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Aromatherapy Essential Oil Usage in Managing Chemotherapy Side Effects: A Benchmark Study

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Contents

Executive Summary

The usage of essential oils for holistic and medicinal benefit has been a practice used in countries around the world for centuries. Recently, there has been a notable rise in popularity in the usage of essential oils, with more people becoming interested in their properties for not only aromatherapy use, but for medicinal benefit as well. People are taking the time out to research and understand that there are alternatives to medical treatment besides traditional pharmaceuticals, and essential oils are one of them. The oils address a variety of medical conditions--from anxiety and depression, to pain, nausea and vomiting, insomnia and so many other conditions. One example is lavender oil, which is known for its properties in promoting "spiritual relaxation, for therapeutic purposes (to build physical and emotional well-being), and for regulation of sleep disorders" (Ozkaraman et al, 2018). A population of focus that would significantly benefit from the usage of essential oils is cancer patients, most specifically cancer patients in the outpatient setting undergoing chemotherapy. Some of the most common side effects of chemotherapy include nausea and vomiting, pain, anxiety, depression, and insomnia and patients report that these side effects are often debilitating and significantly affect their quality of lives during this time in a negative manner.

The proposed intervention would be incorporating essential oil aromatherapy use into practice in the outpatient setting in managing the side effects of chemotherapy and educating patients on usage in their homes after treatment. The goal would be to optimize essential oil use and to reduce the dependence on pharmaceuticals alone in managing these side effects, while taking a holistic approach in making patients feel whole and cared for emotionally and mentally, apart from just physically. By doing this, patients will feel more involved in their care and have greater satisfaction and outcomes. This approach gives patients the autonomy they deserve in their

medical decisions and allows for healthcare providers to do what is best for the patient according to the patient's standards and not just the healthcare system's standards.

I. Rationale for the Project

The current practice today in oncology medicine is for providers to prescribe opioid analgesics for acute and chronic pain management, controlled prescription antiemetics for nausea and vomiting, and other controlled mood-stabilizing agents or tranquilizers for conditions including anxiety, depression, and insomnia. According to the American Cancer Society, "opioids should be prescribed and used with great care" for reasons including that "some pain medications may interfere with other medications" and "pain medicines may affect people differently" (2019). Additionally, "taking opioids… while taking tranquilizers may cause problems and can lead to overdoses and symptoms like weakness, trouble breathing, confusion, anxiety, or more severe drowsiness or dizziness" (American Cancer Society, 2019). With this being said, an ethical concern is raised in regards to the safety of these medications being prescribed. If the American Caner Society has these things posted on a national website, why are they not being made publicized in clinical practice or being openly discussed with patients? Additionally, the question arises as to whether or not patients are being given a choice in regards to the type of care they would like to receive and if alternative treatments are being presented as options or not?

The question for healthcare professionals is whether or not beneficence is truly being taking into consideration when failing to present care options to patients and pushing for the healthcare system's recommendations rather than respecting the patient's autonomy? All of these concerns present the case that patients are not being veraciously presented with treatment

options for their care, and this is a major concern. To act in addressing this concern, patients in the outpatient setting undergoing chemotherapy treatment should be educated on the options available for their care in addressing the side effects of chemotherapy, including both conventional and alternative treatments with the risks and benefits of both explained. This will be achieved through handouts with information on the alternative treatments (essential oil aromatherapy) with visual demonstrations.

I.1. Project Goals

This project was supposed to have been an implementation project with the goal of trialing the intervention in practice, ideally in an outpatient cancer clinic with patients actively undergoing chemotherapy. However, due to restrictions with COVID-19, this was not feasible and this project became a benchmark project. Though the trial was unable to be actively conducted, the goal of the project was switched from proving the effectiveness of essential oils in the clinical setting to educating healthcare professionals on the effectiveness of essential oils in everyday use and planning for future use in both the inpatient and outpatient settings with the help of nursing leaders.

II. Literature Synthesis

During the course of study in researching this topic, there have been many scholarly articles and trials that have been conducted all supporting the effectiveness of essential oils in managing the most common side effects of chemotherapy. Due to the nature of the intervention, the majority of the trials are randomized controlled trials, which have provided significant evidence supporting the oils in practice. For example, a study by Ozkaraman et al. (2018) trials the use of lavender oil in addressing sleep quality and anxiety in patients undergoing

chemotherapy, comparing lavender oil as the control and tea tree and no intervention as the placebos. The study concludes that patients reported an improved quality of sleep and reduced incidence of anxiety with lavender oil that was significantly lower than that of the placebo groups of no intervention and tea tree oil. Another study by Shady et al. (2019) trials the use of lavender oil patches on cancer patients, and concludes that lavender oil significantly reduces the incidence of anxiety and improves sleep quality. Lua et al. (2015) conducts a study in an outpatient clinic with patients undergoing chemotherapy for Breast Cancer and concludes that cancer-induced nausea and vomiting was significantly lower among patients who received ginger essential oil than that of the placebo group of ginger fragrance oil.

Erturk and Tasci (2021) compares the use of conventional drugs with peppermint oil for chemotherapy-induced nausea and vomiting. The trial concludes that peppermint oil combined with antiemetics significantly reduces the incidence of nausea and vomiting in patients undergoing chemotherapy. Jafarimanesh et al. (2020) also details the usage of peppermint oil in managing nausea, vomiting, and anorexia in patients undergoing chemotherapy. It concludes that peppermint oil as a complement to antiemetics significantly reduces the incidence the incidence of nausea, vomiting, and anorexia in patients undergoing chemotherapy. Lastly, Dilek and Necmiye (2020)'s systemic review concludes that essential oil aromatherapy practices are effective in managing various symptoms of chemotherapy, including pain, insomnia, anxiety, depression, nausea and vomiting, and general health status.

III. Stakeholders

For this benchmark project, the stakeholders are slightly shifted from those of an implementation project. As previously stated in the project goals, those included in the project

are healthcare professionals at the clinical level and nursing leaders. The reason for this is that by educating clinical staff about the benefits and usage of essential oils, the horizon of knowledge is expanded and the likelihood of incorporating essential oils into other practices of nursing and even in one's home life is increased. By including nursing leaders as stakeholders in the benchmark project, plans for future development and inclusion of essential oils and other complementary and alternative treatments are established and support and engagement are obtained. In looking at ahead for future plans, stakeholders would also include oncology clinic staff including nurses and unlicensed assistive personnel, in addition to providers, nursing leaders, and pharmacy personnel. Before presenting the request for approval, it is necessary to collect scholarly evidence as it will provide an effective case when presenting the topic for approval. Assessing costs and collecting information on products and supplies needed for the implementation, which includes cotton balls and essential oils that will be used is also key in being up front about costs and expectations. This group of patrons are key in gaining the necessary approval (from administration and providers), for ensuring training purposes (clinical staff), and for ensuring that the necessary equipment and supplies will be available (pharmacy personnel).

IV. Implementation

Once all of the necessary approval has been granted, supplies are gathered, and training has been completed, it is appropriate to implement the plan. Nursing staff who are trained will assess patients receiving chemotherapy prior to each session; patients who report previously having side effects including nausea, vomiting, pain, and anxiety during treatment will be offered the alternative treatment (essential oil aromatherapy). The oils that will be used for the trial are Lavender oil for anxiety and pain, Ginger or Peppermint oils for nausea and vomiting, and

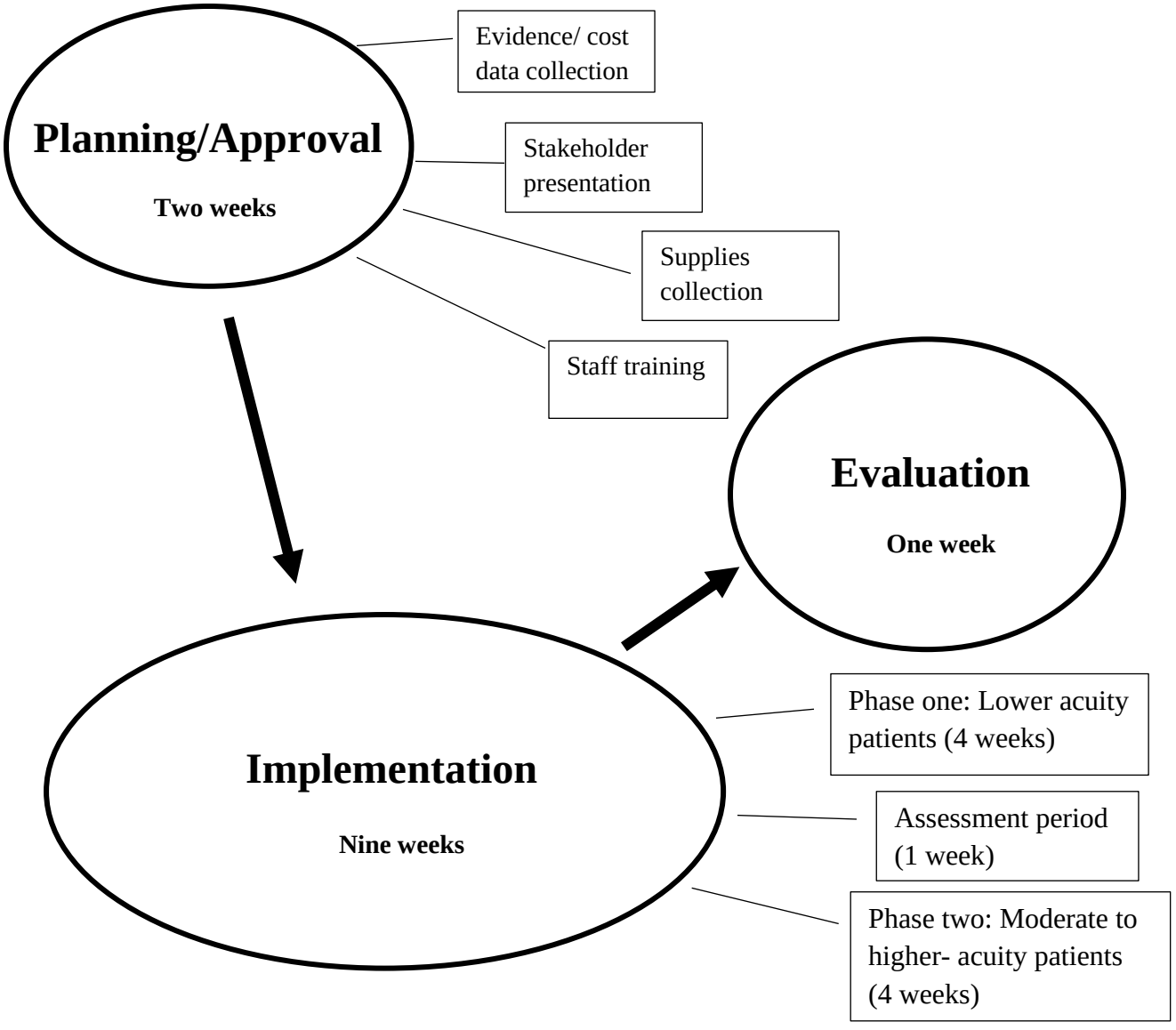
Orange oil for overall mood uplifting. Patients who choose to participate have the option of utilizing the essential oil in conjunction with conventional treatments in lowered doses than usual, or they may opt to solely use the aromatherapy treatment. Patients will be assessed for the presence of severe lung or respiratory conditions, or allergies to the oils being used, which would contraindicate them from participating. Patients will be given a pamphlet and then educated on the purpose of the oils and the methods of administration, which will involve the solution being applied to a cotton ball and given to patients to inhale at various intervals. A scale will be used prior to starting treatment to assess the presence of the symptoms and then assessed again at various intervals throughout therapy, with a follow up assessment at the end. Patient data will be collected in phases through the various trials, which will be detailed later, and this data will be further evaluated by phase and revised as needed.

V. Timetable/Flowchart

The planning/approval phase is a two-week phase that encompasses collecting necessary data that supports the usage of essential oil aromatherapy in managing the side effects of chemotherapy. It is also important to consider risks and benefits of the intervention, appropriate timelines and duration, and to collectively prepare and present all of this information to the designated stakeholders. Once the intervention is approved, a starting timeline must be set and the necessary supplies must be collected an ensured that cost will fit with the approved budget. Assuming that the intervention has been approved, at least one week should be set aside prior to intervention to allow for collection of necessary supplies to be gathered or ordered, and to discuss training and teaching for staff who will be administering the treatment in the clinic setting. This training will include proper technique in preparing the solutions, contraindications to the intervention, which oils are appropriate for specific conditions, proper education to be

given to patients, and follow up assessments. In addressing the phase approach, the lower risk patients should be included in the trial first—those with the least terminal cancers, earlier stages, and fewer comorbidities. This phase will be trialed for four weeks and results will be evaluated during a one-week assessment period, if results are positive with essentially no complications, then moderate to high-risk patients (with more advanced and terminal cancers and more comorbidities) can be trialed for another four-week trial. Lastly, evaluation will last for one week and will include assessing the charts of patients who chose to participate in the trial.

Flow chart



VI. Data Collection Methods

Data collection will consist of data that is collected from the different phases of the trial with a week-long assessment period in between phases. Prior to administration of the intervention, and after consent has been obtained with necessary patient education, a scale will be used to assess the presence of the symptom burden (nausea, pain, anxiety, depression) on a zero to ten scale, with zero being the absence of symptoms and ten being the most severe symptom burden. This scale will be repeated at various intervals throughout therapy, to reassess the presence for the presence of symptom-burden during the intervention with a follow up assessment and patient statement of subjective feelings at the end. This data will be recorded in the electronic chart and the ratings will be reviewed at the conclusion of the first phase during the week-long assessment period and will then be recorded onto spreadsheets for analysis to determine the effectiveness and changes that need to be made for the next phase. The necessary changes will be implemented in the second phase and the collective data from both phases will be analyzed for future use, which will provide feedback on the effectiveness of the intervention.

VII. Cost-Benefit Discussion

Costs of supplies include lavender oil, at about $147 per 33.3-ounce bottle, ginger oil at about $332 per bottle, orange oil at $17, and peppermint oil at about $69; if three bottles of each product are purchased quarterly, it would cost $1,695 per quarter and per year $6,780 (New Directions Aromatics, 2021). If patients utilize the oils rather than antiemetics, analgesics, and anxiolytics, the number of drugs needed to be supplied would be decreased, thus reducing the drug budget. If patients instead choose to use the oils as a complement to the conventional

drugs, it would also decrease the usage and need for these drugs in that dosages would be decreased and a would still reduce the required supply. This would provide benefits to the hospital facility in that costs are reallocated and there will be less money in the budget allotted to controlled substances due to decreased demand, and more money is freed up for the essential oils to be purchased. This also provides benefits to patients in that they are being provided with more autonomy in their care and are being care for holistically, which then provides for greater patient satisfaction and thus greater reimbursement.

VIII. Overall Discussion and Results

As detailed before, the project was unable to be implemented into practice due to the restrictions with COVID-19. In discussing the success of the project, some strengths were that through the limitations with COVID, I was able to speak with other nurses and healthcare professionals within my current facility on the benefits of essential oils and I was able to educate them on proper use and application. I was also able to establish a relationship with the Associate Chief Nursing Officer at my current facility, who is a Certified Aromatherapy Nurse in regards to my current project and discussed future plans for implantation in the future, which is promising. Limitations were the inability to physically implement the intervention in practice, which did not allow for evidence to be collected on intervention in practice. However, through these interventions, I was able to discover and draw the conclusion that there are a number of people interested in learning about the usage of essential oil aromatherapy and that it is a growing area.

Recommendations

The project was not able to be implemented into practice as planned, but the successes were the teaching that was done as an alternative and the relationship that was established with nursing administration in regards to the project for future plans. The next step will be implementation when administration feels that things are at a better point in terms of COVID, which will ultimately allow for the proper research and trial data. This will be accomplished by continuing to update research data for the project regularly and remaining in contact with the administrative contacts in planning for a trial launch date. As a future MSN-prepared nurse, I would recommend persistence and patience in the mist of the trials and an attitude of optimism for the future. There will be many trials faced in the future, but this approach is key in addressing them. For my current facility, I would recommend taking into consideration the idea of educating clinical staff throughout the hospital about the usage of essential oil aromatherapy to prepare nurses for future plans of implementing essential oils. For patients and leadership, recommendations would be to research essential oil therapy to become more familiar and comfortable with the concept of them in practice.

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