



THE EFFECT OF LAVENDER AROMA THERAPY ON REDUCING THE FREQUENCY OF NAUSEA, VOMITING IN PATIENTS WITH HYPEREMESIS GRAVIDARUM

Marilin Diah Astuti*, Qiqi Aryana Sachi, Raihan Nur Ramadhan, Regita Cahyani

Bachelor of Nursing Study Program, Wijaya Husada Health Institute
Jl. Letjend Ibrahim Adjie, No. 180, Sindang Barang, Bogor, West Java, Indonesia
***corresponding author:** wijayahusada@gmail.com

ABSTRACT

According to WHO (World Health Organization) the number of incidents of nausea and vomiting reaches 30.1% of the number of pregnancies in the world. Examination visits for pregnant women in Indonesia obtained data on mothers with hyperemesis gravidarum reaching 35% of all pregnancies. MMR based on West Java health profile data in 2014 amounted to 96/100,000 live births, which is around 19.8% of the total maternal mortality rate according to IDHS. The number of incidents of hyperemesis gravidarum in West Java is 60-80% of pregnant women in the first trimester of pregnancy. The aim of this study was to determine the effect of giving lavender aromatherapy to reducing the frequency of nausea and vomiting in patients with hyperemesis gravidarum. This study uses quantitative research methods, pre-experimental research design with the One Group Pre Post Test Design approach. The research was carried out at the Bogor City Hospital in December 2022 with a sample of 30 first-trimester pregnant women who experienced nausea and vomiting using the Total Sampling sampling technique. The instruments used were Standard Operating Procedures and Observation Sheets which were processed using the Wilcoxon Signed Rank Test Non-Parametric Hypothesis Test. The results of the analysis used the Wilcoxon Signed Rank Test Non-Parametric Hypothesis Test, which was seen from the Sig value. (Significant) namely 0.000. So, P value < 0.05 (Ho rejected, Ha accepted). There is an effect of giving lavender aromatherapy to reducing the frequency of nausea and vomiting in patients with hyperemesis gravidarum at Bogor City Hospital.

Keywords: Lavender Aromatherapy, Hyperemesis Gravidarum

INTRODUCTION

The success of maternal health efforts, among others, can be seen from the indicator of the Maternal Mortality Rate (MMR). The Maternal Mortality Rate is the number of maternal deaths during pregnancy to delivery which are caused by the process of pregnancy until delivery or its management but not due to other factors such as accidents or falls in every 100,000 live births. The maternal mortality rate increased by 300 cases from 2019 to around 4,400 deaths in 2020 while infant mortality in 2019 was around 26,000 cases, an increase of almost 40 percent to 44,000 cases in 2020.1 Based on the 2018 Sampling Registration System (SRS) data, around 76% of maternal deaths occur in the labor and postpartum phases with the proportion of 24% occurring during pregnancy, 36% during childbirth and 40% postpartum.¹ Mortality and morbidity in pregnant and giving birth women have been a problem for a long time, especially in developing countries caused by complications.¹

One of the complications during pregnancy is nausea and vomiting or known as Hyperemesis Gravidarum. One of the consequences of Hyperemesis Gravidarum is dehydration which causes a

decrease in O₂ consumption, impaired liver function and jaundice, bleeding in the liver parenchyma, impaired general function of vital organs, and death. A mother with Hyperemesis gravidarum needs a way to reduce or eliminate nausea, vomiting and dizziness so that it doesn't continue to become hyperemesis gravidarum which can have a negative impact on pregnant women and the fetus.²

Nausea and vomiting account for 30.1% of pregnancies worldwide. According to the Ministry of Health of the Republic of Indonesia, antenatal visits in 2018 in Indonesia resulted in data on mothers who wet their bed as much as 35% of all pregnancies.³ MMR based on data from the 2014 West Java Health Record was 96/100,000 live births, which is around 19.8% of maternal deaths according to the SDKI. The number of cases of hyperemesis in West Java is 60-80% of pregnant women in the first trimester of pregnancy.²

Nausea and vomiting occurs in 60-80% of neonatal patients and 40-60% of multimorbid cases. In a hundred out of a thousand pregnancies, these symptoms get worse. This nausea is caused by increased serum levels of estrogen and hCG. The physiological effect of increased levels of this hormone is unclear, possibly due to reduced activity of the central nervous system on gastric emptying causing nausea and vomiting in pregnant women.³

According to Amiliano (2018), the effects of vomiting during pregnancy if not handled properly, will cause severe (uncomfortable) and persistent symptoms of nausea and vomiting that occur in early pregnancy, which can cause dehydration, electrolyte disturbances, or nutritional deficiencies. Sufferers of vomiting during pregnancy, vomiting up to 10 times in 24 hours will not be good for the health of pregnant women.³

Pharmacological treatment of pregnant women who experience nausea and vomiting causes side effects such as headache, diarrhea and drowsiness. One alternative way to deal with hyperemesis gravidarum that is safe and without side effects is by using aromatherapy, in which pregnant women only use natural ingredients without a mixture of chemicals. Several types of essential oils can be used as aromatherapy, including peppermint, spearmint, lemon, lavender and ginger.⁴

Lavender has many benefits, when compared to other plants. The benefits of lavender really help pregnant women who experience symptoms of nausea and vomiting. Another advantage of lavender is that it contains essential oil or bay oil. This oil is very refreshing and can suppress the reflex of nausea and vomiting, which often occurs in pregnant women, during the first trimester of pregnancy. Linalool is a component of lavender that has a calming or sedative effect and is often used in aromatherapy to affect the body's neuroendocrine system, influencing the release of hormones and neurotransmitters. This situation will increase the feeling of comfort in pregnant women who experience nausea and vomiting.⁵ According to Rosalina (2019) that nausea and vomiting are Common discomfort experienced by 50% of pregnant women usually occurs in the first trimester. One treatment to reduce vomiting during pregnancy without drugs or alternatives is to inhale lavender essential oil.⁴

Based on the results of the preliminary study, it was found from 10 respondents that 8 respondents had a frequency of nausea and vomiting > 5 times/day, while 2 respondents had a frequency of nausea and vomiting <5 times/day. All respondents stated that they had never used lavender aromatherapy to reduce nausea during their pregnancy.



Based on the background above, the researcher is interested in knowing more about "The Effect of Giving Lavender Aromatherapy on the Frequency of Nausea Vomiting in Patients with Hyperemesis Gravidarum in the Kerta Region of Bogor City Hospital"

RESEARCH METHODS

This type of research is quantitative, pre-experimental using the One Group Pretest Posttest Design. This research was conducted in December 2022 with a total population of 30 respondents. The sampling technique in this study used Total Sampling. The instrument used was an observation sheet to assess the frequency of nausea and vomiting before and after being given lavender aromatherapy. The data analysis used was univariate and bivariate (Wilcoxon).

RESEARCH RESULT

Table 1. Distribution of Frequency Characteristics of Respondents Age of pregnant women and gestational age

No	Category	Frequency	Percentage (%)
1	Age of Pregnant Women		
	19-29 years	21	70
	30-39 years	9	30
2	Gestational Age		
	5-8 weeks	19	63.3
	9-13 weeks	11	36.7
	Total	30	100

Based on the results of table 1 inabove it is known that of the 30 respondents, it was found that the majority of respondents were aged 19-29 years, namely 21 (70%), with a gestational age of mostly 5-8 weeks, namely 19 (63.3%).

Table 2. Frequency Distribution Frequency of Nausea Vomiting in Patients with Hyperemesis Gravidarum Before Giving Lavender Aromatherapy (*pretest*) and after Given Lavender Aromatherapy (*posttest*)

Hyperemesis Gravidarum Levels	Intervention	
	Frequency	Percentage (%)
<i>Pretest</i>		
<i>Grade 1</i>	0	0
<i>Grade 2</i>	18	60
<i>Grade 3</i>	12	40
<i>Posttest</i>		
<i>Grade 1</i>	22	73.3
<i>Grade 2</i>	7	23.3
<i>Grade 3</i>	1	3.4
Total	30	100

Based on the results of table 2 above, it is known that of the 30 respondents, it was found that before being given the intervention (*pretest*), most of the respondents with the level of hyperemesis gravidarum were in grade 2, namely 18 people (60%), whereas after being given the intervention (*posttest*), the majority Respondents with grade 1 hyperemesis gravidarum were 22 respondents (73.3%).

Table 3. Results of Test Analysis Effect of giving lavender aromatherapy to reducing the frequency of nausea and vomiting in patients with hyperemesis gravidarum

Intervention	Frequency of nausea and vomiting		
	N	<i>mean ± sd</i>	<i>P-Value</i>
Before	30	3.85±0.428	0.000
After	30	1.54±0.481	

Based on the results of table 3 above It is known that in the intervention group, the average frequency of nausea and vomiting before the intervention was given was 3.85±0.428 while after being given the intervention it decreased to 1.54±0.481. Based on the Wilcoxon test, a p value of 0.000 ($p < 0.05$) was obtained, which meant that there the effect of giving lavender aromatherapy to reducing the frequency of nausea and vomiting in patients with hyperemesis gravidarum.

DISCUSSION

1. Frequency of nausea and vomiting before being given lavender aromatherapy (*pretest*).

Based on the research, it was found that the majority (60%) before being given lavender aromatherapy with Grade 2 were 18 respondents.

This is supported by RD Rahayu, Sagita's research entitled "Effectiveness of Giving Lavender and Ginger Aromatherapy on Reducing the Frequency of Nausea Vomiting in First Trimester Pregnant Women at BPM Trucuk Klaten" The results obtained based on statistical tests using the Wilcoxon test obtained a p value $(0.002) < (0.005)$. This means that there is a significant difference between the average intensity of the degree of nausea and vomiting before and after being given ginger aromatherapy, while the average intensity of the degree of nausea and vomiting of pregnant women before and after being given lavender aromatherapy obtained p value $(0.000) < (0, 05)$. These results indicate that there is a significant difference between the average intensity of the degree of nausea and vomiting before and after being given lavender and ginger aromatherapy to pregnant women.⁶

Nausea and vomiting during pregnancy (emesis gravidarum) is experienced by most pregnant women. This condition is common in early pregnancy, especially in the first week to the third month. Although nausea during pregnancy is often referred to as morning sickness, there are some pregnant women who experience this condition anytime and anywhere, be it morning, evening or night.⁷ Grade 2 hyperemesis is caused by changes in the hormone HCG (Human Chorionic Gonadotropin) which produces the placenta, being overweight (obesity), having a history of hyperemesis gravidarum, being pregnant for the first time, genetics, having a molar pregnancy, carrying twins, and having a daughter.

According to the researcher's analysis, it can be concluded that Grade 2 Hyperemesis Gravidarum occurs due to changes in the HCG hormone, obesity, previous Hyperemesis Gravidarum, first pregnancy, offspring, carrying twins and having a girl.

2. Frequency of nausea and vomiting after being given lavender aromatherapy (posttest)

Based on the research, it was found that the majority (73.3%) after being given lavender aromatherapy with Grade 1 were 22 respondents.

This is supported by the research of Ani Retni, Fitriya Handayani, Indah Sri Wahyuni Mohamad entitled "Literature Review: Giving Lavender Essential Oil Aromatherapy Against Emesis Gravidarum in the First Trimester of Pregnancy" Based on research from Rossalina (2019), with the intervention of 15 respondents there was a decrease the intensity of the degree of nausea and vomiting, ranging from the moderate category to the mild category. The results of the same study from Amiliano (2018) showed that after applying lavender aromatherapy to pregnant women, pregnant women respondents thought that when the intervention was carried out, they felt much more comfortable, and the intensity of the degree of nausea and vomiting felt by pregnant women had been felt less, unlike before intervention is carried out.³

The causes of Grade 3 Hyperemesis Gravidarum are kidney disorders, disturbances in fat oxidation, increased HCG hormone levels, obesity, greatly decreased immunity, nutritional deficiencies, the possibility of molar pregnancy, carrying twins, carrying girls, genetics, excessive morning sickness, problems unresolved hyperemesis gravidarum grades 1 and 2. Pharmacological treatment of pregnant women with Grade 2 Hyperemesis Gravidarum causes side effects such as headache, diarrhea and drowsiness. One alternative way to deal with hyperemesis gravidarum that is safe and without side effects is by using aromatherapy, in which pregnant women only use

natural ingredients without a mixture of chemicals. Lavender has many benefits, when compared to other plants. The benefits of lavender really help pregnant women who experience symptoms of nausea and vomiting. Another benefit of lavender is that it contains essential oils. This oil is very refreshing and can suppress the reflex of nausea and vomiting, which often occurs in pregnant women, during the first trimester of pregnancy.⁴

Based on the researcher's analysis, it can be concluded that lavender aromatherapy has an effect on the frequency of nausea and vomiting in nauseated patients before and after using lavender aromatherapy. Because lavender has the advantage of containing essential oils. This oil is very refreshing and can suppress the reflex of nausea and vomiting, making pregnant women feel more comfortable and reducing nausea and vomiting.

3. Bivariate Test Analysis

Based on the results of the Normality Test, it is known that if the data is not normally distributed, then the Non-Parametric Wilcoxon Signed Rank Test is used. The results of the Non-Parametric Wilcoxon Signed Rank Test in the table above are seen from the Sig value. (Significant) namely 0.000. So, P value <0.05 (H_0 rejected, H_a accepted) means that there is an effect of lavender aromatherapy on reducing the frequency of nausea and vomiting in hyperemetic patients in the Bogor City Hospital area.

This is supported by the research of Siti Haniyah, Prasanti, Adriani entitled "The Effect of Giving Lavender Aromatherapy on Hyperemesis Gravidarum Trimester I (Literature Review)".) Initially the nurse gave an observation sheet for the degree of nausea and vomiting, then was given treatment to the experimental group and the degree of nausea and vomiting was measured again after treatment. Lavender aromatherapy can be used as a non-pharmacological therapy that can provide a relaxing, calming effect, generate body energy, and create a good mood so that the nausea and vomiting of pregnant women in the first trimester can be diverted/reduced.⁴

The main components of lavender include linalool, linalylacetat, 1,8-cineole B-ocimene, terpinen-4-ol, and camphor. Linalool is a component of lavender which has a sedative or sedative effect and is commonly used as aromatherapy which affects the body's neuroendocrine system which affects the release of hormones and neurotransmitters. This situation will increase the feeling of comfort in pregnant women who experience nausea and vomiting.

Based on the results of research before and after the use of lavender aromatherapy, it was concluded that the use of lavender aromatherapy greatly affects the decrease in the frequency of nausea and vomiting in patients with nausea and vomiting. The advantage of lavender is that it contains essential oils. This oil is very refreshing and can suppress the reflex of nausea and vomiting, which often occurs in pregnant women, during the first trimester of pregnancy.

CONCLUSION

1. It is known that most (60%) before being given lavender aromatherapy with Grade 2 were 18 respondents.



2. It is known that most (73.3%) after being given lavender aromatherapy with Grade 1 were 22 respondents.
3. It is known that the p value is 0.000 ($p < 0.05$) which means that there is an effect of lavender aromatherapy on reducing the frequency of nausea and vomiting in patients with hyperemesis gravidarum.

SUGGESTION

1. For RSUD Bogor City
As a reference for relevant agencies in establishing policies to realize optimal performance in the field of nursing, by conducting counseling for pregnant women.
2. For Educational Institutions
The results of this study are expected to add to the literature in the form of books, journals and others about Maternity Nursing.
3. For Respondents
This research can be used as an alternative way to reduce nausea and vomiting experienced in addition to pharmacological treatment.
4. For Further Researchers
The results of this study can be used as reference material for further research, increase the number of respondents, increase the number of variables and use other aromatherapy to reduce nausea and vomiting.

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