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Science Midwifery

journal homepage: www.midwifery.iocspublisher.org

The Effect of Ginger Booking and the Aroma of Lemon Inhalation Therapy Towards Gerdadian Emesis Gravidarum for Pregnant Mothers in Trimester I

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ARTICLE INFO

Article history:

Received Sep 21, 2022

Revised Oct 10, 2022

Accepted Oct 23, 2022

Keywords:

Ginger
Lemon Inhalation
Emesis Gravidarum

ABSTRACT

Pregnancy is the growth and development of the intrauterine fetus starting from conception and ending until the onset of labor. Nausea and vomiting (emesis gravidarum) is a problem that is often experienced by pregnant women in early pregnancy. To determine the effect of giving ginger decoction and lemon inhalation therapy to the incidence of emesis gravidarum in first trimester pregnant women in the working area of the Marancar Health Center, Kaupaten Tapanuli Seatan in 2021. Methods: The research design used a quasi-experimental approach with a two group pre and post test design approach. The population and sample in the study were 30 people. The data were processed by univariate and bivariate analysis using paired sample t-test and independent t-test. Results : There is an effect of giving ginger stew on reducing the incidence of emesis gravidarum and there is the effect of giving lemon inhalation aromatherapy to decrease emesis gravidarum. Giving ginger decoction is more effective than giving lemon inhalation in dealing with the decrease in the incidence of nausea and vomiting in first trimester pregnant women in the Marancar Health Center Work Area in 2021. It is hoped that the results of this study can improve services in the health sector, especially in providing information about the effect of giving boiled ginger and aromatherapy lemon inhalation against emesis gravidarum in first trimester pregnant women.

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INTRODUCTION

Pregnancy is the growth and development of the intrauterine fetus starting from conception and ending until the onset of labor. Pregnancy problems must have changes in a woman's body, both physical changes, hormonal changes, and mood changes. There are three signs and symptoms of pregnancy, a sign of presumptive or uncertain, signs of possible pregnancy and signs of pregnancy. Presumptive or uncertain signs are signs that are felt by the mother (subjective) that arise during

pregnancy such as amenorrhea, nausea and vomiting, cravings, fainting, fatigue, no appetite, frequent urination and so on (Sulistyawati 2017).

Problems that occur during pregnancy such as nausea and vomiting (*emesis gravidarum*) which are often experienced by pregnant women are one of the earliest symptoms of pregnancy. Nausea and vomiting is normal during pregnancy, which occurs around 50-90% of pregnant women experience nausea in the first trimester (Nengsih N n.d.).

Nausea and vomiting (*emesis gravidarum*) are normal symptoms and are often found in the first trimester of pregnancy. Nausea usually occurs in the morning, but can also occur at any time and at night. These symptoms occur approximately 6 weeks after the first day of the last menstruation and last for approximately 10 weeks. Early pregnancy symptoms in most women are nausea, with or without vomiting. Fifty to ninety percent (50%-90%) of pregnant women experience nausea and vomiting during the first trimester of pregnancy, generally occurring in the 4th and 6th weeks of gestation with a peak between the 8th and 12th weeks. A more severe form of nausea and vomiting is known as hyperemesis gravidarum (Lowdermirk, L; Perry 2016). Nausea and vomiting in pregnancy affect the comfort of pregnant women because it can be related to the theory of comfort introduced by Katharine Kolcaba. Kolcaba explains that comfort is a holistic experience and provides strength when a person needs it which consists of three forms of comfort (Relief, Ease, and Transcendence) in four contexts (physical, psychospiritual, environmental and sociocultural) (Aligood; Martha Raile 2017).

If a pregnant woman feels nauseous every time she sees, smells, or tastes food that may potentially affect the fetus, it will cause the woman to experience vomiting so that the food and drink is expelled again. This causes inadequate nutritional intake for pregnant women and fetuses. Inadequate nutrition can threaten the life of pregnant women and fetuses. The fetus can experience abortion, low birth weight (LBW), premature birth and malformations in newborns, while in the mother it can result in electrolyte imbalance, carbohydrate and fat reserves are used up for energy purposes and dehydration (Iren P; Refiani R 2018).

Dehydration can result in an increase in blood viscosity (hemoconcentration) which can slow down blood circulation, which means that oxygen consumption to the tissues will cause tissue damage that can increase the severity of the condition of the fetus and pregnant women. Vomiting can also cause malnutrition in pregnant women which will damage the fetal brain development.

Vomiting that is more than ten times a day or continuous nausea that occurs during the last 20 weeks of pregnancy will continue to become *emesis gravidarum* so that the mother's body becomes weak, pale face, and the frequency of urination decreases drastically. Excessive nausea and vomiting also causes body fluids to decrease and hemoconcentration occurs which can slow blood circulation so that it can affect fetal growth and development.

The cause of nausea and vomiting in pregnant women is still not known for sure, but there are various things that are predisposing factors such as psychological factors and hormonal changes. Pregnant women with hysterical personality type and excessive dependence on mother tend to experience nausea and vomiting. Another influencing factor is the hormone progesterone and HCG which causes an increase in gastric motility and gastric acid, resulting in a nausea and vomiting reaction (Anasari T 2012).

According to the World Health Organization (WHO), which handles problems in the health sector, says that *emesis gravidarum* occurs throughout the world, including in the countries of the American continent with varying incidence rates. Meanwhile, the incidence of *emesis gravidarum* is also common in Asia, for example in Pakistan, Turkey and Malaysia. The incidence of *emesis gravidarum* in Indonesia is from 1% to 3% of all pregnancies. WHO estimates that every year 210

million pregnancies occur worldwide. All 20 million women experience pain as a result of pregnancy. Around 8 million experience life-threatening complications, and more than 500,000 died in 2015 as many as 240,000 of this number, almost 50% occurred in South and Southeast Asian countries, including Indonesia (Nur A 2018).

Based on research conducted in America, pregnancy has a major impact on the health of the nation. American women experience an average of 3.2 pregnancies over their lifetime, 1.8 of which are considered intended pregnancies. After observing 2,400 pregnant women in America, the results of the study found that 89% were known to experience various symptoms of morning sickness during the first trimester of pregnancy with the most common symptoms being nausea and vomiting (Madrid, A; Giovanolli 2018).

From the results of the Basic Health Research (RISKESDAS) in 2017 there were 14.1% of pregnant women with emesis gravidarum, namely pregnant women with Hb levels less than 11.0 grams/dl, with almost the same proportions in urban areas (35.5 %) and rural (38.5%) (Siti Cholifah TE 2017).

Based on research conducted by Dwi Rukma Santi in 2013 on the Effect of Aromatherapy Blended Peppermint and Ginger Oil on Nausea in First Trimester Pregnant Women showed ($p = 0.0001$). Which means that H_1 is accepted and H_0 is rejected, meaning that there is an effect of peppermint aromatherapy and ginger oil on nausea in first trimester pregnant women. Research by Fadhlani Purwandari on the Effectiveness of Lemon Aroma Therapy on Reducing Pain Scale in Post Laparotomy Patients ($p=0.000$) (Iren P; Refiani R 2018).

Treatment efforts for nausea and vomiting are grouped into pharmacological and non-pharmacological therapies. In pharmacological treatment there are several types of drugs, either singly or in combination, drugs commonly used include vitamins, antihistamines, anticholinergics, dopamine antagonists, phenothiazines, butyrophenones, serotonin antagonists and corticosteroids. Non-pharmacological therapy efforts include changing diet patterns, emotional support, acupressure. Acupuncture techniques, acupressure, hypnotherapy, ginger extract, lemon aromatherapy are among the non-pharmacological efforts to treat nausea and vomiting in pregnant women (Siti Cholifah TE 2017).

Most pregnant women still use pharmacological therapy. However, it is better if pregnant women are able to overcome the problem of nausea and vomiting in early pregnancy by using complementary non-pharmacological and complementary therapies first, because complementary therapies are non-instructive, inexpensive, simple, effective and without adverse side effects (Madrid, A; Giovanolli 2018).

Pharmacological therapy given between other vitamin B6 and antihistamines. Vitamin B6 which is safe for mother and fetus can be given in a dose of 100 mg every day and antihistamines have also been proven to be effective and safe which can be given if the symptoms experienced by pregnant women persist. According to the 2015 BPOM, long-term use of vitamin B6 can cause side effects when consumed in high doses and in the long term can cause nervous system problems. Antihistamines also have side effects which include headache, psychomotor disturbances, antimuscarinic effects such as urinary retention, dry mouth, blurred vision, and gastrointestinal disturbances (Aligood; Martha Raile 2017).

Aromatherapy is a therapeutic modality or alternative treatment using pure aromatherapy plant extracts in the form of volatile plant liquids and other aromatherapy compounds from plants. Aromatherapy can be used as a solution to overcome nausea and vomiting in pregnant women in the first trimester, namely lemon, ginger, lavender, and peppermint aromatherapy (Rahayu 2018). Aromatherapy has been studied for conditions such as nausea and vomiting. Aromatherapy that is effective in reducing nausea is lemon and ginger aromatherapy. Aromatherapy derived from fruits,

foods and spices tends to be very useful, especially if they evoke memories in individuals where they first enjoyed a good meal or felt comforted. Essential oils that are good for reducing nausea include lemon, rosewood, ginger, and peppermint (Siti Cholifah TE 2017). Several studies also support this, the study of Thomson, Corbin, and Leung (2014), recommending the use of aromatherapy oils as an effective intervention for nausea. In the study of Kia, Safajou, Shahnazi, and Nazemiyeh (2014), lemon aromatherapy was also recognized as an effective herbal treatment for nausea.

Lemon essential oil (citrus lemon) is one of the most widely used herbal oils in pregnancy and is considered a safe medicine in pregnancy. According to a study, 40% of women have used the scent of lemon to relieve nausea and vomiting, and 26.5% of them have reported it as an effective way to control symptoms of nausea and vomiting in the first trimester of pregnancy (Maternity D; Putri Ariska P; dan Sari D Y 2017).

While Ginger as a type of herbal plant has many advantages compared to other herbal plants, especially for pregnant women who are experiencing nausea and vomiting. The first advantage of ginger is that it contains flying oil (essential oil) which is refreshing and blocks the nausea and vomiting reflex (Rahayu 2018).

Program Marancar Health Center ynamely batra, toga, and herbal medicine programs for pregnant women or patients who visit the Puskesmas Program and get an understanding of the use of ginger and the doses taught to pregnant women. people prefer to drink traditional ingredients, ginger is cheap and easy to grow, ginger is one of the people's choices because it tastes fresh and warm. The number of pregnant women in the Marancar Health Center Working Area in 2021 is 157 people

Based on a preliminary survey conducted by researchers in the Marancar Health Center Working Area in 2021 on 10 first trimester pregnant women. From interviews conducted with pregnant women, the 2 pregnant women said 4-7 times/day. the mother said that they had difficulty taking this type of nausea and vomiting medicine, then there was a mother who said she did not want to take the drug, because every time the drug was put in her mouth, the mother immediately vomited it, so the pill was not consumed. and 1 mother no nausea and vomiting. Of the 7 mothers who experience nausea and vomiting, I give a little solution that reducing nausea and vomiting is not just a kind of medicine (pills). Based on the information obtained, it is known that people like to drink traditional herbs.

RESEARCH METHOD

This study is a research that uses parametric statistical analysis, namely the statistical section whose parameters from the population follow a certain distribution (Sugiyono, 2016). The research design uses a quasi-experimental design with a Two Group test approach, which is a technique to determine the effect before and after giving treatment (Sulistyawati 2017).

This research has been carried out in the Marancar Health Center Working Area in 2021. This research will be carried out in September - December 2021, namely starting to conduct library searches, thesis preparation, thesis seminars, research, data analysis and final report preparation.

The population in this study were all pregnant women in the Marancar Health Center Work Area in 2021 as many as 30 people. In this study, the sampling technique used is the method of taking the sample by using the total sampling method.

RESULT AND DISCUSSION

Results

Table 1. Distribution of Respondents based on the Ginger Decoction group in Nausea

Variable	Group Ginger Stew			
	Pre-Test		Post Test	
	f	%	f	%
Nauseous				
Light	0	0	9	60
Currently	11	73.3	6	40
Heavy	4	26.7	0	0
Vomit				
Light	0	0	10	66.7
Currently	11	73.3	5	33.3
Heavy	4	26.7	0	0
Total	15	100	15	100

Based on the table above, it shows that nausea that occurred in the pre-test group given ginger stew from 15 respondents (100%) before being given ginger boiled water treatment, there were 11 respondents (73.3%) who had moderate levels of nausea and 4 respondents (26,7%) which the level of nausea with severe conditions. Meanwhile, in the post-test group that was given ginger decoction from 15 respondents (100%) after being treated with ginger boiled water, there were 9 respondents (60%) who had mild levels of nausea and 6 respondents (40%) who had moderate levels of nausea. Vomiting that occurred in the pre test group given ginger stew from 15 respondents (100%) before being given ginger boiled water treatment, there were 11 respondents (73.3%) who had moderate levels of vomiting and 4 respondents (26.7%) who had moderate levels of vomiting. vomiting heavily.

Table 2. Distribution of Respondents based on groups given Lemon Inhalation Aromatherapy in Nausea

Variable	GroupLemon Inhalation Aromatherapy			
	Pre-Test		Pre-Test	
	f	f	f	f
Nauseous				
Light	0	0	11	73.3
Currently	11	73.3	4	26.7
Heavy	4	26.7	0	0
Vomit				
Light	0	0	12	80
Currently	9	60	3	20
Heavy	6	40	0	0
Total	15	100	15	100

Based on the table above, it shows that nausea that occurred in the pre-test group who was given lemon inhalation aromatherapy from 15 respondents (100%) before being given lemon inhalation aromatherapy treatment, there were 11 respondents (73.3%) who had moderate levels of nausea and 4 respondents (26.7%) had severe nausea. While in the post test group who were given lemon inhalation aromatherapy from 15 respondents (100%) after being given lemon inhalation aromatherapy treatment there were 11 respondents (73.3%) who had mild nausea and 4 respondents (26.7%) who moderate level of nausea. Vomiting that occurred in the pre-test group who was given lemon inhalation aromatherapy from 15 respondents (100%) before being given the lemon inhalation

aromatherapy treatment there were 9 respondents (60%) who had moderate levels of vomiting and 6 respondents (40%) who had vomiting rates. with weight. While in the post test group who were given lemon inhalation aromatherapy from 15 respondents (100%) after being given lemon inhalation aromatherapy treatment, there were 12 respondents (80%) who had a mild vomiting rate and 3 respondents (20%) whose vomiting rate was mild. currently.

Table 3. Normality Test Results

Group	Statistics	Sig.	Information
Pre Nausea (Ginger)	0.972	0.891	Normal
Post Nausea (Ginger)	0.931	0.282	Normal
Pre Vomit (Ginger)	0.906	0.119	Normal
Post Vomit (Ginger)	0.840	0.053	Normal
Pre Nausea (Lemon Inhalation)	0.919	0.183	Normal
Post Nausea (Lemon Inhalation)	0.925	0.230	Normal
Pre Vomiting (Lemon Inhalation)	0.918	0.181	Normal
Post Vomiting (Lemon Inhalation)	0.866	0.061	Normal

Based on the results of the normality test with the Shapiro Wilk test, the data results in the group pre test ginger boiled water in a state of nausea normally distributed as evidenced by the value of Sig. 0.891, in the group post test ginger boiled water in a state of nausea normally distributed as evidenced by the value of Sig. 0.282, and in the group Pre-test ginger boiled water in the state of vomiting data normally distributed as evidenced by the value of Sig. 0.119, and in the group Pre-test ginger boiled water in a state of vomiting normally distributed as evidenced by the value of Sig. 0.053 (> 0.05). While the results of the data in the group pre test aromatherapy lemon inhalation on nausea normally distributed as evidenced by the value of Sig. 0.183, in the group post test aromatherapy lemon inhalation on nausea normally distributed as evidenced by the value of Sig. 0.230, and in the group Pre-test aromatherapy lemon inhalation on vomiting data normally distributed as evidenced by the value of Sig. 0.181, and in the group Pre test aromatherapy lemon inhalation on vomiting normally distributed as evidenced by the value of Sig. 0.061 (> 0.05).

Table 4. Paired Samples Statistics

Category	mean	N	Std. Deviation	Std. Error Mean
Pre-Test Nausea Ginger Stew Group	8.93	15	2.187	0.565
Post Test of Ginger Decoction Nausea Group	4.60	15	1,502	0.388

The Paired Samples Statistics table shows the descriptive value of each variable. The Pre-Test has an average value (mean) of 8.93 from 15 data. The distribution of data (Std. Deviation) obtained is 2.187 with a standard error of 0.565. The Final Test has an average value (mean) of 4.60 from 15 data. The distribution of data (Std. Deviation) obtained is 1.502 with a standard error of 0.388.

This shows that the final test p has higher data than the initial test. However, the distribution range of the final test data is also getting wider and the standard error is getting higher.

Table 5. The Effect of Ginger Decoction on Crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021

Category	<i>Emesis Gravidarum</i>		p value
	mean	Std. Deviation	
Pre-Test Nausea Ginger Stew Group	4,333	1.345	0.000
Post Test of Vomiting Ginger Decoction Group	2,600	1,121	0.000

Based on the results of the Paired Sample T-Test above the results obtained in the group ginger stew on nausea with a p value of 0.000 <0.05, it can be concluded that there is a change in the occurrence of nausea for Pre-test with Post-test ginger decoction.

Based on the results of the Paired Sample T-Test above the results obtained in the group ginger decoction in vomiting with a p value of 0.000 <0.05, it can be concluded that there is a change in the occurrence of vomiting for Pre-test with Post-test ginger decoction.

Based on test results Paired Sample T-Test above it can be concluded that there is The Effect of Ginger Decoction on Crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021.

Table 6. The Effect of Giving Lemon Inhalation Aromatherapy to Crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021

Category	<i>Emesis Gravidarum</i>		p value
	mean	Std. Deviation	
Lemon Inhalation Group Nausea Pre Test	5.067	1,223	0.000
Lemon Inhalation Group Vomiting Post Test	3,400	0.828	0.000

Based on the results of the Paired Sample T-Test above the results obtained in the group aromatherapy lemon inhalation on nausea with a p value of 0.000 <0.05, it can be concluded that there is a change in the occurrence of nausea for Pre-test with Post-test lemon inhalation aromatherapy.

Based on the results of the Paired Sample T-Test above the results obtained in the group aromatherapy lemon inhalation on vomiting with a p value of 0.000 <0.05, it can be concluded that there is a change in the occurrence of vomiting for Pre-test with Post-test lemon inhalation aromatherapy.

Based on test results Paired Sample T-Test above it can be concluded that there is The Effect of Giving Lemon Inhalation Aromatherapy to Crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021.

Based on the Pre Test - Post Test data for the Ginger Decoction Group, the Mean data (4.333) was positive, meaning that there was a tendency to decrease nausea after the ginger decoction treatment. Based on the Pre Test - Post Test data for the Lemon Inhalation Nausea Group, the Mean data (5,067) was positive, meaning that there was a tendency to decrease nausea after the Lemon Inhalation treatment. Based on the average reduction, the most effective in overcoming nausea was the treatment with ginger decoction with an average value of 4.333.

Based on the data of Pre Test - Post Test of Vomiting of the Ginger Decoction Group, the Mean (2,600) data was positive, meaning that there was a tendency to decrease nausea after the treatment of ginger decoction. Based on the data of Pre Test - Post Test of Vomiting of the Lemon Inhalation Group, the data Mean (3,400) was positive, meaning that there was a tendency to decrease nausea after the treatment of giving Lemon Inhalation. Based on the average reduction, the most effective in overcoming vomiting was the treatment with ginger decoction with an average value of 2,600.

Table 7. Independent T Test T-Test

Variable	mean	SD	SE	P Value
Ginger Stew	3.63	1,586	.290	0.044
Lemon Inhalation	4.47	1,548	.283	

Based on the table above, it can be seen that the average value, standard deviation and standard error of nausea in giving ginger stew for each group. The average emesis gravidarum that occurred in the group given ginger decoction was 3.63 with a standard deviation of 1.586. As for the

emesis gravidarum that occurred in the group that was given lemon inhalation, it was 4.47 with a standard deviation of 1.548. The results of the statistical test obtained a value of p (sig) = 0.044, which means that there is a significant effect on the average incidence of emesis gravidarum in the group given ginger decoction and lemon inhalation.

Based on test results *Independent T-Test* above it can be concluded that there is *The Effect of Ginger Decoction and Lemon Inhalation on Crimeadian Emesis Gravidarum For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021*.

Discussion

The Effect of Ginger Decoction on Crimeadian Emesis Gravidarum For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021

Based on the results of the Paired Sample T-Test above the results obtained in the group ginger stew on nausea with a p value of $0.000 < 0.05$, it can be concluded that there is a change in the occurrence of nausea for Pre-test with Post-test gift ginger decoction. *HPaired Sample T-Test* results above the results obtained in the group ginger decoction in vomiting with a p value of $0.000 < 0.05$, it can be concluded that there is a change in the occurrence of vomiting for Pre-test with Post-test gift ginger decoction. While the results of the follow-up carried out using the *Independent T-Test* test obtained a sig value of $0.044 < 0.05$, which means there is *The Effect of Ginger Decoction and Lemon Inhalation on Crimeadian Emesis Gravidarum For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021*

Based on test results which has been done above it can be concluded that there is *The Effect of Ginger Decoction on Crimeadian Emesis Gravidarum For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021*.

The results of this study are in line with research conducted by Rahayu (2018) with the title *The Effectiveness of Giving Lavender and Ginger Aromatherapy to Decrease the Frequency of Nausea Vomiting in First Trimester Pregnant Women at BPM Trucuk Klaten*. The results of the study show *There is a significant difference between the mean intensity of nausea and vomiting before and after giving ginger aromatherapy with p value = 0.000 ($\alpha < 0.05$)*.

Pregnancy is a process of fertilization in order to continue the offspring that occurs naturally resulting in a fetus growing in the mother's womb. Pregnancy is from ovulation to parturition. The duration is 280 days (40 weeks) and not more than 300 days (43 weeks) (Prawirohardjo, 2016).

A common case of morning sickness is enough to interfere with adequate nutrition to harm a developing fetus (the term morning sickness is actually a misnomer because attacks of nausea usually occur in the morning, afternoon, or evening or, as in your case, it occurs throughout the day). even mothers who lose weight, during the first few months of pregnancy because they have a hard time suppressing food, also do no harm to their babies, as long as they compensate for the weight lost in the following months. And for most mothers, morning sickness symptoms do not last longer than the third month, although sometimes there are mothers who experience it until the second trimester, and some mothers, especially those carrying twins, can experience it throughout the nine months (Hedi, et al: 2016)

Treatment efforts for nausea and vomiting are grouped into pharmacological and non-pharmacological therapies. In pharmacological treatment there are several types of drugs, either singly or in combination, drugs commonly used include vitamins, antihistamines, anticholinergics, dopamine antagonists, phenothiazines, butyrophenones, serotonin antagonists and corticosteroids. Non-pharmacological therapy efforts include changing diet patterns, emotional support, acupressure. Acupuncture techniques, acupressure, hypnotherapy, ginger extract, lemon

aromatherapy are among the non-pharmacological efforts to treat nausea and vomiting in pregnant women (Siti Cholifah TE 2017)

Ginger is one of the techniques that can be used to treat nausea and vomiting, ginger is a type of medicinal plant commodity that is in high demand, both at home and abroad. Most of the ginger rhizome is used for food raw materials in the form of pickled ginger, ginger candy, and drinks or instant ginger. Almost all phytopharmaceutical drugs that are produced domestically use ginger as raw material, except as an additional ingredient for certain medicinal products, most of the ginger *simplicia* is used by the traditional medicine industry and small traditional medicine industries as herbal raw materials (Setyaningrum, 2016).

Ginger is a plant with a million properties that have been known for a long time. Ginger is an important spice. The rhizome has many uses, including as a spice for cooking, drinks, and sweets and is also used in traditional medicinal herbs. The first advantage of ginger is that it contains essential oils which have a refreshing effect and block the gag reflex, while gingerols can stimulate the blood and nerves to work properly. As a result, the tension can be melted, the head is fresh, nausea and vomiting are suppressed. The fragrant aroma of ginger is produced by essential oils, while its oleoresin causes a spicy taste that warms the body and makes sweating (Setyaningrum, 2016).

Ginger works by blocking serotonin receptors and causing anti-emetic effects on the gastrointestinal system and the central nervous system. The effect of ginger on the central nervous system was shown in animal experiments with gingerol, there was a decrease in the frequency of vomiting. Ginger is also a strong aromatic stimulant. Besides being able to control vomiting by increasing intestinal peristalsis. Several studies have shown that ginger has a beneficial effect on the prevention of cancer, nausea and vomiting during pregnancy, nausea and vomiting in chemotherapy patients, and nausea and vomiting after surgery (Setyaningrum, 2016).

Ginger drink is a preparation made from ginger and in the form of ginger drink for first trimester pregnant women who experience nausea and vomiting can reduce nausea and vomiting in mothers with *emesis gravidarum*. Ginger as one type of herbal soil has many advantages compared to other herbal plants, especially for pregnant women who are experiencing nausea and vomiting. The first advantage of ginger is that it contains flying oil (essential oil) which is refreshing and blocks the gag reflex (Rahayu 2018).

Giving ginger decoction is more effective than giving lemon inhalation therapy, so that ginger decoction is given priority in dealing with nausea and vomiting during pregnancy. Ginger decoction is a preparation made from ginger and in the form of ginger drink for first trimester pregnant women who experience nausea and vomiting can reduce nausea and vomiting in mothers with *emesis gravidarum*.

The Effect of Lemon Inhalation Aromatherapy on Crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021

Based on the results of the Paired Sample T-Test above the results obtained in the group aromatherapy lemon inhalation on nausea with a p value of $0.000 < 0.05$, it can be concluded that there is a change in the occurrence of nausea for Pre-test with Post-test gift Lemon Inhalation Aromatherapy. Test Results Paired Sample T-Test above the results obtained in the group aromatherapy lemon inhalation on vomiting with a p value of $0.000 < 0.05$, it can be concluded that there is a change in the occurrence of vomiting for Pre-test with Post-test gift Lemon Inhalation Aromatherapy.

Based on test results Paired Sample T-Test above it can be concluded that there is The Effect of Giving Lemon Inhalation Aromatherapy to Crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021.

The results of this study are in line with research conducted by Dwi Rukma Santi on the Effect of Aromatherapy Blended Peppermint and Ginger Oil on Nausea in First Trimester Pregnant Women ($p = 0.0001$). Which means that H_a is accepted and H_o is rejected, meaning that there is an influence of peppermint aromatherapy and ginger oil on nausea in first trimester pregnant women. Research by Fadhlani Purwandari on the Effectiveness of Lemon Aroma Therapy on Reducing Pain Scale in Post Laparotomy Patients ($p=0.000$) (Iren P; Refiani R 2018)

The results of this study are also in line with research conducted by Maternity (2017) with the title Lemon Inhalation Reduces Nausea and Vomiting in First Trimester Pregnant Women. Malahayati University. From the results of the study, it was found that the frequency of nausea and vomiting before being given inhalation of lemon aromatherapy obtained an average value of 24.67 and the frequency of nausea and vomiting after being given inhalation of lemon aromatherapy obtained an average of 17.87 (Maternity D; Putri Ariska P; dan Sari D Y 2017).

The gestation period starts from conception to the birth of the fetus. The length of normal pregnancy is 280 days (40 weeks or 9 months 7 days) calculated from the first day of the last menstruation (Saifuddin, 2015).

Nausea (nause) and vomiting (emesis gravidarum) are normal symptoms and are often found in the 1st trimester of pregnancy. Nausea usually occurs in the morning, but can occur at any time and at night. Emesis Gravidarum is a common complaint conveyed in early pregnancy. The occurrence of pregnancy causes hormonal changes in women because there is an increase in the hormones estrogen, progesterone, and the release of the placental chorionic gonadotropin hormone.

A common case of morning sickness is enough to interfere with adequate nutrition to harm a developing fetus (the name morning sickness is actually a misnomer because attacks of nausea usually occur in the morning, afternoon, or evening or as in your case, it occurs throughout the day) even mothers who lose weight, during the first few months of pregnancy because they have a hard time suppressing food, also do no harm to their babies, as long as they compensate for the weight lost in the following months. And for most mothers, morning sickness symptoms do not last longer than the third month, although sometimes there are mothers who experience it until the second trimester, and some mothers, especially those carrying twins, can experience it throughout the nine months.

In pharmacological treatment there are several types of drugs, either singly or in combination, drugs commonly used include vitamins, antihistamines, anticholinergics, dopamine antagonists, phenothiazines, butyrophenones, serotonin antagonists and corticosteroids. Non-pharmacological therapy efforts include changing diet patterns, emotional support, acupressure. Acupuncture techniques, acupressure, hypnotherapy, ginger extract, lemon aromatherapy are among the non-pharmacological efforts to treat nausea and vomiting in pregnant women (Siti Cholifah TE 2017).

Aromatherapy is a therapeutic modality or alternative treatment using pure aromatherapy plant extracts in the form of volatile plant liquids and other aromatherapy compounds from plants. (Rahayu 2018). Aromatherapy has been studied for conditions such as nausea and vomiting. Aromatherapy that is effective in reducing nausea is lemon and ginger aromatherapy. Aromatherapy derived from fruits, foods and spices tends to be very useful, especially if they evoke memories in individuals where they first enjoyed a good meal or felt comforted. Essential oils that are good for reducing nausea include lemon, rosewood, ginger, and peppermint (Aprilia 2016).

One of the aromatherapy that can reduce nausea and vomiting in pregnancy is lemon aromatherapy. Lemon aromatherapy provides various effects for the inhaler, such as calmness, freshness, and can even help pregnant women overcome nausea.

Lemon essential oil (citrus lemon) is one of the most widely used herbal oils in pregnancy and is considered a safe medicine in pregnancy. According to a study, 40% of women have used the scent of lemon to relieve nausea and vomiting, and 26.5% of them have reported it as an effective way to control symptoms of nausea and vomiting in the first trimester of pregnancy (Maternity D; Putri Ariska P; dan Sari D Y 2017).

Based on the research that researchers have done in the field, giving ginger decoction is more effective in reducing nausea and vomiting during pregnancy compared to giving lemon inhalation.

Giving lemon inhalation is not as effective as giving ginger decoction, so giving ginger decoction is prioritized in dealing with nausea and vomiting during pregnancy. Nonetheless lemon inhalation can reduce emesis gravidarum in first trimester pregnant women.

CONCLUSION

Based on the results of research that has been carried out and presented in the discussion in the previous chapter, it can be concluded that: 1) There is The Effect of Ginger Decoction on the Decrease of Crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021. 2) There is The effect of giving lemon inhalation aromatherapy on the reduction of crimeadian *Emesis Gravidarum* For First Trimester Pregnant Women in the Marancar Health Center Working Area in 2021. 3) Giving ginger decoction is effective in reducing the incidence of adian *emesis gravidarum* for pregnant women in the first trimester in the working area of the Marancar Health Center in 2021. 4) Giving lemon inhalation therapy is effective in reducing the incidence of adian *emesis gravidarum* in first trimester pregnant women in the working area of the Marancar Health Center in 2021. 5) There is a difference in the effectiveness of giving ginger stew with aromatherapy lemon inhalation therapy to reduce the incidence of cancer adian *emesis gravidarum* for pregnant women in the first trimester in the working area of the Marancar Health Center in 2021.

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