
The Effect Of Peppermint Aromatherapy On The Frequency Of Nausea And Vomiting In Pregnant Women In The First Trimester At Pmb Nurhidayah

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Abstract

Nausea and vomiting are common symptoms in first-trimester pregnant women, which can escalate to hyperemesis gravidarum in severe cases, affecting 0.8% to 3.2% of pregnancies. This condition can disrupt daily activities and potentially endanger the fetus. This study aimed to examine the effect of peppermint aromatherapy on the frequency of nausea and vomiting in first-trimester pregnant women at PMB Nurhidayah. This quantitative research used a pre-experimental design with a one-group pretest-posttest approach. The study's population included all first-trimester pregnant women at PMB Nurhidayah, with a saturated sample of 10 participants who met the inclusion criteria. Data were collected using a Numerical Rating Scale (NRS) observation sheet and analyzed using univariate and bivariate statistics with a T-Test. The results showed a significant reduction in the frequency of nausea and vomiting. The average frequency before the intervention was 5.60 times (SD 0.966), which decreased to 3.00 times (SD 0.816) after the intervention. The T-Test yielded a p-value of 0.000 ($p < 0.05$), confirming that peppermint aromatherapy has a significant effect on reducing nausea and vomiting. This study concludes that peppermint aromatherapy is an effective non-pharmacological intervention for managing nausea and vomiting in pregnant women. These findings are expected to serve as a valuable reference for healthcare practitioners to implement this therapy.

Keywords: *Pregnancy, Nausea and Vomiting, Peppermint Aromatherapy*

INTRODUCTION

Pregnancy is a physiological condition that often brings about various discomforts as a result of the body's adaptation process. While some discomforts are considered normal, they can become problematic if the pregnant woman is unprepared for the changes. A healthy pregnancy is crucial for optimal fetal development and successful labor preparation (Fitriani et al., 2022; Utami et al., 2023). Beyond physical changes, pregnancy also impacts mental health, psychological well-being, and socio-cultural and economic aspects. One of the most common and often distressing discomforts experienced by pregnant women, particularly in the first trimester, is nausea and vomiting (Sihaloho et al., 2024; Putri et al., 2022). These symptoms, frequently referred to as "morning sickness," typically manifest upon waking but can occur at any time of day or night. For first-trimester pregnant women, nausea and vomiting commonly appear between the 9th and 10th weeks of gestation, peaking between the 11th and 13th weeks (Nurwiyan et al., 2024; Astuti et al., 2023).

The severity of nausea and vomiting can vary, and in some cases, severe symptoms can escalate to hyperemesis gravidarum. This condition, characterized by excessive nausea and vomiting during pregnancy, is distinct from typical morning sickness due to its intensity and prolonged duration, often extending throughout the first trimester. Hyperemesis gravidarum involves vomiting more than 10 times a day, leading to dehydration, nutrient deficiency, significant weight loss (over 5% of initial body weight), or electrolyte imbalances, thereby disrupting daily activities and potentially endangering the fetus

(Prihatini et al., 2024; Handayani et al., 2021). The incidence of hyperemesis gravidarum ranges from 0.8% to 3.2% of all pregnancies, equating to approximately 8 to 32 cases per 1000 pregnancies (Ermawati & Noviyani, 2024). Globally, the World Health Organization (WHO) estimates that emesis gravidarum affects at least 14% of all pregnancies (Miranti et al., 2024). In Indonesia, specifically, approximately 14.8% of pregnant women experience hyperemesis gravidarum (Munir, as cited in Ermawati & Noviyani, 2024). Data from the Rokan Hulu Hospital medical records revealed that out of 480 pregnant women between January 2015 and April 2016, 196 experienced hyperemesis gravidarum (Andria, 2017).

Given the significant impact of hyperemesis gravidarum on maternal and fetal health, effective management strategies are crucial. Non-pharmacological interventions, such as acupressure, lemon aromatherapy, and yoga, have been explored as potential remedies for emesis gravidarum (Marliani, 2024). Among these, peppermint aromatherapy has garnered attention due to its highly fragrant, cool, and refreshing aroma with a deep menthol scent. Peppermint aromatherapy is believed to alleviate nausea and vomiting (Marliani, 2024; Lestari et al., 2021). The efficacy of peppermint is attributed to its essential oils, particularly menthol and menthone, which possess mild anesthetic properties that can relieve stomach spasms or cramps. Additionally, peppermint exhibits carminative and antispasmodic effects that act on the small intestine within the gastrointestinal tract, thereby mitigating nausea and vomiting and improving digestive function (Alifah & Sugiantini, 2024; Sari et al., 2022).

This study aims to investigate the effect of peppermint aromatherapy on the frequency of nausea and vomiting in first-trimester pregnant women at PMB Nurhidayah. This research is highly relevant as it addresses a common and often debilitating condition during early pregnancy, offering a non-pharmacological, easily accessible, and potentially safe intervention. The urgency of this study lies in its potential to provide evidence-based support for a natural remedy that could significantly improve the quality of life for pregnant women suffering from emesis gravidarum. Furthermore, this study contributes to the existing literature by specifically examining the impact of peppermint aromatherapy on the frequency of nausea and vomiting using a pretest-posttest design, offering valuable insights for midwifery practices and maternal healthcare.

Despite the known discomforts of pregnancy and the prevalence of nausea and vomiting, there is a notable gap in evidence-based, non-pharmacological interventions, particularly in specific community health settings. While some studies have explored remedies like acupressure and lemon aromatherapy, there is a lack of rigorous research specifically investigating the effect of peppermint aromatherapy on the frequency of nausea and vomiting in first-trimester pregnant women within a clinical practice setting like PMB Nurhidayah. This study aims to fill this gap by providing empirical data on a simple, accessible, and potentially safe intervention, offering a valuable contribution to maternal healthcare and midwifery practice.

RESEARCH METHODS

This pre-experimental research was conducted in December 2024 at PMB Nurhidayah, employing a one-group pretest-posttest design (Sugiyono, 2018; Creswell & Creswell, 2018). This design involved observing participants both before and after the intervention to establish a causal relationship, a common approach for evaluating the effectiveness of a particular treatment (Emzir, 2020; Arikunto, 2021). The study's population consisted of all first-trimester pregnant women, as this demographic frequently experiences nausea and vomiting, a primary focus of this research (Sihaloho et al., 2024; Nurwiyan et al., 2024). A saturated sampling technique was utilized for sample selection, meaning all 10 available respondents who met the inclusion criteria were included in the study (Sudaryono, 2019; Etikan, 2022). This approach is often chosen in studies with small, accessible populations to ensure maximum participation. The research instrument used was the Numerical Rating Scale (NRS) observation sheet, which allowed for a quantitative assessment of the frequency of nausea and vomiting before and after the intervention, providing a standardized and reliable measure of symptoms (Ermawati & Noviyani, 2024; Prihatini et al., 2024). For data analysis, univariate analysis was performed to determine the average distribution of nausea and vomiting frequency before and after the intervention, providing a descriptive overview of the data (Pallant, 2020; Field, 2021). Subsequently, bivariate analysis was conducted using

the T-Test to assess the significant effect of peppermint aromatherapy administration on the frequency of nausea and vomiting in first-trimester pregnant women at PMB Nurhidayah (Andria, 2017; Hair et al., 2021). This statistical test is appropriate for comparing means between two related groups, effectively identifying any significant changes attributed to the intervention.

RESULTS AND DISCUSSION

Table 1. Distribution of Average Frequency of Nausea and Vomiting Before and After Peppermint Aromatherapy Treatment

Pain Scale	Mean	SD	Min-Max	N
<i>Pretest</i>	5,60	0,966	4-7	10
<i>Posttest</i>	3,00	0,816	2-4	10

The results of the study showed that the average frequency of nausea and vomiting before peppermint aromatherapy was administered was 5.60 times with a standard deviation of 0.966. The lowest frequency of nausea and vomiting was 4 times, while the highest frequency was 7 times. The average frequency of nausea and vomiting after receiving peppermint aromatherapy was 3 times, with a standard deviation of 0.816. The lowest frequency of nausea and vomiting was 2 times, while the highest frequency was 4 times.

Table 2. Effect of Peppermint Aromatherapy on the Frequency of Nausea and Vomiting in Pregnant Women in the First Trimester

Variable	Mean	SD	SE	N	P Value
Nausea and vomiting before and after peppermint aromatherapy	2,600	0,966	0,306	10	0,000

Based on Table 2, it is known that there is a difference in the average value before and after being given peppermint aromatherapy of 2.600 with a standard deviation of 0.966, standard error of 0.306, minimum value of 1.909, maximum value of 3.291, and the statistical test results obtained a p-value of 0.000 ($p < 0.05$). Therefore, it can be concluded that there is an effect of peppermint aromatherapy on the frequency of nausea and vomiting in pregnant women in the first trimester at PMB Nurhidayah.

Pregnancy is a physiological event that brings about several anatomical and physiological changes in a woman's body. Along with these changes, various discomforts can emerge, one of the most common being nausea and vomiting during pregnancy. Evidence-based midwifery care is essential to help pregnant women understand these occurrences, allowing them to reduce or adapt to such discomforts, for instance, through the administration of peppermint aromatherapy (Fitriani et al., 2022).

Management strategies for nausea and vomiting in pregnancy include pharmacological approaches (such as vitamin B6, antihistamines, phenothiazines, and corticosteroids) and non-pharmacological methods. Non-pharmacological interventions often involve dietary adjustments, like eating small, frequent meals (e.g., every two hours), avoiding strong-smelling foods, consuming high-carbohydrate foods, drinking sweet juices in the morning, refraining from smoking or alcohol consumption, and stress reduction. Complementary therapies, such as peppermint aromatherapy, also play a significant role (Agustin et al., 2024).

According to Fitriani et al. (2022), mint has a mild anesthetic effect and contains carminative and antispasmodic properties that work on the small intestine within the gastrointestinal tract, effectively reducing or alleviating nausea and vomiting. Peppermint specifically contains anti-nausea compounds,

including 50% menthol, 10-30% menthone, 10% menthyl acetate, and other monoterpene derivatives like pulegone, piperitone, and menthofuran.

In the researcher's opinion, nausea and vomiting in pregnant women are physiological discomforts that arise due to the increase in HCG hormones during pregnancy. While these symptoms can be managed with both pharmacological and non-pharmacological interventions, continuous use of pharmacological therapies may have side effects for both the mother and the fetus. Currently, non-pharmacological complementary therapies, which do not involve medication, have gained traction. These complementary approaches are often practical and cost-effective. Peppermint aromatherapy is one such complementary therapy that can alleviate nausea and vomiting in pregnant women. As a natural aroma derived from plants, peppermint aromatherapy is known to relieve symptoms of nausea and vomiting, potentially improving both the physical and psychological well-being of pregnant women. During this study, observations of peppermint aromatherapy use among first-trimester pregnant women showed a decrease in the frequency of nausea and vomiting. However, one pregnant woman experienced only a slight reduction (a single instance) in nausea and vomiting frequency. This limited improvement was attributed to that particular participant's adherence to using peppermint aromatherapy during the study period.

CONCLUSION

This study conclusively demonstrates a significant effect of peppermint aromatherapy on reducing the frequency of nausea and vomiting in first-trimester pregnant women at PMB Nurhidayah. The primary findings indicate a notable decrease in the average frequency of nausea and vomiting from 5.60 times (pre-intervention) to 3.00 times (post-intervention), with a statistically significant p-value of 0.000 ($p < 0.05$). This suggests that peppermint aromatherapy can be an effective non-pharmacological intervention for managing pregnancy-related nausea and vomiting, aligning with existing literature that highlights its carminative and anti-spasmodic properties. However, a key limitation of this study was the observed variability in adherence to peppermint aromatherapy usage among participants, as evidenced by one pregnant woman showing only a minimal reduction in symptoms. This suggests that patient compliance plays a crucial role in the effectiveness of the intervention. Therefore, for future research, it is recommended to conduct studies with a larger sample size and implement strategies to enhance and monitor participant adherence to the aromatherapy regimen. Further investigations could also explore the optimal duration and frequency of peppermint aromatherapy application, as well as compare its efficacy against other non-pharmacological or even mild pharmacological interventions to provide a more comprehensive understanding of its role in managing emesis gravidarum.

Therefore, for health workers, it is crucial to both recommend this therapy and emphasize the importance of consistent use to their patients. Future research should focus on larger sample sizes and strategies to improve and monitor patient adherence, while also exploring optimal application methods and comparing its efficacy to other treatments.

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