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The Use of Peppermint Oil to Reduce the Nausea of the Palliative Care and Hospice Patient

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THE USE OF PEPPERMINT OIL TO REDUCE THE NAUSEA OF THE
PALLIATIVE CARE AND HOSPICE PATIENT

by

Mary Karen Seale

A thesis submitted to the faculty of
Gardner-Webb University School of Nursing
in partial fulfillment of the requirements for the
Degree of Master of Science in Nursing

Boiling Springs, NC

2012

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Abstract

A descriptive study was initiated to investigate the use of peppermint oil to reduce the nausea of the palliative care and hospice patient. Two local palliative care and hospice programs were used as sites for the study. Patients eighteen and older complaining of nausea were invited to participate in the study. The study was conducted for one and a half months. A total of eight patients consented to participate in the study with a mean age of seventy one years. The Bieri Scale, a visual-numeric analog, was used as the measurement instrument for the patients to evaluate their nausea. Results showed that peppermint oil may augment other medications. Eighty-eight percent reported a decrease in the level of nausea following the use of conventional medication as well as the use of medication and peppermint oil.

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Chapter I

Introduction

Hospice and palliative care is defined by Mechelen et al., (2012) as the comfort provided to patients diagnosed with a progressive, life-threatening disease with no possibility of obtaining remission, or stabilization, or modifying the course of the illness. The major goal of Palliative care and Hospice is to provide comfort at the end of life that support quality of life. A variety of services are offered that focus on supporting quality of life through symptom control. A very debilitating complaint for many of these patients is nausea. Thus, Palliative care and Hospice providers may use a variety of methods including complementary medications such as aromatherapy to treat nausea.

Statement of the Problem

For the palliative care and hospice patient, nausea is a frequent complaint. The most frequent cause is the progression of the disease. Many kinds of cancers and wasting syndrome in terminal AIDS involve the digestive tract, which involves the stomach, various parts of the colon, spleen, bile duct, and gall bladder. With advanced cancer, nausea may have more than one cause which may be stimulated by more than one pathway. There are also some brain cancers that affect the digestive tract. Often for these patients, the only relief of nausea is when the individual experiences an episode of emesis (Doyle, Hanks, & MacDonald, 1998).

The second most common cause of nausea in the palliative care and hospice patient is medications. The nausea may be from chemotherapy and/or radiation that they received before palliative care and hospice became involved with their care. Nausea may also be caused by viral and bacterial infections (Gilligan, 2005). If untreated, nausea

may cause many medical problems, including, poor nutrition, dehydration, electrolyte imbalance, as well as physical and mental deterioration (Hamadini et al., 2007).

Medications may need to be limited due to drug interactions. Thus, the use of nondrug measures is important in the management of nausea and vomiting in palliative care (Glare, Miller, Nikolova, & Tickoo, 2011)

Many patients turn to aromatherapy when receiving radiation, or chemotherapy, and when dealing with end of life issues. In order to avoid the potentially negative interaction with the clients' medical treatment, the essential oil must be applied safely. Applying the essential oil directly to the skin may cause irritation. Safety testing on essential oils has been found that they have very few bad side effects occur. Research supports that aromatherapy can be highly effective to manage restlessness, anxiety, and stress. Evidence does not support the claims that aromatherapy cures or prevents cancer (National Cancer Institute, 2010).

A few trials suggest that aromatherapy may be helpful as a complementary therapy. Research has studied the effect of aromatherapy on other health conditions, and quality of life issues, such as cancer related symptoms, stress, anxiety. Essential oils can be used to support and balance the mind, body, and spirit. The cancer patient may use aromatherapy as supportive care to improve their quality of life, and to decrease their stress, and anxiety. Indirect inhalation may be used for the patient to breathe in the essential oil by using a room diffuser or by placing a few drops nearby, or for massage therapy. Essential oils are rarely taken by mouth (National Institute of Health, 2011).

The use of aromatherapy in the hospice and palliative care setting has not been fully explored. Non-drug measures can play an important role in the management of

nausea and vomiting. The use of aromatherapy may decrease the need for medication in a cancer patient. Some patients have reported an improvement in symptoms, such as nausea, or pain (National Institute of Health, 2011).

Purpose of the Study

The use of peppermint oils have been recognized as an effective treatment for controlling nausea in general (Hines, Steels, Chang, & Gibbons, 2009) The essential oil, Peppermint Oil, is sometimes used to reduce the level of nausea for patients enrolled in Palliative Care and Hospice. Thus, the purpose of this pilot study is to examine the effectiveness of the use of peppermint oil as an alternative and /or complementary therapy for patients enrolled in a local Palliative Care and Hospice program and to answer the question. Does the use of peppermint oil relive the nausea in the palliative care and hospice patient?

Background and Significance

The use of peppermint oil has been used in aromatherapy and dates back to ancient Egypt, China, and India. The Greeks and Romans used fragrant oils for both medicinal and cosmetic purposes. It was not until the 1980's that it began to become popular in the United States (American Cancer Society, (ACS), 2011).

While peppermint oil has been helpful in the surgical arena to relieve nausea, further investigation in the role of aromatherapy in the hospice and palliative care patient is needed. The challenge of aromatherapy is to broaden the base of experience in using the therapy in specific settings, not only focusing on the scientific and physical results of the aromatherapy, but also, how it affects the whole patient (Gilligan, 2005).

Orlando's Conceptual Framework

Orlando's (1961) theory of deliberate nursing, stresses the relationship between the patient and the nurse. Orlando was one of the first nursing leaders to emphasize the elements of the nursing process and critical importance of the patient's participation providing direct assistance to individuals in whatever setting for the purpose of avoiding, relieving, diminishing or curing the person's sense of hopelessness (Forchuk, 1991). Orlando states that nursing's purpose is to supply the help a patient requires in order for his or her needs to be met (1961). Nursing actions are derived from the patient's immediate experience and immediate need. The nurse must meet the patient's needs directly by her own actions or by calling for help. The palliative care and hospice patient often are not able to verbally express their needs. The nurse should help relieve the physical or mental discomfort and should not add to the patient's distress.

The professional nurse must continue to look for ways to improve the care of the patient. In this study, smelling peppermint oil placed on a cotton ball is a safe and inexpensive intervention to meet the patients' immediate relief of nausea. The patient may also, experience a decrease in their anxiety level. This may enable them to have quality time with family and friends.

Research Question

Does the use of peppermint oil decrease the nausea of the palliative care and hospice patient?

Chapter II

Review of the Literature

Review of the literature included Ebsco.com (Cinahl Plus with Full Text), Medline Plus, Medline Central, PubMed, Elsevier Health Sciences, Science Direct, and Wiley Online Library.

Aromatherapy in post-operative patients/digestive disorders

Nausea has been defined as more distressing than vomiting. The effect on the cancer patient can be considerable. It can adversely affect the patient's quality of life, and the ability to perform their activities of daily living (Bloechil-Daum, Deuson, Mavros, Hansen, & Herrstedt, 2006).

Peppermint oil has been shown to decrease the need for medication in the post-surgery patient. By placing the peppermint oil on a cotton swab and waving it under the individual's nostrils the need for antiemetic was reduced. Although, Garrett, Tsuruta, Walker, Jackson, and Sweat, (2003) did not find the use of peppermint oil to be statistically significant in the post-operative patients; the experimental group did have a lower prevalence, and /or intensity of nausea after surgery. Patients required less antiemetic medications, and were more tolerant to analgesia (can cause nausea) (Garrett et al., 2003).

A systematic review and meta-analysis to examine the effect of fiber, antispasmodics, and peppermint oil in the treatment of irritable bowel syndrome was conducted in 2008 (Ford). The trials were randomized control trials for fiber, bran, ispaghual, antispasmodics, and peppermint oil versus a placebo. Four trials compared peppermint oil to a placebo. The study included 392 patients. The proportion of women

in each trial ranged from 40-76%. Fifty two of 197 (26%) patients randomized to peppermint oil had persistent symptoms compared with 127 of 195 (65%) receiving placebo (relative risk 0.43, 0.32 to 0.59) with statistically significant heterogeneity detected between studies ($I^2=31.1\%$, $P=0.23$). The number needed to treat with peppermint oil to prevent one patient having persistent symptoms was 2.5 (2.0 to 3.0). The conclusion reached was that peppermint oil was more effective than the placebo (Ford et al., 2008).

Kligler and Chuedhary (2007) discussed the long history of using the peppermint leaf and oil for digestive disorders. This list includes Irritable Bowel Syndrome, headaches, and non-ulcer dyspepsia. The extracts are used as flavoring for toothpastes and mouthwashes, and over the counter gastrointestinal products. In vitro research shows that the pill by mouth to be effective in relaxing the gastrointestinal smooth muscles, possibly through the antagonistic effect on the Calcium channels in the gut. It has been shown that the oral peppermint oil relaxes the lower esophageal sphincter, which can result in gastroesophageal reflux. The contraindications for the oral form are that it is lethal and toxic are excessive dosages. It has been associated with interstitial nephritis and acute renal failure (Kligler & Chuedhary, 2007).

Aromatherapy in cancer patients/hospice and palliative patients

The National Institute of Health (NIH) has begun research to determine if the use of peppermint oil will reduce nausea in the cancer patient receiving chemotherapy. The NIH facilitates research evaluation of complementary and alternative practices. It provides information on a variety of approaches to care for the health professional and also, the public (NIH, 2011).

A recurring study of the National Institute of Health involves a randomized trial of the effectiveness of aromatherapy on chemotherapy induced nausea, and vomiting in children with cancer. The medical conditions included in the study are: Brain tumors, Leukemia, Sarcomas, Neuroblastoma, Lymphoma, and Hodgkin's disease. The intervention used is an aroma wand versus a placebo wand. The trial is ongoing. No data has been published at this time (Whitfield & Shulman, 2009).

Smith (2011) conducted a double blind peer review in Europe, and a peer review in the United Kingdom and Ireland, to confirm that peppermint oil has an antispasmodic, antimicrobial and antiseptic action. However, due to methodological flaws, no conclusions could be established. Smith recommended that a better designed trial is required to determine the potential effect of peppermint oil in Irritable Bowel Syndrome (Smith, 2011).

Gilligan (2005) conducted a twelve month study of palliative care and hospice patients receiving specific aromatherapy treatments to address the symptom of nausea. Findings of the study indicated that the majority of patients, in the advanced stages of their illness, did experience some relief of their nausea. However, newly admitted patients did not experience a difference in their nausea using the aromatherapy. More favorable responses were obtained using a synergy of essential oils than individual ones (Gilligan, 2005).

Summary

Nausea remains a major concern for the palliative care and hospice patient. The literature reveals that peppermint oil may decrease the nausea of some patients and also may help decrease the anxiety they may be experiencing as well. However, a review of

the literature revealed little data on the use of peppermint oil as an adjunct for the relief of nausea for the patient enrolled in a palliative care and hospice program. Thus, further research is needed to establish the various uses of peppermint oil in this setting.

Chapter III

Method

The methodological design for this pilot study was a quantitative, descriptive design. The setting included two local palliative care and hospice facilities in western North Carolina. A convenience sampling plan was utilized in obtaining participants for the study.

Sample

A convenience sample of 15 patients enrolled in palliative care and hospice services, eighteen years and older who were experiencing nausea and were able to provide consent to participate were invited to participate in the study.

Ethical Considerations

The goal of the study was explained to the patient and a family member. This information included the researcher's name, the advisor, and the IRB (Internal Review Board) contact phone numbers (see Appendix A).

A participating physician, Licensed Independent Practitioner (LIP), or a registered nurse assessed each potential participant to determine patient cognitive ability to understanding the purpose of the study and if the patient was competent to consent to participate in the study (see Appendix B). Each eligible patient was informed that participation in the study was strictly voluntary and that declining to be in the study would have no effect on the care received. Anonymity and confidentiality was maintained (see Appendix C). The patient's name was not placed on any data collection forms or revealed in the results.

Procedure

Data collection using a pretest and a posttest was used to examine the effects of peppermint oil to reduce the nausea of the palliative care and hospice patient. Patients were asked to rate their level of nausea using the Bieri scale prior to treatment of nausea and again after the treatment. With the permission of the patients and family members, the intervention of adding one-two drops of peppermint oil on a cotton swab for them to smell was added to the treatment regimen.

A data collection tool was used to record the responses of the patient, using the pretest and posttest with each treatment (see Appendix D). Demographic data of age, gender, and length of time in the facility was used to describe the sample collectively. All data was entered into the researcher's computer and was password protected.

Measurement Instruments

A Visual Analog Scale (VAS) known as the Bieri Scale (see Appendix E) was used to measure nausea. The Bieri scale uses numbers to measure the level of nausea with 0 meaning no nausea, 2 signifying mild nausea, 6 implying moderate nausea, 8 denoting severe nausea and 10 being the worst possible nausea.

Reliability and Validity of the Bieri Scale has been established. The Bieri scale has been widely adapted as a measurement instrument for other symptoms such as pain as well. As far back as 1988, the visual analog scale has been regarded as a simple technique for measuring a subjective experience. The visual analog scale has been established as a reliable and valid in a range of clinical and research applications (McCormack, Horne, & Sheather, 1988).

In “Instruments for Clinical Health-Care Research” the visual analog scale (VAS) was discussed. Traditionally, the scale has been used without indicators. In recent years, it has been used with and without markings. Although the scale avoids language to signify graduations of a subjective phenomenon, the anchor extremes require meaningful descriptors with tested reliability. As an example: a vomiting VAS anchored at none on the low end of the continuum, and at constant retching at the opposite end can link two different concepts together. The VAS is a reliable, valid, and sensitive self-report tool for studying subjective symptoms. Reliability and validity are strengthened when a stable phenomenon is being evaluated and a single concept is being measured (Frank-Stromborg & Olsen, 2004).

Hendey, Donner, and Fuller (2005), used a prospective, descriptive study of consenting adults who presented to the emergency department with nausea. This study was developed to measure a visual analog scale. The objective was to determine the minimum clinically significant change in nausea as measured using a visual analog scale. Eighty-three paired visual analog scale measurements were collected from 50 patients. The minimum clinically significant visual analog scale change in nausea was 15 mm, which is similar to previous studies of other symptoms, and help in the interpretation of clinical studies reporting changes in nausea (Hendey, Donner, & Fuller, 2005).

Collection of data began with the patient’s first complaint of nausea. The researcher recorded the pre and post assessment of the nausea and the medication given. When the patient complained of nausea the second time, the researcher again assessed the level of nausea prior to administering medication. At this time, the addition of

smelling the peppermint oil was added to the intervention, along with the medication if the patient requested it. The patient was able to receive the medication for nausea at any time during the procedure.

All completed instruments were stored in a locked file for safety. All medical record data were entered to a spreadsheet. Only the researcher had access to actual medical records by patient name.

Data Analysis

A descriptive analysis was used to summarize the effectiveness of the use of peppermint oil to decrease the level of nausea of the palliative care and hospice patient. The researcher defined the percentages of the treatments of nausea. Data were analyzed to determine the percentage of nausea relief with and without the use of peppermint oil. This data included the treatment of the nausea with only the medication, the introduction of the peppermint oil, and the requirement of additional medication. Descriptive data were analyzed using Microsoft Excel.

Chapter IV

Results

Of the 15 patients approached only eight were included in the study. Of the seven patients not included, two patients declined to participate, two complained of nausea only once, two did not complain of nausea, and one was in the active stages of dying. Ages ranged from 42 -90 with a mean age of 71. The inpatient days in the palliative setting ranged from 1 to 71 with a mean of 16.6 days. There were three males and five female participants (see Figure 1). Assessment of the level of nausea prior to any treatment ranged from 0-9 using the Bieri numeric scale. Two participants expressed a nausea level of eight (very severe) prior to treatment; two rated their nausea as a six (severe), two persons rated their level as a four (moderate), and one person stated they needed something for nausea but gave a 0 (no nausea) as the level of nausea prior to treatment.

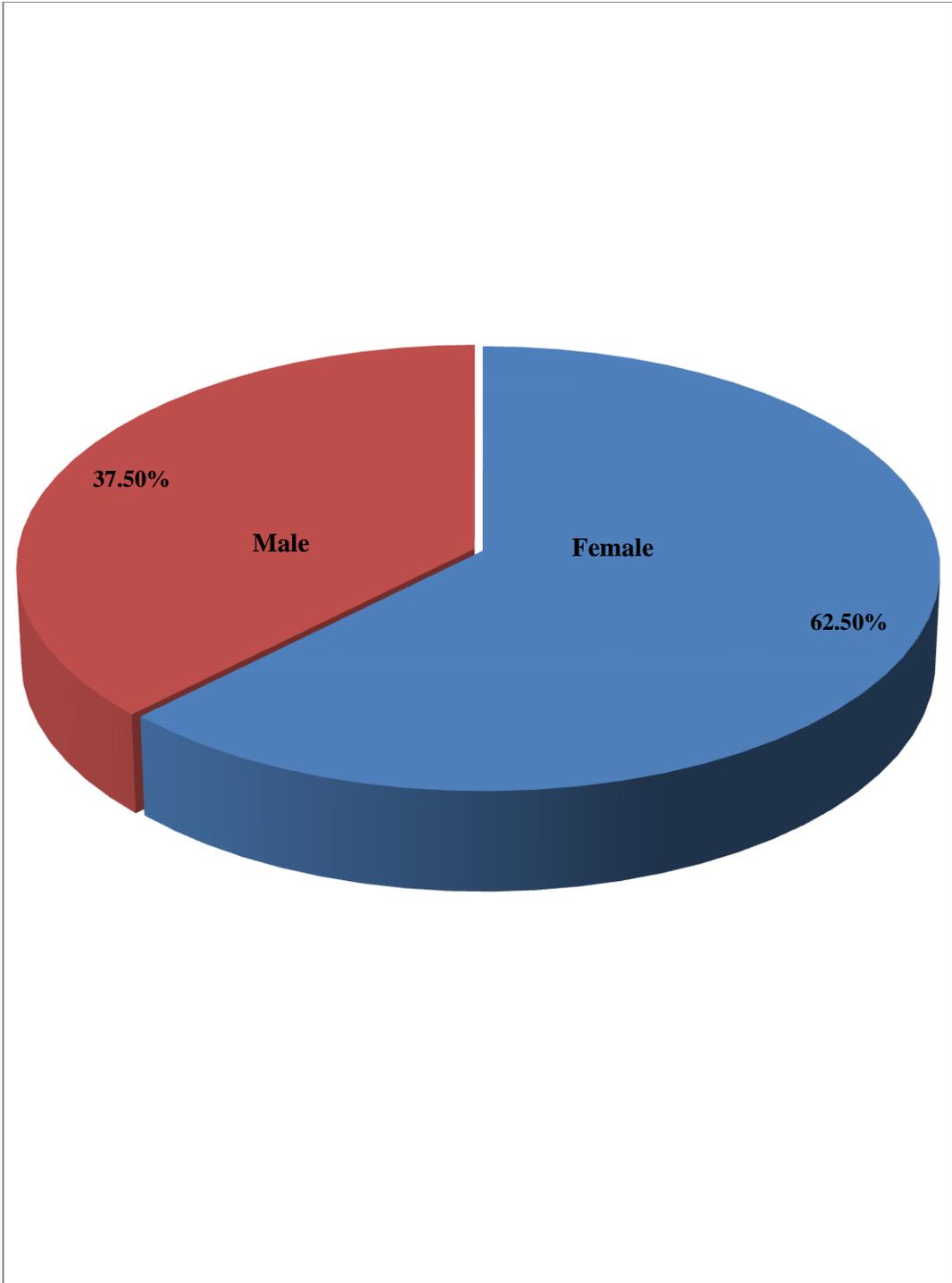


Figure 1. Percentages of Participants by Gender

Assessment of the participant's level of nausea using the conventional treatment ranged from 0 to 5 using the Bieri numeric scale (see Table 1).

Table 1

Pre-treatment level of nausea, type of conventional medication treatment, and post treatment level of nausea.

Participants	Pre-Treatment Level of Nausea	Type of conventional medication treatment	Post – Treatment level of nausea
Group 1: 1 Male/ 0 Female	6	Phenergan	2
Group 2: 1 Female/ 0 Male	4	Phenergan/ Ativan	0
Group 2: 1 Female/0 Male	8	Ativan	0
Group 3: 1Male/0 Female	4	Haldol	5
Group 3: 1 Male/ 0 Female	9	Haldol	1
Group 4: 1 Female/0 Male	2	Prilosec	1
Group 4: 1 Female/ 0 Male	4	Ativan	1
Group 4: 1 Female / 0 Male	6	Zofran	5

Peppermint oil was added to the treatment for nausea the next time these same patients complained of nausea (see Table 2). Two patients with a pre-nausea level of 4 and 7 had a decrease level of nausea to 1 and 0 after receiving Haldol 1 mg. by mouth and peppermint oil. One patient with a pre-nausea level of 2 received Phenergan 25 mg by mouth, and peppermint oil had a post treatment nausea level of 9. Three patients with a pre-nausea level of 7 and 4 received peppermint oil only had a decreased level of nausea of 0 and 2. Of the eight patients, 88% experienced relief of nausea with the conventional medication and peppermint oil; 13% had an increase in nausea; and 38% stated relief with peppermint oil only. In assessment of the patients' level of nausea post the addition of the peppermint oil to their regimen, results ranged from 0-2, with one outlier patient. Table 3 shows the means of the nausea level using conventional medicine and then using conventional medicine with peppermint oil or only peppermint oil.

Table 2

Pre-treatment level of nausea, conventional treatment with addition of peppermint oil, and post treatment level of nausea.

Participants	Pre Treatment Level of Nausea	Medications (Conventional treatment plus peppermint oil or peppermint oil only)	Post Treatment Level of Nausea
Group 1: 1 male /0 Female	2	Phenergan/ Peppermint Oil	9
Group 2: 1Female/0 Male	4	Ativan/ Peppermint Oil	2
Group 2: 1 Female/ 0 Male	7	Ativan/ Peppermint Oil	2
Groups 3: 1 Male/0 Female	0	Haldol/ Peppermint Oil	0
Group 3: 1 Male/ 0 Female	8	Haldol/ Peppermint Oil	1
Group 4: 1 Female/ 0 Male	4	Peppermint Oil	0
Group 4: 1 Female/0 Male	7	Peppermint Oil	2
Group 4: 1 Male/ 0 Female	4	Peppermint Oil	0

Table 3

Means of nausea level prior to any medication, following conventional medication, prior to treatment with conventional medication and peppermint oil, and following treatment with conventional medication and peppermint oil.

Results (n=8)	Means of Nausea Level
Nausea Prior to Medication	5.6
Nausea following Conventional Medication	2.25
Nausea Prior to Treatment with Conventional Medication and Peppermint Oil	4.6
Nausea following Treatment with Conventional Medication and Peppermint Oil	2.0

Chapter V

Discussion

Interpretation of Findings

The overall results of the study shows that peppermint oil used in conjunction with other medications did help relieve the nausea in the eight patients included in the study. Eighty-eight percent (88%) of participants reported a decrease in nausea following the use of conventional medications, as well as the use of the conventional medication and peppermint oil.

This study had similar results in the patient with advanced illness in the palliative care and hospice setting as Gilligan's (2005) study using a variety of essential oils. Both groups did benefit from the addition of the essential oil to the conventional treatment. This study adds to the knowledge that non-conventional therapy may augment other medications, and that peppermint oil may be useful for relief of nausea of the palliative care and hospice patient.

The limitations of the study are the small sample size, and the fact that conclusions cannot be generalized.

Implications for Nursing

Nursing has an obligation to explore new areas to help improve the quality of life for their patients. The nurse has the responsibility to provide the best evidence practice for the patient. Patients often turn to the nurse for guidance and information about their care. Smelling peppermint oil on a cotton swab is safe, and easy to do. It has been effective in decreasing the nausea of the post-operative patient, and nausea of the patient with gastrointestinal problems. The conclusion of this study found that peppermint oil

was successful in decreasing the nausea of the palliative care and hospice patient, perhaps peppermint oil as an alternative therapy could be implemented to meet the needs of the patient and to improve the quality of life.

Implications for Further Research

The recommendation is to conduct further studies with the use of peppermint oil with a larger sample. Nausea is only one of the many therapeutic uses of peppermint oil. Further studies are needed to examine the benefits of this particular aromatherapy.

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Appendices

Appendix A
Debriefing Tool

Debriefing Tool

Gardner-Webb University

Principal Investigator: Mary Karen Seale
Student: Mary Karen Seale
Course Name and Number: Nursing 610, 611, 612: Thesis
Title of study: A Pilot Study: The Use of Peppermint Oil to Relieve Nausea of the Palliative Care and Hospice Patient

You are invited to participate in this study to evaluate the effectiveness of waving a cotton ball with 2 drops peppermint oil near you, to see if it helps to relieve your nausea. Peppermint oil has been found to be effective in relieving nausea in other clinical settings. If the study is effective, you may be able to use less sedating medication to relieve your nausea. I am a graduate student at Gardner-Webb University. I will be conducting this evaluation as part of my graduate program.

1. Your participation in this study will require you to measure your nausea using a Bieri scale (facial) and again 30 minutes later to reevaluate your level of nausea.
2. The next time you request your nausea medication, you will be asked to smell the peppermint oil placed on a cotton ball and waved near you, and evaluate its effectiveness in reducing your nausea. You will also receive your medication.
3. The use of the peppermint oil is not a medication, and is only used in conjunction with the medications prescribed by your physician.
4. No medications will be withheld from you. You may request your nausea medications at any time.

Your participation will be anonymous and you will not be contacted again in the future. You will not be paid for being in this study.

I believe this survey involves a minimal risk to you. Although you may find it interesting to participate in this study, there will be no direct benefit to you for your participation.

You do not have to be in this study if you do not want to be. I will be happy to answer any questions you have about this study.

If you have further questions about this project or if you have a research-related problem, you may contact me, the student at 828-320-3944 or my advisor, Dr. Janie Carlton at (704) 761-5017. If you have any questions about your rights as a research participant you may contact the Gardner-Webb University Institutional Review Board (IRB) at 704-406-4358. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

Thank you.

Mary Karen Seale, MSN Candidate

Appendix B
Patient Capacity

Patient Capacity

“I examined _____ on _____ for the purpose of determining whether he/she is capable of understanding the purpose, nature, risks, benefits, and alternatives (including nonparticipation) of the research, making a decision about participation, and understanding that the decision about participation in the research will involve no penalty or loss of benefits to which the patient is otherwise entitled, for _____’s research project

On the basis of this examination I have arrived at the conclusion that

- (a) this patient has this capacity at this time
- or (b) there is doubt about the patient’s capacity at this time
- or (c) this patient clearly lacks this capacity at this time

[Statement must be signed and dated.]

See Attached Sheet for Standards of Capacity

Standards for Capacity:

1. The ability to evidence a choice; that is, to communicate a yes or no decision. This standard is applicable to all risk/benefit levels.
2. The ability to understand relevant information, that is, the person can tell you what the research procedures involve and what the consent information includes (e.g., a right to withdraw). This standard is also applicable to all risk/benefit levels.
3. The ability to appreciate the situation and its likely consequences. The person can understand what research participation involves for him or her and what the likely outcomes are. He or she can apply the information to his or her own situation. This standard generally applies to all research involving more than minimal risk.
4. The ability to manipulate information rationally. This standard focuses on process, not outcome. For example, are decisions consistent with the religious, moral, and other beliefs of the person? This standard is critical at the most unfavorable risk/ benefit levels.

Questions:

1. Can you tell me what will happen if you agree to take part in this study?
 2. Will this study help you?
 3. Can you tell me about the possible side effects of the study drug?
 4. Do you have to be in this study?
 5. Can you leave the study once it begins?
 6. What will happen if you decide not to be in this study?
-

Appendix C

Consent for Participation in Study

Consent for Participation in the study of:

The Use of Peppermint Oil to Reduce the Nausea of the Palliative Care and Hospice Patient

I agree to participate in this study using peppermint oil to decrease my nausea.

I understand that there is a minimal risk to me, if I participate

I understand that I may withdraw from the study at any time.

I understand that I will not be paid for participating in this study.

I understand that I may request my medications for nausea at any time during this study. No medication will be withheld from me.

Signature of Patient: _____

Signature of family member: _____

Signature of Researcher: _____

Date: _____

Appendix D
Data Collection

Data Assessment Tool: The Use of Peppermint Oil to Reduce the Nausea of the Hospice Patient

Date:

Patient Number	Age Gender In Patient	Control Pre-Treat- ment	Conventional Medication	Post-Treat- ment	Nausea Level Pre- Medication	Conventional Medication & Peppermint Oil	Assessment After Medication & Peppermint Oil
Patients:							Total Number of
Comments: _____							

- Gender Code: 1 for Male, 2 for Female
- Medication Codes: 1. Ativan 1-2 mg IV (Intravenous) or PO (by Mouth)
 2. Phenergan 25mg PO
 3. Zofran 16mg PO
 4. Haldol 1-2mg PO
 5. Peppermint Oil (1-2 drops on cotton ball)

Appendix E

Bieri Scale

Bieri Scale

Assessment of Nausea Using a Bieri Scale