



THE EFFECTIVENESS OF A COMBINATION OF LEMON (CITRUS) AROMATHERAPY AND ACUPRESSURE MASSAGE IN REDUCING EMESIS GRAVIDARUM IN PREGNANT WOMEN

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ABSTRACT

Nausea and vomiting in pregnant women (emesis gravidarum) occurs in 60-80% of primigravidas and 40-60% of multigravidas. Emesis gravidarum if not treated immediately will develop into hyperemesis and can result in impaired fetal growth, the fetus dies in the womb and the fetus may experience congenital abnormalities. One of the therapies that is safe and can be given to pregnant women who experience emesis gravidarum is by giving lemon aromatherapy and acupressure massage. Objective to determine the effectiveness of a combination of lemon (citrus) aromatherapy and acupressure massage in reducing emesis gravidarum in pregnant women. The research design used an experimental method with a one group pretest-posttest design. The independent variable is a combination of lemon aromatherapy and acupressure massage, the dependent variable is emesis gravidarum. The sampling technique used a purposive sampling technique, a sample of 10 first trimester pregnant women. The research instrument used lemon aromatherapy media, acupressure massage action schedule sheet, and Pregnancy Unique Quantification of Emesis (PUQE-24). The data analysis used is the t-test. The average incidence of emesis gravidarum before being given therapy was 9.3 (moderate degree category), the average incidence of emesis gravidarum after being given therapy was 5.5 (mild degree category). The results of the analysis using the t-test, the p-value < α , namely $0.000 < 0.05$, which means that there is an effect of giving a combination of lemon (citrus) aromatherapy and acupressure massage to reducing emesis gravidarum. The combination of lemon (citrus) aromatherapy and acupressure massage is effective in reducing emesis gravidarum in first trimester pregnant women.

Keywords: acupressure massage; emesis gravidarum; lemon aromatherapy

First Received 22 March 2024	Revised 28 March 2024	Accepted 17 April 2024
Final Proof Received 19 April 2024	Published 01 June 2024	
How to cite (in APA style) Ifalahma, D., Yuliana, A., Rahayuningrum, I. O., & Asri, N. K. H. (2024). The Effectiveness of A Combination of Lemon (Citrus) Aromatherapy and Acupressure Massage in Reducing Emesis Gravidarum in Pregnant Women. <i>Indonesian Journal of Global Health Research</i> , 6(3), 1549-1556. https://doi.org/10.37287/ijghr.v6i3.3162 .		

INTRODUCTION

The incidence of nausea and vomiting in pregnant women (emesis gravidarum) is 60-80% for primigravidas and 40-60% for multigravidas. One hundred out of a thousand pregnancies, this symptom becomes more severe. Feelings of nausea are caused by increased levels of the hormones estrogen and HCG (Human Chorionic Gonadotropin) in serum. The physiological effect of this increase in hormones is not clear, perhaps due to reduced central nervous system or gastric emptying, causing nausea and vomiting in pregnant women. Nausea and vomiting in pregnancy is often called morning sickness or nausea and vomiting in the morning, which

is often experienced by about 70-80% of pregnant women, which is one of the phenomena that occurs during pregnancy 4-11 weeks (Retnowati, 2019).

Nausea and vomiting during pregnancy has a significant impact on pregnant women, the ability to carry out daily activities, social functioning and the development of stressful situations and causes other symptoms such as fatigue in pregnant women, nutritional disorders, dehydration, weakness, weight loss, and imbalance electrolyte. Meanwhile, as many as 2% end up with excessive nausea and vomiting which can interfere with the condition of the mother and fetus. Emesis gravidarum if not treated immediately will develop into hyperemesis and can result in impaired fetal growth, the fetus dies in the womb and the fetus may experience congenital abnormalities. The impact of hyperemesis gravidarum is dehydration which causes decreased oxygen (O₂) consumption, impaired liver function and jaundice occurs, bleeding occurs in the liver parenchyma, causing general function disorders of vital organs and causing death (Tiran, 2017). Nausea and vomiting can be treated pharmacologically by giving drugs to reduce nausea and vomiting, such as anti-emetic drugs or vitamin B₆, but these drugs have side effects, including headaches, diarrhea and drowsiness. Other treatments that can be given are non-pharmacological or complementary therapies which have the advantage of being cheaper and do not have pharmacological effects, one of the safe therapies and can be given to pregnant women who experience nausea and vomiting by giving lemon aromatherapy and acupressure massage (Latifah & Setiawati, 2017).

One of the aromatherapy used to reduce emesis gravidarum during pregnancy is lemon aromatherapy. Limonene is the main ingredient found in lemon essential oil which has mental, stimulating, antirheumatic, antispasmodic, hypotensive, antistress and sedative benefits. Forty percent (40%) of women have used lemon scent to relieve emesis gravidarum and 26.5% have reported it as an effective way to control nausea and vomiting symptoms. Lemon aromatherapy is a type of aromatherapy that is safe for pregnancy and childbirth lemon essential oil is the most widely used herbal oil and is considered a safe medicine in pregnancy (Vitrianingsih & Khadijah, 2019).

Efforts to reduce the frequency of vomiting can also be given actions such as complementary acupressure therapy. Acupressure is a method of massage based on the science of acupuncture or it can also be called acupuncture without needles. Acupressure therapy is one of the non-pharmacological therapies in the form of massage therapy at certain meridian points related to internal organs to treat nausea and vomiting. This therapy does not include drugs or invasive procedures but activates the cells in the body, so this therapy does not have side effects like drugs and does not require high costs. In principle, acupressure therapy is the same as massage, so it does not require special skills, unlike acupuncture, which requires training. Acupressure therapy for nausea and vomiting is done by pressing manually on the Pericardium 6/Pericardium 6 (Neiguan) in the area of the three fingers below the wrist (Agussalim et al, 2023).

Intervention of lemon aromatherapy to reduce emesis gravidarum in pregnant women has been studied with the results of handling emesis gravidarum with lemon aromatherapy in pregnant women using 2 inhalation methods, namely the simple inhalation method using tissue or cotton and the inhalation method with electricity. The results of this study have a positive impact on pregnant women who experience emesis gravidarum, there are differences in the degree of nausea and vomiting in pregnant women before and after being given lemon

aromatherapy intervention. The use of lemon aromatherapy is effective in reducing emesis gravidarum in pregnant women (Aprilitah, 2022).

Acupressure massage intervention to reduce emesis gravidarum in pregnant women has been studied with the results that acupressure therapy can be applied as a non-pharmacological therapy to reduce the frequency of nausea and vomiting in pregnancy (Retno, 2023). Research on ways to reduce nausea and vomiting using other methods has also been studied, namely the effectiveness of herbal ginger drinks to reduce nausea and vomiting in pregnant women. The results of research on herbal ginger drinks can be used to reduce nausea and vomiting in pregnant women, but side effects are still found for pregnant women such as a hot and spicy taste in the throat (Yuliana et al, 2022). Further research is needed using safer, more comfortable and effective methods such as a combination of lemon aromatherapy and acupressure massage.

The method of combining lemon aromatherapy and acupressure massage is carried out by considering the health of pregnant women and the fetus in the womb. The use of lemon gives a sense of comfort and acupressure massage is safe for pregnant women because it is a massage therapy without needles. This study was conducted to test the effectiveness of a combination of lemon (citrus) aromatherapy and acupressure massage on reducing emesis gravidarum in pregnant women. The formulation of the problem is how effective is the combination therapy of lemon (citrus) aromatherapy and acupressure massage on reducing the frequency of emesis gravidarum in pregnant women? The aim of the study was to determine the effectiveness of a combination of lemon (citrus) aromatherapy and acupressure massage in reducing emesis gravidarum in pregnant women.

METHOD

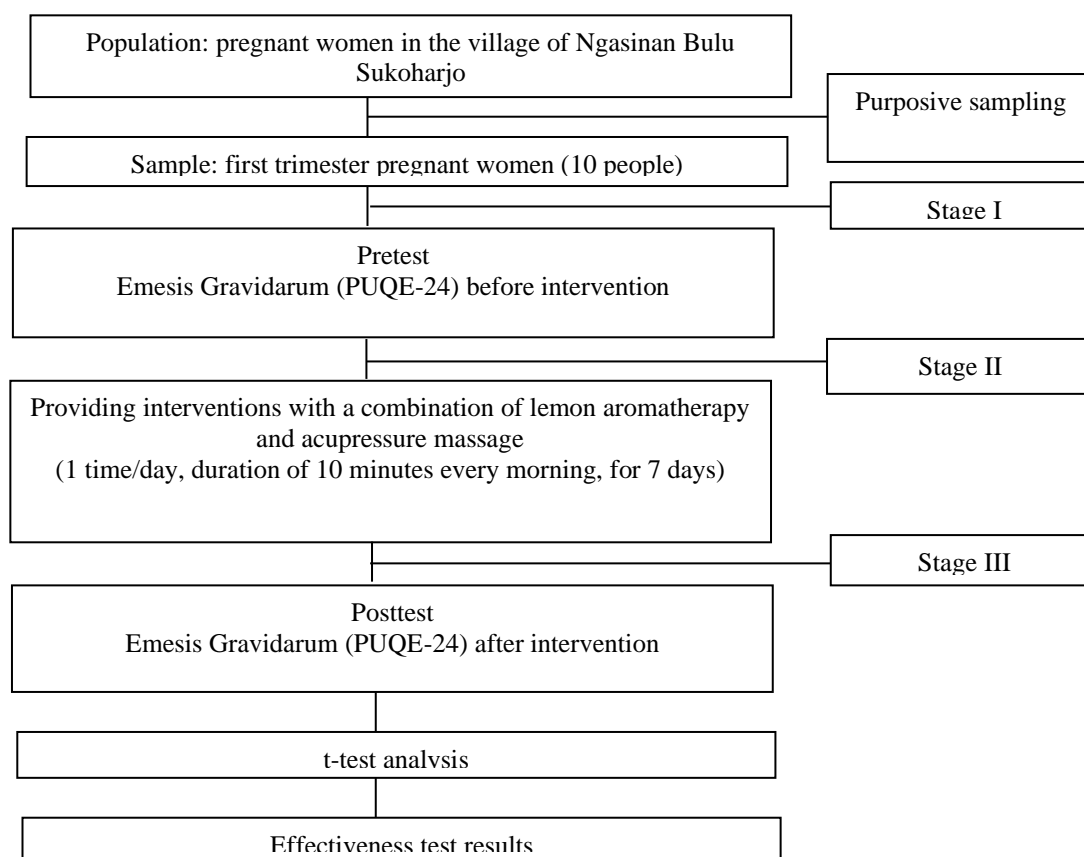


Figure 1. Flowchart of the research method

The research design used an experimental method with a one group pretest-posttest design. The independent variable is a combination of lemon aromatherapy and acupressure massage, the dependent variable is emesis gravidarum. The sampling technique was a purposive sampling technique, a sample of 10 first trimester pregnant women. The instrument used lemon aromatherapy media, acupressure massage action schedule sheet, and Pregnancy Unique Quantification of Emesis (PUQE-24) (Birkeland et al, 2015). PUQE-24 is a scoring system to measure the severity of nausea and vomiting of pregnancy in 24 hours. The PUQE score for each patient was calculated using three criteria, namely the number of hours feeling nausea, the number of episodes of vomiting, and the number of episodes of dry vomiting in the last 24 hours (Jha & Shrivastava, 2023). The stages of the research were stage I pretest before being given the intervention, stage II was giving the intervention of a combination of lemon aromatherapy and acupressure massage with a frequency of 1 time a day for 10 minutes every morning for 7 days, stage III was the posttest after the intervention. The data analysis used is the t-test.

RESULTS

Table 1.
Frequency of Emesis Gravidarum Based on Assessment of PUQE-24 Score in First Trimester Pregnant Women

Emesis Gravidarum	f	%
Mild degree	3	30
Moderate degree	7	70
Severe degree	0	0

Table 1, it is known that out of 10 pregnant women in the 1st trimester, 7 pregnant women had moderate emesis gravidarum, 3 pregnant women had mild emesis gravidarum and no pregnant women had severe emesis gravidarum.

Table 2.
Average Frequency of Emesis Gravidarum Before and After Giving Lemon (Citrus) Aromatherapy Combination Therapy and Acupressure Massage

Emesis Gravidarum	Mean	Standard Deviation	Min	Max
Before treatment	9.3	1.3	7	12
After treatment	5.5	1.2	3	11

Table 2, it is known that the average incidence of Emesis Gravidarum before being given therapy is 9.3 with a minimum value of 7 and a maximum value of 12, the average incidence of Emesis Gravidarum after being given therapy is 5.5 with a minimum value of 3 and a maximum value of 11.

Table 3.
The Effectiveness of Giving Lemon (Citrus) Aromatherapy Combination Therapy and Acupressure Massage on Reducing Emesis Gravidarum in First Trimester Pregnant Women

Emesis Gravidarum	N	Mean difference	SD	t-test	p-value
Before and after being given treatment	10	3.750	1.030	16.558	0,000

Table 3 it is known that the results of the analysis with the t-test value of p-value $< \alpha$, namely $0.000 < 0.05$, it can be interpreted that there is an effect of giving a combination of lemon aromatherapy (Citrus) therapy and acupressure massage to reducing emesis gravidarum in first trimester pregnant women in in the village of Ngasinan Bulu, Sukoharjo.

DISCUSSION

The results of the study revealed that out of 10 first trimester pregnant women in Ngasinan Bulu Sukoharjo village who had emesis gravidarum, most of them had moderate degrees of emesis gravidarum. The incidence of Emesis Gravidarum is said to be of moderate degree if the Pregnancy Unique Quantification of Emesis (PUQE-24) assessment obtains a value of 7-12. PUQE-24 is a scoring system to measure the severity of nausea and vomiting of pregnancy in 24 hours. The PUQE-24 score for each patient was calculated using three criteria to assess the severity of nausea and vomiting during pregnancy (number of hours of nausea, number of episodes of vomiting, and number of episodes of dry vomiting in the last 24 hours). The interpretation of the PUQE-24 score for assessing nausea and vomiting during pregnancy is mild (score 3-6), moderate (score 7-12) and severe (score > 13). If the value is >13, it means that the pregnant woman has experienced hyperemesis gravidarum and requires treatment (Hada et al, 2021).

Factors that influence the incidence of emesis gravidarum in pregnant women are associated with psychological factors that can exacerbate existing symptoms or reduce the ability to cope with normal symptoms. Emesis gravidarum is also related to the level of the hormone HCG (Human Chorionic Gonadotropin) which stimulates the production of estrogen in the ovaries. Increased estrogen can trigger an increase in stomach acidity which makes the mother feel nauseous and vomit (Rorrong, Wantania & Lumentut, 2021). In addition to hormonal changes, emesis gravidarum is caused by many factors including parity factors, age factors, occupational factors, nutritional factors, psychological factors, family support factors and obesity factors (Fauziah, Komalasari & Sari, 2022). Analytical research has been carried out with the results of 90 respondents having an age at risk of 70%, multigravida 62.2%, working 51.1%, not stressed 56.7%. There is a significant relationship between age, work and stress with emesis gravidarum. The most dominant variable is occupation (Rudiyanti & Rosmadewi, 2019).

This study compared the incidence of emesis gravidarum before and after giving combination therapy of lemon (citrus) aromatherapy and acupressure massage. The results showed that the average incidence of emesis gravidarum before being given therapy was 9.3 with a minimum score of 7 and a maximum score of 12, the average incidence of emesis gravidarum after being given therapy was 5.5 with a minimum score of 3 and a maximum score of 11. PUQE-24 assessment before administration of therapy the average incidence of emesis gravidarum was in the category of moderate degrees, after administration of therapy the average incidence of emesis gravidarum was in the category of mild degrees. This shows that giving combination therapy of lemon (citrus) aromatherapy and acupressure massage can reduce the frequency of nausea and vomiting (emesis gravidarum).

A non-pharmacological alternative for nausea and vomiting during pregnancy is using lemon aromatherapy which is safe to use during pregnancy and childbirth (Jannah, Rahmawati & Lestari, 2021). A case study was conducted which aimed to find out the management of lemon aromatherapy to reduce emesis gravidarum in first trimester pregnant women. This care method is carried out for pregnant women who experience emesis gravidarum by inhaling the aroma of lemon therapy dripped into a tissue. The results showed that the average nausea and vomiting scale before care was 9 and after giving lemon aromatherapy was 3.2 so it was concluded that lemon aromatherapy was proven to be effective in reducing emesis gravidarum in first trimester pregnant women (Damayanti et al, 2022). Other research that has been done with the results of pregnant women who experienced hyperemesis having a lower score than before acupressure massage therapy was carried out with an analytical test showing

that there was an effect of acupressure massage in reducing hyperemesis in pregnancy (Rahmanindar, Zulfiana & Harnawati, 2021).

The results of the study using the t-test analysis show that the p-value $< \alpha$ is $0.000 < 0.05$, so it can be interpreted that there is an effect of giving a combination of lemon (citrus) aromatherapy and acupressure massage to reducing emesis gravidarum in first trimester pregnant women in Ngasinan village Feather Sukoharjo. Lemon aromatherapy has ingredients that can kill meningococcal bacteria (meningococcus), typhus bacteria, have an antifungal effect and are effective in neutralizing unpleasant odors, as well as producing anti-anxiety, anti-depressant, anti-stress, and to elevate and focus the mind. The use of lemon aromatherapy is effective for reducing nausea and vomiting in pregnant women (Susiloningtyas et al, 2021). Research has been conducted, it was found that giving lemon aromatherapy inhalation was effective in reducing the frequency of nausea and vomiting in pregnant women with a decrease of 4.86 times the frequency of nausea and vomiting. Inhalation of the aroma of lemon therapy is a part that can be applied as a complementary therapy to reduce the frequency of nausea and vomiting in caring for pregnant women (Maesaroh & Putri, 2019).

Research has been conducted on the differences in the effect of acupressure and vitamin B6 on reducing the intensity of nausea and vomiting in emesis gravidarum. It was found that acupressure was more effective than vitamin B6 in treating nausea and vomiting in pregnant women with severe hyperemesis gravidarum (Masdinarsyah, 2022). Similar studies have been conducted with the result that there is an effect of giving pericardium 6 point acupressure on nausea and vomiting in pregnant women. Acupressure stimulates the regulatory system and activates endocrine and neurological mechanisms, by stimulating the work of the hypothalamus to release endorphins which give a feeling of relaxation (Mariza & Ayuningtias, 2019).

Non-pharmacological treatment of nausea and vomiting in pregnancy is quite effective for pregnant women to do independently and does not cause side effects compared to pharmacological methods. Non-pharmacological treatment is carried out by not including drugs or invasive procedures but by activating the cells in the body, so this therapy does not have side effects like drugs and does not require expensive costs (Nugraha Aet al, 2022).

CONCLUSION

The combination of lemon (citrus) aromatherapy and acupressure massage is effective in reducing emesis gravidarum in first trimester pregnant women in Ngasinan Bulu village, Sukoharjo. Pregnant women with emesis gravidarum are advised to continue to meet balanced nutritional needs to support the growth and well-being of the fetus in the womb.

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