

Peppermint Aromatherapy and Nausea in Pregnancy

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ABSTRACT

This study aimed to analyze the effect of peppermint aromatherapy on nausea and vomiting intensity among first-trimester pregnant women. A quantitative descriptive design was applied with purposive sampling involving 30 respondents. Data were collected using the PUQE-24 observation sheet before and after intervention, and analyzed using the Wilcoxon test. Results showed a significant reduction in nausea intensity ($p=0.001$), shifting from moderate to mild categories. Peppermint aromatherapy was found effective in relieving nausea and vomiting symptoms, improving both physical and psychological conditions. This suggests peppermint aromatherapy as a safe complementary therapy option for pregnant women.

Keywords: *Peppermint Aromatherapy, Nausea, Pregnancy*

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INTRODUCTION

Nausea and vomiting are common symptoms experienced by up to 80% of pregnant women, particularly during the first trimester. These symptoms, while often considered normal, can significantly affect the quality of life and nutritional status of pregnant women. If unmanaged, they may lead to more severe conditions such as hyperemesis gravidarum. Recent studies emphasize the importance of non-pharmacological interventions to manage these symptoms effectively (Yildirim et al., 2023).

Complementary therapies, including peppermint aromatherapy, have gained attention for their potential to alleviate nausea during pregnancy. Peppermint contains menthol, which has antispasmodic and soothing properties that may help reduce gastrointestinal discomfort. Several international studies have reported positive outcomes using peppermint aromatherapy in clinical settings (Safajou et al., 2022; Lubis et al., 2023). However, there is limited evidence from Indonesian populations regarding its effectiveness.

This study aims to evaluate the effect of peppermint aromatherapy on the intensity of nausea and vomiting among first-trimester pregnant women. By providing empirical evidence, this research contributes to the growing body of knowledge supporting the integration of complementary therapies into maternal healthcare practices.

Government has decided to quarantine all its citizens. Therefore, all activities must be carried out at home, including the learning process for learners.

History education is one of the important subjects in the national education curriculum because it can shape students' understanding of past events that affect current social, political, and cultural conditions. However, history learning in schools is often considered boring by students, because it tends to be delivered conventionally through lectures and memorization without involving in-depth interaction with the material. As a result, students' interest and motivation in history lessons decline, which affects their low learning outcomes (Brett & Guyver, 2021).

Lack of innovation in classroom learning. Many schools, including SMA Negeri 9 Palu, still apply traditional learning methods that are less responsive to the needs of students in the digital era. This study has an urgency to encourage innovation in the learning process, so that teachers can adapt new approaches that are more relevant to today's digital generation. The results of this study can be the basis for developing more creative and innovative learning methods (Güzer & Caner, 2014)

METHOD

This study employed a quantitative descriptive design. The population consisted of first-trimester pregnant women experiencing nausea and vomiting. A total of 30 respondents were selected using purposive sampling. Data were collected using the Pregnancy Unique Quantification of Emesis and Nausea (PUQE-24) questionnaire before and after the intervention. The intervention involved administering peppermint aromatherapy. Data were analyzed using the Wilcoxon signed-rank test to determine the significance of changes in nausea intensity.

FINDING AND DISCUSSION

RESEARCH RESULT

This study employed a quantitative descriptive design. The population consisted of first-trimester pregnant women experiencing nausea and vomiting. A total of 30 respondents were selected using purposive sampling. Data were collected using the Pregnancy Unique Quantification of Emesis and Nausea (PUQE-24) questionnaire before and after the intervention. The intervention involved administering peppermint aromatherapy. Data were analyzed using the Wilcoxon signed-rank test to determine the significance of changes in nausea intensity.

General Data

The following are the results of the study conducted at Polindes Jombang from October 2025 to December 2025.

Table 4.1. Characteristics of Respondents by Age

Age Category	Frequency	Percentage
< 20 years	0	0.00
20–35 years	25	83.33
> 35 years	5	16.67
Total	30	100

Table 4.2. Characteristics of Respondents by Education

Education Level	Frequency	Percentage
Primary (Elementary– Junior High School)	13	43.33
Secondary (Senior High School)	17	56.67
Higher (Diploma– University)	0	0.00
Total	30	100

Specific Data

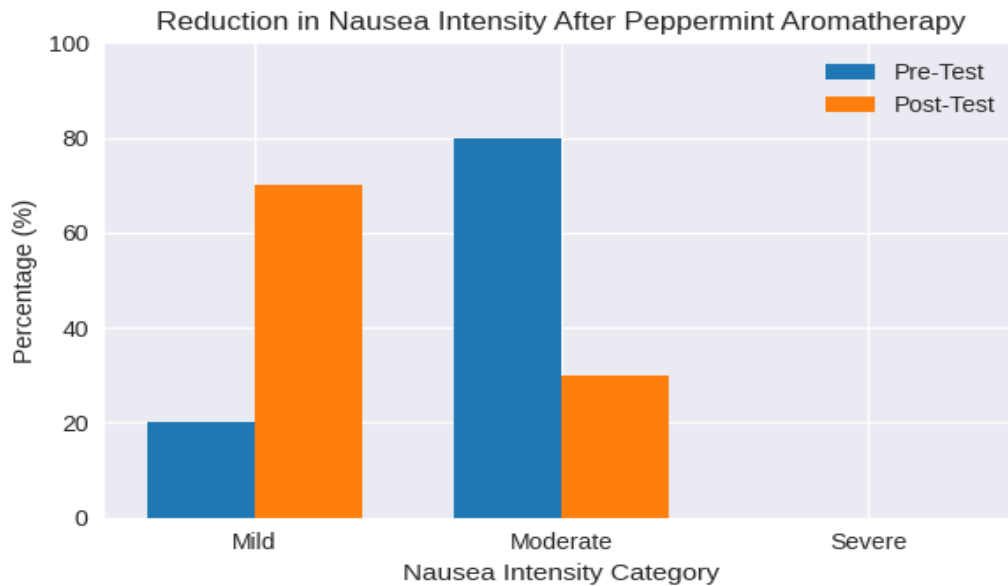
After analyzing the general characteristics of respondents, the researchers examined the intensity of nausea and vomiting in both groups, presented in the following tables:

Table 4.3. Frequency Distribution of the Intervention Group (Pre–Post Test)

Test	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Intervention	15	10	4	14	7.80	2.808
Post-Test Intervention	15	8	3	11	5.67	2.350

Table 4.4. Frequency Distribution of the Control Group (Pre–Post Test)

Test	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Control	15	9	4	13	7.67	2.717
Post-Test Control	15	8	4	12	6.87	2.446



The nausea–vomiting intensity scale was categorized as follows: scores 4–6 = mild, 7–12 = moderate, ≥ 13 = *Hyperemesis Gravidarum*. The mean score in the intervention group before treatment was 7.80, while in the control group it was 7.67, both in the moderate category. After intervention, the mean score in the intervention group decreased more significantly compared to the control group, indicating the effect of peppermint aromatherapy.

This was further evidenced by the reduction in the maximum score in the intervention group: initially 14 (severe category), which decreased to 11 (moderate category) after treatment. Although the control group also showed a reduction, the decrease was greater in the intervention group.

Table 4.5. Crosstabulation

Comparison	N	Mean Rank	Sum of Ranks
Post-Test Intervention – Pre-Test Intervention	Negative Ranks: 15	8.00	120.00
Positive Ranks: 0	0.00	0.00	
Ties: 0	–	–	
Total: 15			
Post-Test Control – Pre-Test Control	Negative Ranks: 10	5.50	55.00
Positive Ranks: 0	0.00	0.00	
Ties: 5	–	–	
Total: 15			

The Wilcoxon test showed that the average reduction in the intervention group was greater (2.50) compared to the control group. In the control group, five respondents showed no change, while in the intervention group all respondents experienced a reduction in nausea–vomiting symptoms.

Table 4.6. Hypothesis Testing (Wilcoxon Test)

Test Statistics	Post-Test Intervention – Pre-Test Intervention	Post-Test Control – Pre-Test Control
Z	-3.453	-2.972
Asymp. Sig. (2-tailed)	0.001	0.003

Since the significance values were <0.05 , the hypothesis that peppermint aromatherapy influences nausea–vomiting intensity in first-trimester pregnant women was accepted.

DISCUSSION

The study revealed that the mean nausea–vomiting intensity in the intervention group was 5.67, compared to 6.87 in the control group. The difference of 1.20, with a significance value of 0.001 (<0.05), confirms that peppermint aromatherapy significantly reduced nausea–vomiting intensity among first-trimester pregnant women at *Polindes Jombang*. These findings are consistent with previous studies (Lubis et al., 2019; Rahayuningsih, 2020; Safajou et al., 2020; Khadijah, 2020; Wulandari, 2020; Zuraida, 2018), which reported that peppermint aromatherapy helps reduce nausea–vomiting intensity by providing comfort to the gastric lining, thereby suppressing discomfort. Peppermint contains 30–70% menthol, 1.2–1.5% essential oil, and 59% menthol ester, which exert positive physiological effects and promote relaxation (Maghami et al., 2020). Menthol’s spasmolytic properties also relieve cramps and abdominal pain. After five days of peppermint aromatherapy treatment, pregnant women experienced a reduction in nausea–vomiting frequency. This was supported by comparative analysis between intervention and control groups, showing greater improvement in the intervention group. Peppermint aromatherapy can be considered a safe alternative solution during pregnancy, free from side effects, while improving both physical and psychological well-being. When inhaled, peppermint molecules enter the nasal cavity, and its active menthol content acts as an antiseptic and throat relaxant, enhancing respiratory function and oxygen intake, thereby promoting relaxation.

CONCLUSION

Peppermint aromatherapy effectively reduces nausea and vomiting intensity among first-trimester pregnant women. It is recommended as a safe, non-pharmacological complementary therapy in maternal healthcare. Further studies are encouraged to explore its long-term benefits and applicability in broader clinical settings.

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