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THE RELATIONSHIP BETWEEN KNOWLEDGE OF PREGNANT WOMEN IN THE FIRST TRIMESTER AND THE USE OF PEPPERMINT OIL AROMATHERAPY TO ALLEVIATE NAUSEA AND VOMITING AT THE AR-RAZI PRIMARY CARE CLINIC IN 2025

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ABSTRACT

The type of research used in this study is quantitative descriptive. Quantitative descriptive research involves describing, investigating, and explaining something as it is, and drawing conclusions from observable phenomena using numerical data. The researcher aims to determine the relationship between the use of peppermint essential oil aromatherapy and nausea and vomiting in pregnant women in the first trimester at Ar-Razi Primary Clinic in 2025. It was found that out of 30 respondents, 6 women (20.0%) had good knowledge, 6 women (20.0%) had a fast process of nausea and vomiting relief, and 0 women (0%) had a slow process. Among first-trimester pregnant women, 5 women (16.0%) had adequate knowledge, and 1 (4.0%) did not experience rapid relief. Among pregnant women in the first trimester, 1 (3.3%) had insufficient knowledge, and 17 (56.7%) did not experience rapid relief from nausea and vomiting. There is a relationship between the knowledge of pregnant women in the first trimester about the benefits of peppermint oil aromatherapy and the efficiency of nausea and vomiting at the Ar-Razi Primary Clinic in 2025, as indicated by the sig. value of 0.00 < a value of 0.05. This study found a relationship between the use of peppermint oil aromatherapy and nausea and vomiting in first-trimester pregnant women at the Ar-Razi Clinic in 2025. It is recommended that first-trimester pregnant women understand the use of peppermint oil aromatherapy for reducing nausea and vomiting.

Keywords: pregnancy; peppermint oil aromatherapy, nausea and vomiting.

INTRODUCTION

Pregnancy is the process of fertilisation, which occurs when an egg and sperm unite. The fertilised egg then develops into an embryo within the uterine wall and continues to grow until childbirth or miscarriage. There are three stages of pregnancy development: the first trimester (weeks 1–13), the second trimester (weeks 14–27), and the third trimester (weeks 28–40). These phases help the mother understand the development of the foetus and the physiological changes occurring in her body.

Pregnancy is the union of two compounds, sperm and egg, within the female reproductive system. Due to pregnancy, the mother's body undergoes physical, mental, and hormonal changes. This often leads to nausea and vomiting, which are common during early pregnancy. During pregnancy, there is an increase in the concentration of estrogen and progesterone hormones produced by Human Chorionic Gonadotropin (HCG) in the placental serum, which causes vomiting. Nausea and vomiting, also known as morning sickness, are more common in the morning than during the day or even at night.

According to the World Health Organization (WHO), pregnancy with hyperemesis gravidarum accounts for 12.5% of all pregnancies worldwide, with varying incidence rates ranging from 0.3% in Sweden, 0.5% in California, 0.8% in Canada, 0.8% in China, 0.9% in Norway, 2.2% in Pakistan, and 1.9% in Turkey. Hyperemesis gravidarum is also prevalent in Asia, particularly in Pakistan, Turkey, and Malaysia.

Gravidarum emesis occurs worldwide with varying incidence rates, including 0.9% in Sweden, 0.5% in California, 1.9% in Turkey and the United States, and 1%–3% in Indonesia among all pregnancies. In Indonesia, 50%–75% of pregnant women experience nausea and vomiting during the first trimester or early stages of pregnancy. Nausea and vomiting occur in 60%–80% of primigravida and 40%–60% of multigravida. The prevalence of emesis gravidarum in Indonesia also varies by region.

The 2020 South Sulawesi Province Health Profile shows that there is a high incidence of emesis gravidarum in the region. On the other hand, emesis gravidarum occurs in about 10–15 percent of 182,815 pregnant women in South Sulawesi Province, which is the most extreme severity of this condition.

Based on data from the Karangpawitan Community Health Centre in West Java in August 2023, there were 46 pregnant women in their first trimester, 34 pregnant women in their second trimester, and 38 pregnant women in their third trimester. Of the 46 pregnant women in their first trimester, 36 experienced nausea and vomiting, which caused them to frequently visit health workers. A preliminary study conducted on 7 September 2023 at the Karangpawitan Health Centre among 10 pregnant women who visited the health centre found that 7 women experienced nausea and vomiting, while 3 women did not.

In North Sumatra Province, hyperemesis gravidarum occurs in approximately 10–15% of all pregnancies. Nausea and vomiting occur in 56–76% of primiparas and 45–75% of multigravidas, and approximately 22% of cases of nausea and vomiting persist until delivery. Severe dehydration occurs in 7–9% of pregnant women in North Sumatra.

According to the 2000 K1 Health Profile of Indonesia, there were 2,436,721 pregnant women experiencing pregnancy-related vomiting in the first trimester, accounting for 50% of the total number of pregnant women in the first trimester, which was 4,873,441. In Banten, 134,308 out of 268,616 pregnant women suffered from morning sickness.

RESEARCH METHODS

Data obtained directly from respondents. The primary data in this study is data on mothers' knowledge of peppermint aromatherapy to reduce nausea and vomiting through questionnaires. The secondary data in this study is all information about pregnant women in their first trimester and data in the form of patient status and medical record documentation as well as patient visit data obtained from the Ar-Razi Primary Clinic. Data analysis was conducted using correlation analysis by examining the percentage of collected data and presenting it in frequency tables, and discussing the research results based on existing theories and literature.

Bivariate analysis was performed on two variables suspected to be related or correlated. After identifying the characteristics of each variable in this study, the analysis was continued at the bivariate level. This was done to determine the relationship (correlation) between the independent

variable (knowledge of pregnant women in their first trimester about the benefits of peppermint oil aromatherapy) and the dependent variable (efficiency of nausea and vomiting in pregnant women in their first trimester).

RESULTS AND DISCUSSION

A sample is a portion of a group taken from the entire research object and considered representative of the entire population. The sample in this study consisted of 30 pregnant women in their first trimester at the Ar-razi Primary Clinic in 2025.

Univariate Analysis

Univariate analysis aims to determine the frequency distribution of respondents' answers to variables based on the research problem, presented in the form of a frequency distribution. The results are as follows:

Table 1. Frequency Distribution of First Trimester Pregnant Women's Knowledge About the Benefits of Peppermint Oil Aromatherapy at the Ar-Razi Primary Clinic in 2025

No	Pengetahuan	Jumlah	
		F	%
1.	Baik	6	20
2.	Cukup	6	20
3.	Kurang	18	60
Total		30	100

Based on Table 1, of the 30 respondents who were pregnant women in their first trimester, a minority of 6 women (20%) had good knowledge, 6 women (20%) had sufficient knowledge, and the majority of 18 women (60%) had poor knowledge.

Table 2. Frequency Distribution of the Effectiveness of Nausea and Vomiting in Pregnant Women in Their First Trimester

No	Efisiensi Rasa Mual Muntah	Jumlah	
		F	%
1.	Cepat	12	40
2.	Tidak Cepat	18	60
		30	100

Based on Table 2, out of 30 pregnant women in their first trimester, a minority of 12 women (40%) had a fast response to peppermint oil aromatherapy, while the majority of 18 women (60%) had a slow response to peppermint oil aromatherapy.

Bivariate Analysis

Bivariate analysis aims to determine whether there is a relationship between the independent variable and the dependent variable. The results are as follows:

Table 3. Relationship between the Use of Peppermint Oil Aromatherapy and the Reduction of Nausea and Vomiting in First Trimester Pregnant Women at the Ar-Razi Primary Clinic in 2025.

No	Pengetahuan	Efisiensi Rasa Mual Muntah				Total		
		Cepat		Tidak Cepat				
		F	%	f	%	f	%	
1.	Baik	6	20,0	0	0,0	6	20,0	P=0,00
2.	Cukup	5	16,7	1	3,3	6	20,0	
3.	Kurang	1	3,3	17	56,7	18	60,0	
Jumlah		12	40,0	18	60,0	30	100,0	

Based on Table 3, out of 30 respondents, 6 mothers (20.0%) had good knowledge, of whom 6 (20.0%) had a fast process of nausea and vomiting efficiency, and 0 (0%) had a slow process. Among pregnant women in the first trimester, 5 (16.0%) had adequate knowledge, and 1 (4.0%) had slow efficiency. Among pregnant women in the first trimester, 1 (3.3%) had insufficient knowledge, and 17 (56.7%) had slow efficiency in managing nausea and vomiting. There is a relationship between the knowledge of pregnant women in the first trimester about the benefits of peppermint oil aromatherapy and the efficiency of nausea and vomiting relief at the Ar-Razi Primary Care Clinic in 2025, as indicated by the sig. value of 0.00 < α value of 0.05.

Univariate Analysis Based on Pregnant Women's Knowledge About the Benefits of Peppermint Oil Aromatherapy

Based on Table 1, it can be seen that out of 30 first-trimester pregnant women respondents, 6 (20%) had good knowledge, 6 (20%) had adequate knowledge, and 18 (60%) had insufficient knowledge.

The results of this study are consistent with the research conducted by Oktavia et al. titled 'The Effectiveness of Peppermint Aromatherapy in Reducing Nausea and Vomiting in First-Trimester Pregnant Women.' The research method used in this study was a Literature Review Case Study. There was a difference in the average nausea and vomiting scores of pregnant women before and after the inhalation of peppermint essential oil aromatherapy, with a difference of 6.13. The Wilcoxon Sign Rank Test yielded a p-value of 0.001.

Peppermint (mint leaves) is a plant closely related to peppermint. It has a fragrant aroma and peppermint flavour due to its essential oil content in the form of menthol oil. Peppermint is a plant that is a cross between water mint and spearmint. In addition to its mint aroma, peppermint has many nutritional values.

Univariate Analysis of Speed, Efficiency, and Nausea and Vomiting

Based on Table 2, it can be seen that out of 30 pregnant women in their first trimester, 12 (40%) had a fast response to peppermint oil aromatherapy, while 18 (60%) had a slow response.

Pregnant women experiencing nausea and vomiting should understand how to manage nausea and vomiting during the first trimester of pregnancy. Nausea and vomiting in pregnant women during the first trimester are still common in society. To manage nausea and vomiting, most pregnant women still use pharmacological therapy. Non-pharmacological complementary therapy can be used because it is non-invasive, inexpensive, simple, effective, and without harmful side effects. Complementary therapy using herbal plants is one safe method to reduce nausea and vomiting during pregnancy, using peppermint, ginger, and lemon.

Additionally, 35 pregnant women (56%) did not experience emesis gravidarum, while 25 pregnant women (44%) did experience emesis gravidarum. If left untreated, emesis gravidarum can progress to hyperemesis gravidarum, causing continuous vomiting every time the pregnant woman eats or drinks. This leads to the pregnant woman becoming increasingly pale and weak, with a drastic decrease in urine output, resulting in reduced body fluids and thickened blood. (haemoconcentration), which impedes blood circulation and can cause tissue damage that is harmful to the health of the pregnant woman and the development of the foetus.

Bivariate Analysis of the Relationship Between the Use of Peppermint Oil Aromatherapy and Nausea and Vomiting in First Trimester Pregnant Women at the Ar-Razi Primary Clinic in 2025.

Based on Table 3, it can be seen that out of 30 respondents, 6 women (20.0%) had good knowledge, of whom 6 women (20.0%) had a fast process of nausea and vomiting relief, and 0 women (0%) had a slow process. Among first-trimester pregnant women with adequate knowledge, there were 5 women (16.0%), and 1 (4.0%) who were not quick. Among pregnant women in the first trimester, 1 (3.3%) had insufficient knowledge, and 17 (56.7%) had slow efficiency in managing nausea and vomiting. There is a relationship between the knowledge of pregnant women in the first trimester about the benefits of peppermint oil aromatherapy and the efficiency of nausea and vomiting relief at the Ar-Razi Primary Care Clinic in 2025.

The results of this study are consistent with those of Siti Alifah's study titled 'The Effect of Peppermint Aromatherapy on Nausea and Vomiting in First-Trimester Pregnant Women in the Work Area of PMB Hadijah, Tangerang Regency, Banten Province, in 2024.' This study employed a

quantitative analytical research design, a quasi-experimental study design with a one-group pretest-posttest approach. Based on statistical analysis, the p-value was 0.000 (p-value < α = 0.05), indicating that peppermint aromatherapy has an effect on nausea and vomiting in first-trimester pregnant women in the PMB Hadijah work area of Tangerang Regency, Banten Province.

The results of this study are consistent with those of Oktavia's study titled 'The Effect of Peppermint Aromatherapy on Reducing Nausea and Vomiting in First-Trimester Pregnant Women in 2023,' which used a case study literature review. The analysis results showed a difference in the average nausea and vomiting scores of pregnant women before and after the administration of peppermint oil aromatherapy via inhalation, with a difference of 6.13. The Wilcoxon Sign Rank Test yielded a p-value of 0.001.

CONCLUSIONS

Of the 30 respondents who were pregnant women in their first trimester, a minority of 6 women (20%) had good knowledge, 6 women (20%) had sufficient knowledge, and a majority of 18 women (60%) had poor knowledge. Of the 30 respondents who were pregnant women in their first trimester, a minority of 12 (40%) had a fast process of peppermint oil aromatherapy, and a majority of 18 (60%) had a slow process of peppermint oil aromatherapy. Among the 30 respondents, 6 women (20.0%) had good knowledge, of whom 6 women (20.0%) had a fast process efficiency for nausea and vomiting, and 0 women (0%) had a slow process efficiency. Among the first-trimester pregnant women, 5 women (16.0%) had adequate knowledge, and 1 person (4.0%) had slow efficiency in managing nausea and vomiting. There was a relationship between the knowledge of pregnant women.

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