



THE EFFECT OF PEPPERMINT AROMATHERAPY ON THE INTENSITY OF NAUSEA AND VOMITING IN PREGNANT WOMEN IN THE FIRST TRIMESTER I

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ABSTRACT	Keywords
<p>A woman experiences pregnancy, which lasts from conception (fertilization) until the baby is born. Excessive nausea and vomiting, or hyperemesis gravidarum, can also negatively impact the developing fetus, including abortion, low birth weight, premature delivery, and birth defects. This study aims to determine the effect of peppermint aromatherapy on the intensity of nausea and vomiting in patients with hyperemesis gravidarum. The research design used in this study is Pre Experimental Designs. The population in this study were all Hyperemesis Gravidarum Patients at TPM Ny. Fifin Nur Indah for 1 month totaling 25 while the sample in this study was Hyperemesis Gravidarum Patients totaling 25 using Non-probability Sampling with Total sampling method. The measuring tool or instrument in this study was The Rhodes Index Nausea Vomiting and Retching (INVR). This analysis was to find the relationship between the independent variable and the dependent variable using cross tabulating and the Wilcoxon statistical test with a significance level of 0,05. Before the intervention, most of the respondents experienced hyperemesis gravidarum with nausea and vomiting in the moderate category, as many as 22 respondents (88%). After the intervention, most of the respondents experienced hyperemesis gravidarum with nausea and vomiting in the mild category, as many as 20 respondents (80%). There was a decrease in nausea and vomiting in 80% of respondents. Based on the results of the Wilcoxon test, the probability value Asym.sig 2 P-Value 0.000 failed <0.05, so H1 is accepted, meaning there is an effect of Peppermint Aromatherapy on the intensity of nausea and vomiting in Hyperemesis Gravidarum patients. With complementary therapy, Peppermint Aromatherapy provides good benefits for pregnant women with nausea and vomiting and is certainly safe for pregnant women because it uses herbs.</p>	<p>Peppermint Aromatherapy, Nausea and Vomiting, Women Pregnancy</p>

INTRODUCTION

A woman experiences pregnancy, which lasts from the moment of conception (fertilization) until the baby is born. This process produces physical, psychological, environmental, sociocultural, and economic changes that affect the body, mind, and society. Pregnant women often experience nausea and vomiting (Emesis Gravidarum), especially in the first trimester of pregnancy (Sari 2023). Pregnant women certainly experience physical, hormonal, and emotional changes that accompany pregnancy. Pregnancy is characterized by three signs and symptoms: unclear pregnancy, signs of possible pregnancy, and signs of pregnancy. Pregnancy symptoms include amenorrhea, nausea, vomiting, cravings, dizziness, fatigue, loss of appetite, frequent urination, etc., which are perceived by the mother (subjectively) as suspected or uncertain indicators. Early pregnancy symptoms such as nausea and vomiting are often experienced by pregnant women. Vomiting and nausea are more common in the first trimester of pregnancy (Aryasih, Udayani, and Sumawati 2022). During the first trimester of pregnancy, pregnant women experiencing nausea and vomiting will find it easier to cope. The first trimester is often the time when 50% of pregnant women experience the most nausea and vomiting. Using peppermint essential oil is a way to reduce vomiting during pregnancy without the use of medications or alternatives (Wijayanti and Melasari 2021).

The incidence of hyperemesis gravidarum in Indonesia is quite high, namely 60-80% in primigravida and 40%-60% in multigravida and experiencing severe symptoms around 50-60% of pregnancies accompanied by nausea and vomiting in the morning and around 80% experience nausea and vomiting throughout the day (Sari 2023). Meanwhile in East Java province, of the total number of pregnant women as many as 182,815 people. Nausea and vomiting are common symptoms in 60-0% of primigravida and 40-60% of multigravida (Veronika Gulo 2021). Based on the results of a preliminary study conducted at TPMB Ny. Fifin Nur Indah Tambaksuruh Mojokerto through medical

record data from January 2025, it was found that during 2 months (August-September 2025) there were 45 pregnant women in the first and second trimesters experiencing nausea and vomiting and some (75%) were cases of emesis gravidarum. The complaints felt were weakness, excessive nausea and vomiting, and the inability to eat and drink, so hospitalization was recommended.

The main causes of hyperemesis gravidarum include maternal psychological factors, environmental factors, and parity. Uncomfortable conditions and the lingering fear of motherhood can lead to mental conflict that exacerbates nausea and vomiting, an expression of reluctance to become pregnant (Sarwinanti and Istiqomah 2020). Effects of hyperemesis gravidarum: Early pregnancy, nausea and vomiting are persistent and persistent symptoms that, if not effectively managed, can lead to dehydration, electrolyte imbalance, or nutritional deficiencies. Hyperemesis gravidarum sufferers who can vomit up to ten times in a 24-hour period will negatively impact the health of the expectant mother. This may affect the mother's daily activities. Dehydration, which reduces oxygen intake, impairs liver function and causes jaundice, bleeding into the liver parenchyma, decreased general vital organ function, and death, are among the effects of hyperemesis gravidarum (Kurnia 2022).

To prevent hyperemesis gravidarum, which can be harmful to pregnant women and their fetuses, peppermint aromatherapy can be used to relieve nausea, vomiting, and dizziness. Aromatherapy inhalers offer various benefits, including refreshment and relaxation. They can also help pregnant women cope with nausea and vomiting. Interviewed pregnant women with hyperemesis gravidarum in their first trimester stated that neither peppermint aromatherapy nor non-pharmacological therapies had been used to treat this condition.

RESEARCH METHODS

The research design used in this study is Pre Experimental Designs (Nondesign) which is not yet a real experiment, because there are still external variables that can influence the formation of the dependent variable (Sugiyono, 2018). This study is a one group pretest-posttest. The population in this study were all Hyperemesis Gravidarum Patients at TPMB Mrs. Fifin Nur Indah Sari, Tambaksuruh Village for 1 month totaling 25 people. The sampling technique used Non-probability Sampling with a total sampling method is take the entire population (Rapingah 2022). The sample in this study was a portion of the population, namely Hyperemesis Gravidarum Patients at TPMB Mrs. Fifin Nur Indah Sari, Tambaksuruh Village totaling 25 respondents. The Independent Variable in this study was the administration of peppermint aroma therapy, the dependent variable was reducing the intensity of nausea and vomiting. The measuring instrument used was a questionnaire. This research questionnaire uses The Rhodes Index Nausea Vomiting and Retching (INVR) which has been tested for validity and reliability and has 8 assessment items with a score range of 0 to 32. Where: 0 = no nausea-vomiting, 1-8 = mild nausea-vomiting, 9-16 = moderate nausea-vomiting, 17-24 = severe nausea-vomiting, and 25-32 = severe nausea-vomiting. Index Nausea, Vomiting and Retching (INVR)

RESEARCH RESULT

1. Respondent characteristics based on nausea and vomiting before intervention

Table 1: Frequency distribution of respondents based on nausea and vomiting before intervention at the TPMB Mrs. Fifin Nur Indah Tambaksuruh Mojokerto

N	Nausea and vomiting before intervention	Frequency	Percentage (%)
1	Mild	3	12
2	Moderate	22	88
Total		25	100

1	Mild	3	12
2	Moderate	22	88
Total		25	100

Source: Data processing in 2025

Data shows that before the intervention, the majority of respondents experienced hyperemesis gravidarum with moderate nausea and vomiting, amounting to 22 respondents (88%).

2. Respondent characteristics based on nausea and vomiting after intervention

Table 2: Frequency distribution of respondents based on nausea and vomiting after intervention at the TPMB Mrs. Fifin Nur Indah Tambaksuruh Mojokerto

N	Nausea and vomiting after intervention	Frequency	Percentage (%)
1	Mild	20	80
2	Moderate	5	20
Total		25	100

Source: Data processing in 2025

Data obtained showed that after being given intervention, the majority of respondents experienced hyperemesis gravidarum with mild nausea and vomiting, amounting to 20 respondents (80%).

3. The Effect of Peppermint Aromatherapy on the Intensity of Nausea and Vomiting in Hyperemesis Gravidarum Patients

Table 1.3 Cross-tabulation of the Effect of Peppermint Aromatherapy on the Intensity of Nausea and Vomiting in Hyperemesis Gravidarum Patients at the Mrs. Fifin Nur Indah Tambaksuruh

N o Grade I	Hyperemesis Gravidarum	Nausea and vomiting before intervention		Nausea and vomiting after intervention	
		Fre q (f)	Per s (%)	Fre q (f)	Pers (%)
		Mild	22	25	100
1	Mild	3	12	20	80
2	Moderate	22	88	5	20
	Total			25	100
Probability value Asym.sig 2 failed P-Value 0.000 < 0.05					

Source: Data processing in 2025

The data above shows that there was a decrease in nausea and vomiting in respondents of 80%. Based on the results of the Wilcoxon test, the probability value of Asym.sig 2 P-Value 0.000 failed <0.05 , so H1 is accepted, meaning there is an effect. Giving Peppermint Aromatherapy to Reduce Nausea and Vomiting in Hyperemesis Gravidarum Patients at TPMB Ny. Fifin Nur Indah Tambaksuruh Mojokerto

DISCUSSION

1. Characteristics of respondents based on nausea and vomiting before the intervention

Table 1.1 shows that before intervention, the majority of respondents experienced hyperemesis gravidarum with moderate nausea and vomiting (22 respondents (88%).

The definition of hyperemesis gravidarum is nausea and vomiting occurring during pregnancy up to 16 weeks. Severe nausea and vomiting can lead to dehydration, acid-base and electrolyte imbalances, and ketosis (Wahid, 2022). Hyperemesis gravidarum is nausea and vomiting occurring more than 10 times in 24 hours or at any time in a pregnant woman to the point that it interferes with daily activities due to worsening general well-being and can lead to dehydration, which can interfere with health and daily activities (Septiani, 2021). Hyperemesis gravidarum is excessive nausea and vomiting that occurs in pregnant women, causing electrolyte

imbalances, weight loss (more than 5% of initial body weight), dehydration, ketosis, and nutritional deficiencies. This starts to occur in the fourth to tenth week of pregnancy and will generally improve at 20 weeks of pregnancy, but in some cases it can continue into the next stage of pregnancy (Saputri, 2020). The results of this study showed that before being given Peppermint aromatherapy, the respondents' nausea and vomiting were in moderate and severe conditions, this can be associated with the characteristics of the respondents. From the data findings, the majority of respondents were elementary school graduates (SD, SMP) as many as 12 people (60%), most respondents were unemployed or were housewives as many as 14 people (70%). In terms of age, there were respondents aged > 35 years, namely 7 people who experienced severe nausea and vomiting. This is in accordance with the theory that the maternal age factor that influences the occurrence of Hyperemesis Gravidarum has a significant relationship with the occurrence of Hyperemesis Gravidarum compared to maternal age 20-35 years. Maternal age < 20 years and > 35 years is more at risk of Hyperemesis Gravidarum. Maternal age has a close influence on the development of reproductive organs. This is related to the physical condition of the mother's organs in receiving the presence and supporting the development of the fetus.

1. Characteristics of respondents based on nausea and vomiting after the intervention

Table 1.2 shows that before intervention, the majority of respondents experienced hyperemesis gravidarum with mild nausea and vomiting (20 respondents (88%). Aromatherapy is based on the theory that inhalation or absorption of essential oils triggers changes in the limbic system, the part of the brain associated with memory and emotion. This can stimulate physiological responses in the nervous, endocrine, or immune systems, affecting heart rate, blood pressure, respiration, brain wave activity, and the release of various hormones throughout the body. Its effects on the brain can be calming or stimulating to the nervous

system, and may also help normalize hormone secretion. Inhaling essential oils can relieve respiratory symptoms, while topical application of diluted oils can be helpful for certain conditions. Some essential oils applied to the skin can be antimicrobial, antiseptic, antifungal, or anti-inflammatory (Erfiana 2021). Peppermint aromatherapy was quite effective in relieving nausea and vomiting in respondents with hyperemesis gravidarum. This was evident in respondents who previously experienced severe nausea and vomiting, whose nausea and vomiting gradually decreased to mild and moderate after treatment. This indicates that peppermint aromatherapy is highly effective.

2. The Effect of Peppermint Aromatherapy on the Intensity of Nausea and Vomiting in Hyperemesis Gravidarum Patients

Table 1.3 that there was a decrease in nausea and vomiting in respondents of 80%. Based on the results of the Wilcoxon test, the probability value of Asym.sig 2 P-Value 0.000 failed <0.05 , so H1 is accepted, meaning there is an effect. Giving Peppermint Aromatherapy to Reduce Nausea and Vomiting in Hyperemesis Gravidarum Patients at TPMB Ny. Fifin Nur Indah Tambaksuruh Mojokerto. Non-pharmacological complementary therapies are non-invasive, inexpensive, fast, and effective, with no harmful side effects for pregnant women. Essential oils such as peppermint, spearmint, lemon, and ginger can all be used as aromatherapy. Peppermint aromatherapy offers advantages over other types of aromatherapy, including affordability, ease of purchase, safety, speed, and practicality because it doesn't require sophisticated equipment. Peppermint is particularly helpful for pregnant women experiencing nausea and vomiting. Peppermint also has benefits because it contains essential oils or baby oil. During the first trimester of pregnancy, pregnant women experiencing nausea and vomiting will feel calmer in this situation. Using peppermint essential oil is a way to reduce vomiting during pregnancy without

the use of drugs or their substitutes (Wijayanti and Melasari 2021). The main causes of hyperemesis gravidarum include maternal psychological factors, environmental factors, and parity. With uncomfortable conditions and the burden of fear of responsibility as a mother, it can result in mental conflict that worsens nausea and vomiting as an expression of reluctance to become pregnant (Sarwinanti and Istiqomah 2020).

Through cross-tabulation between nausea and vomiting before and after Peppermint aromatherapy, it was found that there was an effect, because there was a significant change between the condition of nausea and vomiting before the intervention and nausea and vomiting after the intervention. The change in nausea and vomiting in respondents was due to the benefits of aromatherapy, especially Peppermint aroma, which can reduce nausea and vomiting in pregnant women with hyperemesis gravidarum without causing side effects to the mother and fetus. The content of natural chemical substances from this plant is antioxidant, anti-inflammatory, and can provide comfort for pregnant women by placing aromatherapy in the room, so that the mother can inhale the scent of Peppermint while resting.

CONCLUSION

Before being given the intervention, most of the respondents who experienced hyperemesis gravidarum with nausea and vomiting in the moderate category were 22 respondents (88%). After being given the intervention, most of the respondents who experienced hyperemesis gravidarum with nausea and vomiting in the mild category were 20 respondents (80%). There was a decrease in nausea and vomiting in 80% of respondents. Based on the results of the Wilcoxon test, the probability value Asym.sig 2 P-Value 0.000 failed <0.05 , so H1 was accepted, meaning there was an effect. Giving Peppermint Aromatherapy on the intensity of nausea and vomiting in Hyperemesis Gravidarum Patients at TPMB Ny. Fifin Nur Indah Tambaksuruh Mojokerto.

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