

THE EFFECT OF LEMON AROMA THERAPY ON HYPEREMESIS GRAVIDARUM IN FIRST TRIMESTER PREGNANT WOMEN AT THE TAPAN REGIONAL GENERAL HOSPITAL, PESISIR SELATAN REGENCY, INDONESIA

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Abstract

Pregnancy complications that often occur in pregnant women are excessive nausea and vomiting, but the cause is not yet known for certain. Based on this problem, fast and appropriate treatment is needed, one of which is giving lemon aromatherapy. The focus of the research is to see how lemon aromatherapy affects the symptoms of excessive nausea and vomiting in pregnant women. This type of research is analytical with a pre-experimental design by conducting before and after treatment. This research was conducted at the Regional General Hospital (RGH) Tapan, Pesisir Selatan Regency (Indonesia). The population and sample of the study were all pregnant women who experienced symptoms of nausea and vomiting in grade I as many as 15 pregnant women. The instrument of this research is to assess the Rhodes index. The data analysis used consisted of univariate and bivariate using dependent t-test (paired t-test). The data obtained were then processed with the help of the SPSS program. The results of the study found that the average frequency of vomiting before treatment was 2.00 (SD ± 0.000), while after being given the treatment it was -0.73 (SD ± 0.458). The results of the statistical test Dependent T-test (Paired T-Test) obtained a p-value (2-tailed) of 0.000 (α 0.05). There is a significant effect of giving lemon aromatherapy to pregnant women. Lemon therapy can be used as an alternative to reduce the frequency of excessive nausea and vomiting.

Keywords: Lemon Aromatherapy, Hyperemesis Gravidarum, Pregnant Women, First Handling.

INTRODUCTION

One of the complications of pregnancy is excessive nausea and vomiting that begins between 4-10 weeks of gestation in the first trimester and will disappear before 20 weeks of gestation. The exact cause of excessive nausea and vomiting is not known with certainty. Causes of nausea and vomiting include anxiety, depression, stress, heredity, infertility factors in women, metabolism, allergies, infections, and diet [1]

Nausea and vomiting in pregnant women do not only occur in Indonesia but also occur throughout the world, including in the United States with the percentage of incidence varying from 0.5 to 2%, as much as 0.3% in Sweden, 0.5% in California, 0.8% in Canada, 10.8% in China, 0.9% in Norway, 2.2% in Pakistan, and 1.9% in Turkey [2]. It is interesting to note that the incidence of pregnant women in Indonesia ranges from 1-3% of all pregnancies with a general incidence ratio of 4:1000. Based on data on visits by pregnant women in Indonesia in 2012, the percentage rate was around 14.8% of mothers experiencing nausea and vomiting in all pregnant women [3].

The impact of the incidence of nausea and vomiting in pregnant women include dehydration, impaired liver function, jaundice, bleeding in the liver parenchyma, and impaired general function of vital organs, causing death, psychologically, socially, and spiritually. However, the impact of this event not only threatens the lives of women,

but can also cause side effects on the fetus, such as abortion, low birth weight, premature birth, and malformations in newborns [4]. Providing treatment to pregnant women in the hope of reducing the risk of the impact of nausea and vomiting on pregnant women. Based on the opinion above, cases of nausea and vomiting also occur in West Sumatra, but the cause of the occurrence is not yet known with certainty. The incidence of nausea and vomiting in pregnant women based on 2011 data was 82 cases out of 626 pregnant women who were hospitalized, while in January 2012 there were 8 cases out of 43 pregnant women.

One method of treatment for pregnant women by using the smell of essential oils is called Aromatherapy. The aromatherapy in question is lemon aromatherapy, which is one type of aromatherapy that is safe for pregnant women during pregnancy and childbirth. Lemon aromatherapy contains ingredients that can kill meningococcal bacteria and typhoid bacteria. It has an antifungal effect, is effective for neutralizing unpleasant odors, and produces anti-anxiety, anti-depressant, anti-stress, and anti-inflammatory effects can focus the mind [5]. According to Maesaroh & Putri, this aromatherapy has been widely used by 40% of women to relieve nausea and vomiting, and 26.5% of them are reported to be effective for controlling nausea and vomiting symptoms in pregnant women [6].

Then the research conducted by Vitrianingsih & Khadijah (2019) the incidence of nausea and vomiting in pregnant women before giving lemon aromatherapy treatment was around 22.1% and after being treated there was a decrease in score to 19.8. It can be concluded that there is an effect of giving lemon aromatherapy [5]. Furthermore, in a study conducted by Dewi, & Safitri, (2018) there was an effect of giving lemon aromatherapy to pregnant women on excessive nausea and vomiting [7]. While Khayati (2013), nausea and vomiting in pregnant women decreased for four days using inhaled lemon aromatherapy [8]. Not only that Vitrianingsih & Khadijah (2019) the use of non-pharmacological treatment, namely lemon aromatherapy in pregnant women can relieve nausea and vomiting for around 40% of women, this can be said to be effective after being given treatment [5].

Based on the opinion above and the results of research conducted at RGH Tapan, Pesisir Selatan Regency through interviews with 6 pregnant women in the first trimester who were observed in the Emergency Room (IGD), it was found that all of them experienced excessive nausea and vomiting. The author is interested in conducting research on the effect of lemon aromatherapy on nausea and vomiting in first trimester pregnant women at RGH Tapan, Pesisir Selatan Regency..

METHOD

This research is analytical research with an experimental type, namely a research method used to determine the effect of a particular treatment on other treatments under controlled conditions. The research design used in this research is a pre-experiment with one group pre-post test design, where this type has a pre-test before treatment is given [9; 10; 11]. This research was conducted at RGH Tapan, Pesisir Selatan Regency. The research population was all pregnant women in the first trimester who experienced grade I hyperemesis gravidarum. The total sample was 15 pregnant women, the data were analyzed univariately and bivariately using the Paired Sample Test statistical test.

RESULTS AND DISCUSSION

Result

Univariate Analysis

Based on the research that has been done, it can be presented in the following table:

a. Average Frequency of Vomiting Before Giving Lemon Aroma Therapy

Table 1: Frequency of nausea and vomiting in pregnant women

	Max	Min	Mean	SD	N
Before giving lemon aromatherapy	2	2	2.00	0.000	15

Based on the Table 1 above, shows that from 15 respondents the average of excessive nausea and vomiting in pregnant women is around 2.00 (SD ± 0.000).

b. Average Frequency of Vomiting After Giving Lemon Aromatherapy

Table 2: Average frequency of vomiting after being given lemon aromatherapy

	Max	Min	Mean	SD	N
After giving lemon aromatherapy	3	2	-0.73	0.458	15

Based on Table 2, from 15 respondents, the average vomiting and nausea in pregnant women after being given treatment ranged from -0.73 (SD ± 0.458)

c. Difference in Average Frequency of Vomiting Before and After Giving Lemon Aromatherapy

Table 3: Differences in Average Frequency of Vomiting Before and After Giving Lemon Aroma Therapy

	Mean	N	Std. Deviation	Std. Error Mean
Before Giving Lemon Aroma Therapy	2.00	15	.000	.000
After Giving Lemon Aroma Therapy	2.73	15	.458	.118

Based on Table 3 from 15 respondents, the difference in the average nausea and vomiting of pregnant women before and after being given treatment ranged from 2.00 (SD ± 0.000) and 2.73 (SD ± 0.458).

Table 4: The Effect of Lemon Aroma Therapy on Hyperemesis Gravidarum in First Trimester Pregnant Women

	Mean	N	Std. Deviation	Std. Error Mean	Sig. (2-tailed)
Before and After Giving Lemon Aromatherapy	-0.73	15	0.458	0.118	0.000

Based on Table 4, the statistical test results of the Dependent T-test (Paired T-Test) obtained a p-value (2-tailed) of 0.000 (α 0.05). It can be interpreted that the hypothesis is accepted, therefore the effect of lemon aromatherapy on pregnant women who experience nausea and vomiting can be seen in the Rhodes index value compared to before lemon aromatherapy (2.00).

Discussion

Frequency of Vomiting Before Giving Lemon Aromatherapy

Nausea and vomiting in pregnant women the average frequency before being given lemon aromatherapy was around 2.00 (SD ± 0.000). In this study, pre-test all respondents to determine the level of nausea and vomiting before being given lemon

aromatherapy. Based on the findings, the level of nausea and vomiting experienced by every pregnant woman is different because every pregnant woman has their differences. This incident of nausea and vomiting can occur due to stress which will have a negative impact. By doing treatment before and after giving aroma therapy, it can be seen after 3 hours of observation.

Most of the respondents in this study were of healthy reproductive age (19-38 years) who experienced hyperemesis gravidarum. A person's age can affect excessive nausea and vomiting, the older a person is, the less often they experience nausea and vomiting. This can be because age makes a person more experienced in dealing with nausea and vomiting, while at a young age most are their first pregnancies so they have not been able to overcome it. Pregnant women at a young age have a higher index of nausea and vomiting compared to more mature mothers. Maternal age is a risk factor that is often associated with hyperemesis gravidarum because it is related to the psychological condition of pregnant women where the age of the mother is less than 20 years is not mentally and psychologically ready to undergo pregnancy. The results of a study conducted by Chortatos et al (2013) in Norway concluded that nausea and vomiting were more common in younger women [12], this is also in line with the study of Schachtman et al (2016) which stated that nausea and vomiting were more common in young women [13].

Many factors influence the incidence of hyperemesis gravidarum in pregnant women, where nausea and vomiting occur due to changes in the hormones estrogen and progesterone. Pregnant women who are primigravida or who are experiencing pregnancy for the first time can also affect excessive nausea and vomiting in the first trimester, pregnant women. This is because primigravida pregnant women do not have readiness both physically (receiving growth and development of the fetus in the womb) and psychologically In the face of changes during pregnancy, hyperemesis gravidarum often occurs in primigravida pregnant women [14]. Based on parity characteristics, there were 10 respondents (66.7%) with primigravida and 5 respondents (33.3%) with multigravida. Mothers with primiparous parity experienced more severe nausea and vomiting than mothers with more mature ages.

This is in line with the research conducted by Costantine et al (2012) which also stated that nausea and vomiting often occur in nulliparas [15]. All of the respondents involved said that the prevalence of nausea and vomiting was highest in the first trimester of pregnancy due to high levels of the hormone chorionic gonadotropin in early pregnancy.

The HCG hormone bypasses ovarian control in the pituitary causing the corpus luteum to continue to produce estrogen and progesterone thereby stimulating excessive nausea and vomiting. When pregnant women feel nauseous every time they see, smell, or taste food that has the potential to affect the fetus, it will cause the mother to experience vomiting so that the food and drink is expelled again. The impact of nausea and vomiting is very risky for the health of pregnant women and the fetus in the womb which causes discomfort, so that fast and appropriate treatment is needed to overcome these risks. Assessment of this incidence rate can be done using the Rhodes Index theory to measure symptoms of excessive nausea and vomiting in chemotherapy patients [16; 17]. Furthermore, there is a relationship between maternal parity and the incidence of hyperemesis gravidarum at Hasanuddin Damrah Manna Hospital South Bengkulu [18].

Frequency of Vomiting After Giving Lemon Aroma Therapy

After being given lemon aromatherapy treatment, a small number of respondents experienced moderate grade I hyperemesis gravidarum, namely as many as 4 respondents (26.7%), and most respondents experienced mild grade I hyperemesis gravidarum, namely as many as 11 respondents (73.3%). With an average frequency of -0.73 (SD \pm 0.458).

Researchers assume that being given lemon aromatherapy can reduce the frequency of excessive nausea and vomiting experienced by pregnant women with hyperemesis gravidarum grade I because lemon aromatherapy contains substances that can stabilize the nervous system so that it can have a calming effect for anyone who inhales it.

This treatment is one of the alternative techniques in medicine that uses the smell of essential oils. Lemon aromatherapy has been widely used by women to relieve nausea and vomiting and is effective in controlling symptoms of nausea and vomiting [6].

Frequency of Vomiting Before and After Giving Lemon Aroma Therapy

The average frequency of vomiting in pregnant women before and after being given lemon aromatherapy was 2.00 (SD \pm 0.000) and 2.73 (SD \pm 0.458). From these differences, it can be concluded that there is a decrease in excessive nausea and vomiting experienced by pregnant women before and after being given lemon aromatherapy.

In line with the research of Maesaroh, & Putri, (2019) with the title "Inhalation of Lemon Aromatherapy Reduces the Frequency of Nausea and Vomiting in Pregnant Women" [6]. Pre-experimental research design and one group pretest-posttest approach. The population in this study were all first-trimester pregnant women who experienced nausea and vomiting at the Karya Penggawa Community Health Center in Pesisir Barat Regency in 2018. The sampling technique was accidental sampling. Bivariate analysis using Dependent T-test. The results showed that the average frequency of nausea and vomiting in pregnant women before and after inhalation of lemon aromatherapy was 17.12 times (SD \pm 1.764) and 12.16 times (SD \pm 1.908).

The Effect of Lemon Aroma Therapy on Hyperemesis Garvidarum in Pregnant Women

The effect of giving lemon aromatherapy in overcoming excessive nausea and vomiting in pregnant women in the first trimester before and after being given lemon aromatherapy was -0.73 (SD \pm 0.458). This means that the hypothesis is accepted, that there is an effect of lemon aromatherapy on hyperemesis gravidarum in first trimester pregnant women at Tapan Hospital, Pesisir Selatan Regency in 2021. Incidence in first trimester pregnant women, by doing lemon aromatherapy can reduce nausea and vomiting. Stage 1 pregnancy is usually still mild and is a condition that can be controlled according to the condition of the pregnant woman. However, if not treated immediately, it will get worse into excessive nausea and vomiting stages 2 and 3. By giving lemon aromatherapy, it can calm the central nervous system in pregnant women so that it can reduce the impact of excessive nausea and vomiting.

Giving lemon aromatherapy is one of the complementary therapies that has a significant effect on reducing the frequency of nausea and vomiting in pregnant women who experience it [17]. Lemon aromatherapy has been reported as an effective way

to control symptoms of nausea and vomiting. Differences in the frequency of nausea and vomiting in pregnant women can be caused by differences in responses to nausea and vomiting, every mother with the first gravida will experience higher nausea and vomiting than mothers with more than one gravida, because mothers with the first gravida will be more sensitive in smelling food, thus causing nausea and vomiting.

Lemon oil is useful for treating digestive problems, relieving nausea, and joint pain in rheumatic and gout conditions, lowering high blood pressure and helping reduce headaches. In addition, lemon essential oil is one of the most widely used herbs in pregnancy and is considered a safe medicine in pregnancy.

The type of aromatherapy that can be used to treat pain and anxiety in pregnant women is lemon aromatherapy. The substance contained in lemon is one linalool which is useful for stabilizing the nervous system so that it can provide a calming effect for anyone who inhales it. Lemon essential oil is one of the most widely used herbal oils as a safe medicine for pregnancy.

How it's done when essential oils are inhaled, volatile molecules carry the aromatic elements present in the oil to the top of the nose. The vibrating hair contained in it, which functions as a receptor, will convey electrochemical messages to the central nervous system and will activate a person's emotional and memory centers which will then relay messages back to the entire body through the circulatory system which will become one action with the release of neurochemical substances in the form of feeling happy, relaxed, calm, or aroused and causes physical and mental changes in a person so that it can reduce nausea and vomiting [19].

In line with research conducted by Vitrianingsih & Khadijah, (2019) there is an effect of giving lemon aromatherapy with a decrease in nausea and vomiting in pregnant women [5]. Similar research by Dewi & Safitri, (2018) on the effect of giving lemon aromatherapy on emesis Gravidarum [7].

After giving lemon aromatherapy there were several changes in the respondents, this study showed that the decrease in hyperemesis gravidarum in each respondent varied greatly, this is closely related to the factors that influence hyperemesis gravidarum brought by respondents both from themselves and the environment. However, judging from the changes in the effect of giving lemon aromatherapy, the results showed good changes even though only slight changes were obtained because the observations were only 3 hours [20; 21].

Pregnant women should be able to adapt to the nausea and vomiting they experience so that they do not continue to become hyperemesis gravidarum because if there is hyperemesis gravidarum, treatment will be more [22]. After all, not all pregnant women with hyperemesis gravidarum can be treated only with non-pharmacological therapy such as one of their aromatherapy.

Lemon because every pain threshold and the physical and psychological state of every pregnant woman is different. There are pregnant women with grade I hyperemesis gravidarum who can be treated with non-pharmacological therapy such as aromatherapy and others, but there are also found pregnant women with grade I hyperemesis gravidarum who cannot be treated with non-pharmacological therapy alone.

CONCLUSION

Giving lemon aromatherapy is an effective complementary therapy to reduce the frequency of nausea and vomiting in pregnant women. Before giving lemon aromatherapy, it was 2.00 (SD ± 0.000). After being given lemon aromatherapy was 0.73 (SD ± 0.458). The difference in the average frequency of nausea and vomiting in first-trimester pregnant women before and after being given lemon aromatherapy was 2.00 (SD ± 0.000) and 2.73 (SD ± 0.458). The results of the statistical test Dependent T-test (Paired T-Test) obtained a p-value (2-tailed) of 0.000 (α 0.05). This means that the hypothesis is accepted, there is an effect of lemon aromatherapy on hyperemesis gravidarum in first trimester pregnant women at Tapan Hospital, Pesisir Selatan Regency in 2021. Lemon aromatherapy can reduce the Rhodes index value (1.00). Before doing medical or conventional therapy in cases of excessive nausea and vomiting in pregnant women. It would be nice to apply lemon aromatherapy therapy, and for that it is necessary to socialize and apply this lemon aromatherapy therapy to pregnant women, who experience cases of excessive nausea and vomiting.

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