



The Effect Of Ginger Aromatherapy Inhalation On Emesis Gravidarum In 1st Trimester Pregnant Womenat Pmb Maghpiro

Titin Apriyani*, Ade Marlisa Rahmadayanti, Sartika Dwi Yolanda Putri

Midwife Profession Study Program, Sekolah Tinggi Ilmu Kesehatan Abdurahman Palembang, Jl. Colonel H. Barlian Sukajaya, Suka Bangun, District. Sukarami, Palembang City, South Sumatra 30114, Indonesia

*titinapriyani65@gmail.com

ABSTRACT

Emesis gravidarum is a common complaint presented by young pregnancies. Pregnancy causes hormonal changes in women because there is an increase in the hormones estrogen, progesterone and the hormone gonadotropin released by the placenta. These changes in hormones cause symptoms of dizziness and nausea and vomiting, especially in the first trimester of pregnancy. One of the aromatherapy that is often used is ginger, ginger aromatherapy is also effective in reducing emesis gravidarum in pregnant women in the first trimester of pregnancy and reducing nausea and vomiting in multigravida women. The content of essential oils in ginger which has a relaxing effect, gingerol and oleoresin which give a warming effect so that nausea and vomiting can decrease. The effect of ginger on the central nervous system was shown in animal experiments with gingerol, which resulted in a decrease in the frequency of vomiting. This study aims to determine whether there is an effect of ginger aromatherapy inhalation on emesis gravidarum in first trimester mothers at BPM Maghpiro. The design of this research is quasi experiment which is one group preposttest. The data analysis used is Bivariate analysis. Research time from April to July. The population in this study was first trimester pregnant women, totaling 15 respondents. Data collection was carried out using the PUQE-24 Questionnaire. The results of the study used the t-test technique which showed that before being given ginger aromatherapy, 10 respondents (66.7%) experienced moderate nausea and vomiting and 5 respondents (33.3%) experienced severe nausea and vomiting. After being given ginger aromatherapy inhalation, 15 respondents (100%) experienced mild nausea and vomiting. The average value before and after giving ginger aromatherapy inhalation to nausea and vomiting in pregnant women, where from 15 respondents obtained results before ginger aromatherapy inhalation was carried out with a mean value of 12.07 and after ginger aromatherapy inhalation obtained a mean value of 4.33, which This means there is an effect before and after giving ginger aromatherapy inhalation. Based on this, there is a decrease in the frequency of nausea and vomiting in pregnant women in the 1st trimester after being given ginger aromatherapy inhalation.

Keywords: emesis gravidarum; ginger aromatherapy; pregnant women

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INTRODUCTION

Nausea, vomiting is a common complaint in young pregnancies. The occurrence of pregnancy causes hormonal changes in women because there is an increase in the hormones estrogen, progesterone, and the release of human chorionic gonadotropine from the placenta (Zuraida, 2017) According to the World Health Organization (WHO), in 2015 the number of cases of emesis gravidarum reached 12.5% of the number of pregnancies in the world. In Indonesia, there are 50-90% cases of nausea and vomiting experienced by pregnant women. Complaints of nausea and vomiting occur in 60-80% of primigravidas and 40-60% of multigravidas. In one in a thousand pregnancies, the symptoms of nausea and vomiting become more severe (Prawiroharjo, 2005 in Lubis 2019).

Most pregnant women experience morning sickness. Based on data, 1-2% of all pregnant women experience extreme morning sickness. Around 60-80% of primigravidas and 40-60% of multigravidas experience nausea and vomiting. However, these symptoms occur more severely in only 1 in 1,000 pregnancies. In 2014, in the United States, 0.5-2% of them experienced hyperemesis gravidarum or approximately five out of 1000 pregnancies. The incidence of hyperemesis gravidarum in Indonesia in 2016 was 1.5-3% of pregnant women (Department of Health of the Republic of Indonesia, 2016) Based on data from the provincial health office in South Sumatra, emesis gravidarum in pregnant women in 2016 was 850 people and around 22% experienced hyperemesis gravidarum and there was an increase in the prevalence of hyperemesis gravidarum based on research results of 77 people, this feeling of nausea was caused by increasing levels of the hormone estrogen and HCG in seum (South Sumatra Health Department Profile, 2015)

Data shows that more than 85% of pregnant women feel disturbed by their activities due to nausea and vomiting and overcome this by taking anti-nausea drugs. However, inappropriate use of medication often harms pregnant women and their fetuses because it is known to cause distortion. Giving pregnant women drugs that contain excessive therapeutic effects sometimes actually causes toxic effects on both the mother and fetus (Derek and John, 2002 in Pujiastuti, 2014) The problem of nausea and vomiting in early pregnancy by using non-pharmacological and complementary therapies first. The use of non-pharmacological complementary therapy is non-instructive, non-invasive, cheap, simple, effective and has no adverse side effects for pregnant women (Santi, 2013). One of the aromatherapy that is often used is ginger, ginger aromatherapy is also effective in reducing emesis gravidarum in pregnant women in the first trimester of pregnancy and reducing nausea and vomiting in multigravid mothers. Ginger contains essential oils which provide a relaxing effect, gingerol and oleoresin which provide a warming effect so that nausea and vomiting can decrease. The effect of ginger on the central nervous system was demonstrated in animal experiments with gingerol, resulting in reduced frequency of vomiting. As a result, ginger can have a relaxing effect on the limbic system and can suppress nausea and vomiting This study aims to determine the effect of ginger aromatherapy inhalation on emesis gravidarum in mothers in the first trimester at PMB Maghpiro.

METHOD

This study used a quasi-experimental research design with a one group pretest posttest nature, namely to identify the effect of giving ginger aromatherapy inhalation to pregnant women with emesis gravidarum. The scope of this research is all 1st trimester pregnant women at BPM Maghpiro. The sampling technique used in this research is purposive sampling.

A sample of 15 first trimester pregnant women were given ginger aromatherapy inhalation. Before being given treatment, the frequency of nausea and vomiting was measured using the PUQE-24 questionnaire. The validity of the questionnaire has been tested with the resulting r value (0.839-0.947) $>$ r -table 0.361, indicating the questionnaire is valid. Reliability has been tested with a Cronbach's alpha value of 0.989 $>$ 0.361, so it is said to be reliable. Then they are treated for 5 days using ginger aromatherapy which is dripped on tissue as much as 2-3 drops, the tissue used is non-perfumed tissue. The tissue is placed on the nose at a distance of approximately 5 cm for 5 minutes. then after 5 days of administration, the frequency of nausea and vomiting was measured again using the PUQE-24 questionnaire. After the data was obtained, the researcher analyzed the research data. Data collection was carried out on 03 April-03 July 2023. The instrument used was an observation sheet.

RESULTS

Table 1.
Frequency of Emesis Gravidarum Before Giving Ginger Aromatherapy Inhalation.

<i>Emesis Gravidarum</i>	f	%
Light	0	0
Currently	10	66.7
Heavy	5	33.3

Table 1 above, it can be seen that of the 15 respondents with a frequency of Emesis Gravidarum before administering ginger aromatherapy inhalation, there were 10 (66.6%) respondents who experienced moderate Emesis Gravidarum, 5 (33.4%) respondents who experienced severe Emesis Gravidarum, and none of the respondents experienced mild Emesis Gravidarum and had no complaints.

Table 2.
Frequency of Emesis Gravidarum After Giving Ginger Aromatherapy Inhalation

<i>Emesis Gravidarum</i>	f	%
No Complaints	0	0
Light	15	100
Currently	0	0
Heavy	0	0

Table 2 above, it can be seen that of the 10 respondents with moderate Emesis Gravidarum and 5 respondents with severe Emesis Gravidarum after giving ginger aromatherapy inhalation, there were 15 (100%) respondents who experienced mild Emesis Gravidarum.

Bivariate Analysis

Bivariate analysis was carried out to determine the effect of emesis gravidarum before and after being given ginger aromatherapy inhalation intervention. The results of the bivariate test can be seen in the table below:

Table 3.
Data Normality Test Results Test of Normality

Degree of Emesis Gravidarum	<i>Shapiro-Wilk</i>		
	Statistics	df	Sig.
Before	,927	15	,573
After	,836	15	,057

Table 3 based on data analysis using the Shapiro-Wilk normality test, a sig value of more than 0.05 was obtained so it can be concluded that the data is normally distributed so it was continued using the *Paired T test*.

Table 4.
The effect of giving ginger aromatherapy inhalation on emesis gravidarum in first trimester pregnant women at PMB Maghpiro in 2023

Treatment	Mean	elementary school	f	Sign
Before	12.07	1,100	15	0,000
After	4.33	0.976	15	

Table 4 above, it shows that of the 15 respondents who experienced emesis gravidarum before giving ginger aromatherapy inhalation the mean was 12.07, after giving ginger aromatherapy the mean was 4.33.

DISCUSSION

Frequency of Emesis Gravidarum In Pregnant Women Before Giving Ginger Aromatherapy Inhalation.

Based on table 4.1, 15 respondents received intervention before administering ginger aromatherapy. Respondents were asked first to measure the level of emesis gravidarum of the respondents using a checklist sheet, where of the 15 respondents before administering ginger aromatherapy, the results showed that 10 (66.7%) respondents experienced moderate emesis gravidarum, 5 (33, 33) experienced severe emesis gravidarum. 3%) respondents. This is in line with research conducted by Romauli (2023) entitled *The Effect of Ginger Aromatherapy on Reducing Emesis Gravidarum in First Trimester Pregnant Women* which showed that 22 respondents from first trimester pregnant women experienced emesis gravidarum at the Putri Clinic, Jaya Wijaya Regency before being given aromatherapy. Most of the ginger experienced severe levels of nausea and vomiting, namely 17 pregnant women (77.3%), while a small number experienced moderate levels of nausea and vomiting, namely 5 pregnant women (22.7%).

This is in line with research conducted by Kholifa (2023) with the title *Effectiveness of Giving Ginger Drink and Peppermint Aromatherapy Against Emesis Gravidarum in First Trimester Pregnant Women*. Research shows that there is a difference in the average intensity of nausea and vomiting before and after being given ginger drink (*Zingiber officinale*) and peppermint aromatherapy (*Mentha x piperita*). The results of the paired t test obtained a p-value of 0.00 ($p < 0.05$) and the independent test obtained a p-value of 0.01 ($p < 0.05$). Ginger drinks and peppermint aromatherapy are alternative non-pharmacological drugs to reduce symptoms of nausea and vomiting in pregnancy. This is in line with Henniawati's (2023) research with the title *Effectiveness of Ginger and Lemon Aromatherapy Against Nausea, Vomiting in First Trimester Pregnant Women in the West Langsa Health Center Working Area*. The design used in this research was a quasi-experimental, non-equivalent control group design consisting of 2 groups and each group had 15 respondents and were given different interventions. Group 1 was given ginger aromatherapy treatment and group 2 was given lemon aromatherapy treatment. The intervention was given for 7 days to pregnant women. Nausea and vomiting were measured before and after intervention using the Pregnancy Unique Quantification of Emesis and Nausea (PUQE)-24 questionnaire. The test used in bivariate analysis is the paired sample t-test statistical test. The research results obtained in the ginger aromatherapy group, the difference in the average onset of vomiting was 4.06, the statistical test results obtained a sig value of 0.000, so it was concluded that giving ginger aromatherapy was effective against nausea and vomiting. In the lemon aromatherapy group, the average difference between nausea and vomiting was 4.20 and the sig. 0.000, which means that giving lemon aromatherapy is effective against nausea and vomiting in pregnant women. It can be concluded from this research that the administration of ginger aromatherapy and lemon aromatherapy is effective in reducing nausea and vomiting in first trimester pregnant women.

According to Nurulicha & Aisyah (2020), nausea and vomiting is one of the earliest, most common and most stressful symptoms associated with pregnancy. Almost every pregnant woman will experience nausea and even vomiting and this is usually experienced at the beginning of pregnancy or occurs from 5 weeks of pregnancy which is calculated based on the first 60 of the last menstrual period (HPHT) and reaches a peak at 8 weeks to 12 weeks of pregnancy and ends at 16-18 Sunday. Nausea and vomiting during pregnancy are called morning sickness. This is in line with Ani Retni (2023), nausea usually occurs in the morning, but can also occur every morning and evening. These symptoms occur approximately 6 weeks after the first day of the last menstruation and last for approximately 10 weeks. This feeling of

nausea is caused by increased levels of the hormones estrogen and HCG in the serum. There are several factors that cause hyperemesis gravidarum, starting from an increase in hormones such as HCG, the hormones estrogen and progesterone. According to the researchers' assumption, nausea and vomiting during the first trimester of pregnancy was caused by increased levels of the hormones estrogen and HCG in the respondents.

Frequency of Emesis Gravidarum In Pregnant Women After Giving Ginger Aromatherapy Inhalation.

Based on table 4.2, data shows that there was a decrease in the frequency of emesis gravidarum after administering ginger aromatherapy as shown by the percentage of before and after values. This is reinforced by table 4.2 which shows that there was a decrease in the frequency of emesis gravidarum after inhaling ginger aromatherapy. Where from table 4.1 before administering ginger aromatherapy, 10 (66.7%) respondents had moderate emesis gravidarum results and 5 (33.3%) respondents experienced severe emesis gravidarum, but it can be seen from table 4.2 that after administering ginger aromatherapy the results were 15 (100%) respondents experienced mild emesis gravidarum. This shows that the frequency of emesis gravidarum felt by mothers in labor is reduced after giving ginger aromatherapy. This is in line with research conducted by Romauli (2023), entitled *The Effect of Ginger Aromatherapy on Reducing Nausea and Vomiting in First Trimester Pregnant Women* which showed that nausea and vomiting before ginger aromatherapy inhalation resulted in severe nausea and vomiting in 17 (77.3%) respondents. and moderate nausea and vomiting 5(22.7%) while after administering ginger aromatherapy inhalation the results showed mild nausea and vomiting 20(90.9%) and moderate nausea and vomiting 2(9.1%).

According to the assumptions of Rahmawati (2017), aromatherapy is able to provide comfort, especially in dealing with nausea and vomiting because ginger aromatherapy is one of the appropriate and efficient treatment methods in reducing nausea and vomiting. Inhalation of aromatherapy essential oil molecules will enter the lungs, and be absorbed by the mucosal lining of the respiratory tract, both in the bronchi and bronchioles. When gas exchange occurs in the alveoli, the molecules will be transported by the circulating blood in the lungs. The aroma response will stimulate the brain's neurochemical cells. For example, a fragrant aroma will stimulate the thalamus to secrete enkephalins which function as natural pain relievers, produce a calming effect, and reduce nausea. This is in accordance with the theory of Dyna & Febriani (2020). which shows that ginger aromatherapy is the most effective aromatherapy and has many advantages for pregnant women who are experiencing nausea and vomiting compared to other herbal plant aromatherapy. The first advantage of ginger aromatherapy is that it contains essential oils which can act as a barrier to serotonin, a neurotransmitter of the central nervous system and enterochromalphin cells in the digestive tract by inhibiting the induction of Human Chorionic Gonadotrophin (HCG) into the stomach, a chemical compound that can cause the stomach to contract so that it feels like nausea and vomiting are reduced. According to researchers' assumptions, giving ginger aromatherapy inhalation can be applied by midwives to help reduce nausea and vomiting in pregnant women, because giving ginger aromatherapy inhalation can reduce nausea and vomiting felt by mothers during the first trimester of pregnancy.

The effect of inhaling ginger aromatherapy on the level of Emesis Gravidarum

Based on table 4.4, to determine the effect of inhaling ginger aromatherapy on the level of Emesis Gravidarum, researchers used the T test statistical test with the condition that the data was normally distributed. After analyzing, of the 15 respondents who experienced emesis

gravidarum before inhaling ginger aromatherapy, the mean was 12.07. After administering ginger aromatherapy inhalation, the mean was 4.33. Based on the average value, this shows that giving ginger aromatherapy inhalation to respondents who experienced emesis gravidarum during the first trimester of pregnancy can reduce the level of emesis gravidarum. Based on the category of nausea and vomiting felt by each respondent in this study, it varied, including mild and moderate nausea and vomiting. This is supported by the theory of Niebyl and Briggs (2017) which states that nausea and vomiting is influenced by psychological factors including unwanted pregnancy, feelings of anger, guilt, anxiety, fear which will increase the severity of nausea and vomiting. After being given the ginger aromatherapy inhalation intervention, respondents said they felt calm and comfortable. They also said they could smell the aroma of cooking which previously caused nausea and the urge to vomit. Several respondents said that the frequency of nausea and vomiting they experienced had decreased significantly in the morning, afternoon and evening.

The research results showed that after being given ginger aromatherapy inhalation, several respondents experienced a decrease in the level of nausea and vomiting from moderate to mild, from mild to not experiencing nausea and vomiting. This indicates that ginger aromatherapy can reduce the frequency of nausea and vomiting experienced by respondents. This is in line with research conducted by Retni (2022), entitled *The Effect of Providing Ginger Aromatherapy on Reducing Hyperemesis Gravidarum in First Trimester Pregnant Women in the Limboto Community Health Center Working Area*. In this study, we first assessed the scale of nausea and vomiting experienced. The results of this study showed that the mean value of nausea and vomiting before being given ginger aromatherapy was 2.00 with a standard deviation of 0.000, and the mean value of nausea and vomiting after being given ginger aromatherapy is 1.15 with a standard deviation of 0.366. These results show a significant difference in the average value of the frequency of nausea and vomiting before and after administering ginger aromatherapy which can be seen from the difference in the average value, namely 0.85. The difference in average values was obtained in research by reducing the frequency of nausea and vomiting in pregnant women.

This is in line with the theory of Sofiani & Pratiwi (2017) *The use of aromatherapy to treat complaints of nausea and vomiting is by utilizing the aroma produced by essential oils*. This essential oil can be used as an aromatherapy product which has many benefits, including complementary therapy, to relax the body, food additive, cosmetics and fragrance. One of the pharmacological functions of ginger is antiemetic (anti-vomiting), it is an ingredient that can remove gas from the stomach, this will relieve flatulence, it is also a strong aromatic stimulant, besides being able to control vomiting by increasing intestinal peristaltic movements. About 6 compounds in ginger have been proven to have potent antiemetic (anti-vomiting) activity. The action of these compounds is more directed at the stomach wall rather than the central nervous system.

This is in line with the theory of Afriyanti & Rahendza (2020) *Treatment for nausea and vomiting in pregnant women*. There are several types of treatment, pharmacological treatment to treat nausea and vomiting in pregnancy, including vitamins, antihistamines, anticholinergics, dopamine antagonists, phenothiazines, butyrophenones, serotonin antagonists, pyridoxine and corticosteroids. Non-pharmacological treatments include ginger, lemon, chamomile, peppermint, red raspberry leaves, and tea which can reduce nausea and vomiting in pregnancy, acupressure and acupuncture, and aromatherapy which is a branch of herbal science which is a collection of methods for the skilled and controlled use of essential oils. to promote physical, emotional, and psychological health. According to the researchers'

assumptions, ginger aromatherapy inhalation is good for use by health workers regarding nausea and vomiting in first trimester pregnant women because ginger aromatherapy inhalation has the best effect for a short period of time by providing a feeling of comfort so that nausea and vomiting in pregnant women can be reduced.

CONCLUSION

The frequency of nausea and vomiting in pregnant women before being given ginger aromatherapy inhalation, where out of 15 respondents, 10 (66.7%) respondents experienced moderate nausea and vomiting, and 5 (33.3%) respondents experienced severe nausea and vomiting. The frequency of nausea and vomiting in pregnant women after being given ginger aromatherapy inhalation, where out of 15 respondents, the results showed that 15 (100%) respondents experienced mild nausea and vomiting. There is influence giving ginger aromatherapy inhalation in reducing emesis gravidarum in first trimester pregnant women at PMB Maghipiro with Sig values. equal to $0.000 < 0.05$

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