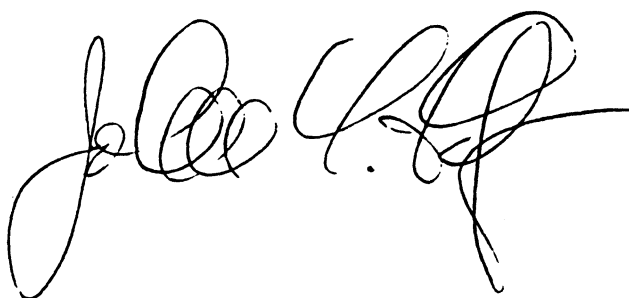
Appendix B

Human Subjects Board
Salisbury State University
Salisbury, MD 21601

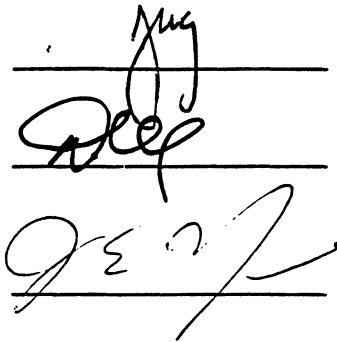
The Regional Cancer Center at Easton, Maryland gives permission for the graduate student Laura Patrick to conduct research at this facility. Any problems found in conducting the research will be addressed with the researcher.

Cathy Johnson, RN, MSN, CCN
Nurse Manager, Regional Cancer
Center

I John T. Ford give Laura Patrick permission to have questionnaires distributed to patients at the cancer center here at Kent General Hospital for her thesis study on morphine.

A handwritten signature in black ink, appearing to read "John T. Ford". The signature is fluid and cursive, with the first name "John" being the most prominent part, followed by "T." and "Ford".

We give Laura Patrick permission to distribute her questionnaires to our patients. We understand that patient confidentiality will be maintained.

The image shows two handwritten signatures on two horizontal lines. The top signature is written on the first line and extends slightly above it. The bottom signature is written on the second line and extends slightly below it. Both signatures are in cursive script.

ONCOLOGY and HEMATOLOGY

*Joseph A. Grasso, M.D.,
David E. Cowall, M.D.,
James E. Martin, M.D.
and Associates, P.A.*

H. Gray Reeves Professional Center
145 East Carroll Street
Salisbury, Maryland 21801
(410) 749-1282

Nursing
As director of Coastal Hospice, I *Amelia R. R. R.* give Laura
Patrick a graduate nursing student permission to have her
questionnaires distributed by my staff for her study on
morphine. Date *5/30/96*



Caroline County Health Department

P.O. Box 10, Denton, Maryland • (410) 479-3500

Fax: (410) 479-0554 • TTD (410) 479-2159

To whom it may concern,

Laura Patrick is an employee of the Caroline County Health Department. Permission has been granted for her to complete questionnaires with some of our patients concerning the use of morphine. I understand this information will be used for her thesis at Salisbury State University and will be kept confidential.

L Carol Smith R.N, BSN
Director Home Health Hospice
Caroline County Health Department

COMMITTEE ON HUMAN VOLUNTEERS
SALISBURY STATE UNIVERSITY

Date 5-8-96

MEMO TO: Laura Patrick /

FROM: Chairman, Committee on Human Volunteers

SUBJECT: Subjects from local hospices for ~~new~~ research survey
Patients' beliefs regarding morphine use
Title of Study

Grant Application No.
Sponsoring Agency

Dr. Karen Badros

Principal Investigator or Program Director

Laura Patrick

Student Investigator

The Committee on Human Volunteers has considered the above application and, on the basis of available evidence, records its opinion as follows:

- (1) The rights and welfare of individual volunteers are adequately protected.
- (2) The methods to secure informed consent are fully appropriate and adequately safeguard the rights of the subjects (in the case of minors, consent is obtained from parents or guardians).
- (3) The investigators are responsible individuals, competent to handle any risks which may be involved, and the potential medical benefits of the investigation fully justify these studies.
- (4) The investigators assume the responsibility of notifying the Committee on Human Volunteers if any changes should develop in the methodology or the protocol of the research project involving a risk to the individual volunteers.

Stephen Schurich

Appendix C

Consent Form for Participation in Study

The study is being conducted to look at beliefs about the drug morphine and its ability to control cancer pain.

The study is being conducted by Laura Patrick RN, a graduate nursing student at Salisbury State University. The research being conducted is part of the Masters degree requirement in nursing. The study will provide patients and health professionals with further knowledge on the use of morphine in controlling cancer pain.

I understand that my participation in this study is totally voluntary, I can refuse to participate and it will not effect in any way the care that is given to me at the cancer center. I will be asked questions on the questionnaire that deal with the drug morphine and how I may feel the drug works or does not work to help relieve cancer pain. The questionnaire will take approximately ten minutes to complete.

I understand that I was chosen for the study only because I am a patient at the regional cancer center. I understand that the study is anonymous and that once I complete the questionnaire the consent form will be detached, and all the researcher will see is the questionnaire.

The study will benefit future patients in that it will indicate how other patients feel about the drug morphine and whether it aids in relief of cancer pain. A fact sheet is included for me in case I have any questions about the drug morphine after completing the questionnaire. If my questions are not answered by the fact sheet, please feel free to call Laura Patrick, RN (1-302-398-3721), or Dr. Badros- Associate Professor of Nursing at Salisbury State University(1-410-543-6402), or ask your physician. Thank-you for your time.

Date _____

Signature _____

Appendix D
Demographic Information

1. Age ____ years
2. Race (Please check) ____ white ____ black ____ hispanic
____ Asian ____ other
3. Marital Status (Please check) ____ single ____ married
____ divorced ____ separated
____ widowed ____ other
4. Religion (Please check) ____ Catholic ____ Methodist
____ Baptist ____ Other
5. Highest level of education completed (Please check)
____ Grade school or less
____ More than grade school
but less than high school
diploma
____ 12 years
____ 1-2 years beyond high
school
____ college 4 years
____ Beyond 4 years college
6. County in which you live (Please check)
____ Talbot ____ Caroline ____ Queen Anne
____ Kent Co. MD ____ Sussex ____ Kent Co. DE
____ New Castle ____ Wicomico, Worcester, Somerset
____ Other
7. Have you used Morphine before for your cancer pain?
(please check) ____ Yes ____ No
8. Are you on Morphine now for your cancer
pain? (Please check) ____ Yes ____ No

Appendix E

Barriers Questionnaire

Items reflect beliefs that some individuals have related to use of morphine for control of cancer pain. There are no right or wrong answers. Please answer all questions honestly on your beliefs on morphine and its ability to control cancer pain. Please circle the number (0, 1, 2, 3, 4, 5) that come closest to your feelings.

- 1). There is a real danger of becoming addicted to Morphine

0	1	2	3	4	5
Do not agree					Agree very
at all					much

- 2). Drowsiness from Morphine is really a bother

0	1	2	3	4	5
Do not agree					Agree very
at all					much

- 3). Having pain means my cancer is getting worse

0	1	2	3	4	5
Do not agree					Agree very
at all					much

- 4). Taking morphine can cause confusion and is very upsetting

0	1	2	3	4	5
Do not agree					Agree very
at all					much

- 5). It is a good idea to save Morphine to use later when pain gets worse

0	1	2	3	4	5
Do not agree					Agree very
at all					much

- 6). Morphine can not really control my pain

0	1	2	3	4	5
Do not agree					Agree very
at all					much

Adapted from S. Ward with Permission

7). Nausea from Morphine is really distressing

0	1	2	3	4	5
Do not agree					Agree very
at all					much

8). It is more important for the doctor to focus on curing illness than to put time into controlling pain

0	1	2	3	4	5
Do not agree					Agree very
at all					much

9). Taking Morphine makes you say or do embarrassing things

0	1	2	3	4	5
Do not agree					Agree very
at all					much

10). Constipation from Morphine is very uncomfortable

0	1	2	3	4	5
Do not agree					Agree very
at all					much

11). It is easier to put up with pain than with the side effects that come from Morphine

0	1	2	3	4	5
Do not agree					Agree very
at all					much

12). Morphine is addictive

0	1	2	3	4	5
Do not agree					Agree very
at all					much

13). Doctors and nurses avoid talking about pain

0	1	2	3	4	5
Do not agree					Agree very
at all					much

14). Morphine controls cancer pain effectively

0	1	2	3	4	5
Do not agree					Agree very
at all					much

15). Morphine can cause respiratory depression

0	1	2	3	4	5
Do not agree					Agree very
at all					much

16). Once Morphine is started, one does not have much longer to live

0	1	2	3	4	5
Do not agree					Agree very
at all					much

17). Morphine cannot control cancer pain effectively

0	1	2	3	4	5
Do not agree					Agree very
at all					much

18). As long as morphine controls my cancer pain, I can put up with the side effects

0	1	2	3	4	5
Do not agree					Agree very
at all					much

19). Morphine is not addictive

0	1	2	3	4	5
Do not agree					Agree very
at all					much

20). I feel I am a good patient if I do not complain of pain

0	1	2	3	4	5
Do not agree					Agree very
at all					much

Appendix FFact Sheet For Patients

- * The chances of becoming addicted to morphine are very slim
- * Drowsiness from morphine usually goes away in a few days
- * Having pain from cancer does not necessarily mean cancer is getting worse
- * Confusion as a result of morphine use may occur sometimes when one begins on morphine, but usually does not last beyond 2-3 days
- * Morphine controls cancer pain effectively if dosages are increased when pain increases
- * Nausea from morphine can be effectively relieved with medication
- * Doctors are very concerned about relieving cancer pain, but are focused on curing cancer
- * Constipation from morphine can be controlled with medication
- * Doctors and nurses are concerned with cancer pain
- * Respiratory depression from morphine rarely occurs, and in order to prevent its occurrence, low doses of morphine are used at the beginning of morphine therapy

(If you have any questions regarding the information on this fact sheet, please consult your physician)

Appendix G

Laura F. Patrick, RN, MSN
412 Welch Road
Harrington, Delaware 19952
302-398-3721

OBJECTIVE

To assist in the handling and nursing care of patients to ensure that they are provided with the best possible pain relief and quality of life.

SUMMARY OF QUALIFICATIONS

I have been a Home Health/Hospice Nurse in Caroline County located in Denton, Maryland for the last four years. I work on a daily basis to coordinate services for my patients and their families. I believe I possess excellent communication and documentation skills. My personality is one that fosters a sense of assurance and compassion to patients, families, and the general public.

EDUCATION

Salisbury State University	1987-1991
Salisbury, Maryland	
Bachelor of Science in Nursing	

Salisbury State University	1991-1996
Salisbury, Maryland	
Masters of Science in Nursing	

PROFESSIONAL EXPERIENCE

Community Home Health/Hospice Nurse, Caroline County, Denton, Maryland

- Provided in home care for terminally ill patients within Caroline County.
- Determined what services could be provided for home health/hospice patients and reported to interdisciplinary team.
- Talked with insurance companies daily in order to coordinate services needed for patients.
- Made sure all nurse documents were done with accuracy and completion.
- Spoke to various organizations when asked on Hospice care in the community.
- Updated nurses on a daily basis any changes in patients conditions in order to continue continuity of care among the staff.
- Reported any client difficulties to hospice and home health supervisors.

-
- Promoted home health organization by striving for utmost professionalism and strong work ethic on a daily basis.

Staff Nurse, Peninsula Regional Medical Center, Salisbury, Maryland

- Responsible for care of acutely ill patients on a busy medical-surgical floor.
- Administered high technological care to many patients at one time in a timely and accurate fashion.
- Oriented newly graduated nurses on hospital nursing.
- Supervised nursing aides on a daily basis to ensure quality care to patients.
- At times was charge nurse for twenty-four bed unit.
- Consulted with other disciplines when needed advice on patient problems.
- Gave referrals to outside agencies to help support patients and families in a home environment.

Graduate Assistant, Salisbury State University

- Tutored students who had difficulty with their studies in nursing.
- Wrote mock tests from student class notes in order to test ability of students to take tests.
- Emphasized to students the importance of maintaining good academic standards for future schooling.
- Worked one on one with students on computers in order to help them learn aspects of the nursing field.
- Helped to inform students about nursing in the real work place.
- Met with faculty in order to establish different ways of learning for students.

RECOGNITION'S

- Sigma Theta Tau Nursing Honor Society
- Theses Completion Entitled Patients Attitudes and Beliefs on Use of Morphine for Cancer Pain

REGISTRATION'S

- Licensed Registered Nurse State of Maryland
- Licensed Registered Nurse State of Delaware

REFERENCES AVAILABLE UPON REQUEST