

Research Article

The Effect of Giving Honey Lime Juice (*Citrus Aurantifolia*) to Nausea Vomiting in Pregnant Women with Emesis Gravidarum (In Murung Pudak Puskesmas Tabalong Regency South Kalimantan)

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Abstract: Pregnancy is a natural process that many women undergo, but it is often accompanied by discomfort during antenatal visits. One of the most common symptoms during pregnancy is nausea and vomiting, known as emesis gravidarum, which typically occurs in the first trimester. Various natural remedies, such as lime extract, are believed to alleviate these symptoms. Lime, rich in essential limonin, linalool, and flavonoids, offers benefits for pregnant women by potentially relieving nausea and vomiting. Additionally, honey, when consumed during pregnancy, can support overall health and immunity. This study aims to investigate the effect of honey-lime juice (*Citrus aurantifolia*) on nausea and vomiting in pregnant women with emesis gravidarum at Puskesmas Murung Pudak, Tabalong Regency, South Kalimantan. The research design used a pre-experimental approach with a one-group pre-test post-test method. The intervention was administered for four consecutive days, during which the frequency of nausea and vomiting was measured on the first and fourth days. A purposive sampling technique was applied to select 30 pregnant women as participants. Data were collected through observation using the PUQE (Pregnancy-Unique Quantification of Emesis and Nausea) scoring system. The analysis was conducted using the Paired T-Test, which resulted in a p-value of 0.000, indicating a significant effect with a confidence level of $\alpha = 0.05$. Therefore, it can be concluded that there is a significant effect of giving honey-lime juice in reducing nausea and vomiting in pregnant women with emesis gravidarum. This finding suggests that honey-lime juice could be an effective natural remedy to alleviate pregnancy-related nausea and vomiting, offering a promising alternative for managing this common pregnancy symptom.

Keywords: Emesis Gravidarum; Honey Lime; Pregnancy

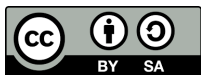
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1. Introduction

Pregnancy is a normal process for women. However, he may reveal that he feels pain on antenatal examination. Most of these problems are common problems. As a midwife, it is very important to be able to identify the discomfort that often occurs during pregnancy. Although many of the frequent discomforts of pregnancy are harmless, they can still bother the mother. You need to be able to provide obstetric care to address these issues, as this is part of your job as a midwife. Nausea and vomiting are two uncomfortable symptoms that women face during pregnancy. Discomfort is a sensation that is uncomfortable or unpleasant for the physical or mental condition of the expectant mother. Pregnancy is a normal process that occurs in women and produces a number of changes and pain (Muzayyana et al., 2023).

It is common for women to experience vomiting during pregnancy, especially in the first trimester. Another characteristic symptom of early pregnancy is vomiting. These symptoms last for about ten weeks and begin about six weeks after the first

day of your last period. It is caused by hormonal changes in pregnant women, including increased progesterone and chorionic gonadotropin (HCG), which increase motility within the stomach, esophagus, and small intestine and cause nausea. These hormones are considered to be the cause of emesis gravidarum. In addition, nausea and vomiting may be symptoms of vitamin B6 deficiency (Nurwiyani, Hidayani, 2024).

The first Trimester of pregnancy is generally when nausea and vomiting (sometimes called emesis gravidarum) occur. Nausea occurs less than five times and usually occurs in the morning. However, nausea can occur at any time of the day or night. This symptom lasts for about ten weeks and begins six weeks after the first day of the previous menstrual cycle (Rahmatika Arini, Purnama Eka Sari, Wenny Indah Andini, 2023).

60-80% of primigravids and 40-60% of multigravids have nausea and vomiting. In one hundred out of every thousand pregnancies, these symptoms worsen. The feeling of nausea is caused by increased levels of estrogen and hCG in the blood. What physiological effects this increase will have is still unclear. Pregnant women may experience nausea and vomiting due to reduced gastric emptying or problems in the central nervous system (Rahayu & Sugita, 2018).

The World Health Organization or WHO reports that the incidence rate of emesis gravidarum fluctuates over a five-year period, with 124,348 pregnant women experiencing the condition in 2018, 137,731 pregnant women in 2019, 142,488 pregnant women in 2020, 148,435 pregnant women in 2021, and 152,376 pregnant women in 2022. (Mailinda & Futriani, 2024).

In the province of South Kalimantan, emesis gravidarum affects 50-90% of pregnancies, and the rate at which emesis develops into emesis is about 10.6 per 1,000 pregnancies. Nausea and vomiting in pregnancy can be reduced by complementary therapies such as aromatherapy (Muntianah et al., 2023).

Chronic nausea and vomiting during pregnancy can lead to dehydration and weight loss in the expectant mother. Both the pregnant woman and the baby can be injured as a result of this, and both can even die, if they do not receive prompt and adequate treatment. Pregnant women can experience emesis gravidarum for various reasons. Decreased appetite is one of the effects, which can lead to changes in the body's metabolism and irregularities in the balance of electrolytes, namely potassium, calcium and sodium. Low birth weight, stunted growth and development, and other problems can result from the inability of the fetus to get the nutrients and water it needs. Pregnancy-related nausea and vomiting can be treated using pharmaceutical, non-pharmacological, or complementary methods (Aninditya Azis et al., 2024).

Medication is often one of the most accessible treatments for emesis gravidarum, while there are also other approaches. However, it is very important to remember that these drugs may have a teratogenic effect, which can alter the development of the fetus in the early stages of pregnancy. Many pregnant women seek alternative or traditional medicine as a therapeutic option because of the potential for birth abnormalities caused by drugs. Plants that have been shown in the literature to be beneficial for reducing nausea and vomiting associated with pregnancy include ginger, chamomile, raspberry leaf, peppermint, and lime extract (Sari Lubis et al., 2024).

It is very useful for pregnant women to consume lime. Along with N-methylamine, lime also contains flavonoids such as poncirin, hesperidin, rhoifolin, maringin, and synephrine, as well as important chemicals such as limonin and linalool. Limonene, linalyl acetate, geranyl acetate, citral phellandrene, and citric acid 5 are some of the beneficial chemical compounds found in lime. Lime flavonoids have the potential to increase bile production, which neutralizes “digestive juices and reduces nausea (Aninditya Azis et al., 2024).

Lime contains flavonoids that can increase the production of digestive juices, acids, and bile. These flavonoids help detoxify the body and help balance acidic digestive acids. One of the other treatments that can help pregnant women in the first trimester of their pregnancy who have nausea and vomiting is honey. Many minerals contained in honey are beneficial to the body. Pyridoxine, which acts as a receptor antagonist, is found in honey. In addition to providing a high intake of nutrients for fetal growth in the womb, honey consumption can help maintain health and endurance during pregnancy (Lubis & Abilowo, 2023).

Honey is a source of various essential minerals that are good for the body. Honey also contains pyridoxine (vitamin B6), which acts as a receptor antagonist. Honey has additional benefits, such as supporting stamina and health during pregnancy and contributing positively to the intake of nutrients that are important for fetal development in the womb. The known sweetness of honey is due to the presence in it of the monosaccharides fructose and glucose, which are more healthy than sugar. When Honey is taken with warm water, it is very effective in absorbing fat. Honey consists of a combination of fructose (38.5%) and glucose (31%). Using complementary medicine offers many advantages when it comes to treating complaints or disorders (Lubis & Abilowo, 2023).

Based on the background that has been presented, then obtained the formulation of the problem of this study is whether there is “The effect of giving lemon juice honey (*Citrus Aurantifolia*) against nausea vomiting in pregnant women with Emesis Gravidarum in Murung Pudak Health Center Kab. Tabalong South Kalimantan”.

2. Research methods

This study used a pre-experimental design, comparing the values before and after the intervention using a single-group pre-test post-test methodology. Primary Data is used in data

collection methods. The Pregnancy-Unique Quantification of Emesis/Nausea (PUQE) questionnaire was used for pretest and posttest to determine the prevalence of emesis gravidarum in pregnant women. Using purposive sampling strategy, 30 pregnant women were sampled. The intervention is carried out for four consecutive days. On the first day, the expectant mother is given a lime juice intervention consisting of 250 ml of warm water, one lime fruit 1.5-2.5 cm in diameter, and a tablespoon of honey. This is done twice a day, in the morning and in the evening, having previously performed a pretest using the PUQE instrument in the morning. The Posttest will be given in the afternoon of the fourth day. research findings using Paired T Test in bivariate analysis.

3. Result and Discussion

Table 1. Frequency Distribution of Respondents By Age, Occupation, and Parity

Characteristics Of Respondents	f	%
Age		
20-35 thn	27	90,0
< 20 thn or > 35 thn	3	10,0
Occupation		
Works	11	36,7
Doesn't Work	19	63,3
Parity		
Primiparous	13	43,3
Multiparous	17	56,7

“Based on Table 1, it can be seen that of the 30 respondents of pregnant women, respondents who have Russia 20-35 years old are 27 respondents (90%) and respondents aged < 20 years or > 35 years old are 3 respondents (10%), which shows that the average pregnant woman experiencing emesis gravidarum at the Murung Pudak Health Center is a pregnant woman aged 20-35 years. In the employment category, working mothers as many as 11 respondents (36.7%) and non-working as many as 19 respondents (63.3%). In the parity category, pregnant women in trimester 1 at Murung Pudak Puskesmas, the majority of multiparous are 17 respondents (56.7%) and primiparous mothers are 13 respondents.

Table 2. Frequency Distribution Of Nausea Vomiting Intensity Score

Nausea Vomiting Intensity Score	f	%
Pre Test		
Mild Nausea Vomiting	9	30,0
Moderate Nausea Vomiting	21	70,0
Post Test		
Mild Nausea Vomiting	27	90,0
Moderate Nausea Vomiting	3	10,0

Based on Table 2 it can be seen that of the 30 respondents who experienced nausea before the intervention, the majority experienced moderate nausea and vomiting as many as 21 respondents (70%). After the intervention was given in the form of honey lime juice, the majority of mothers experienced mild nausea, namely as many as 27 respondents (90%).

Table 3. Differences In The Intensity Of Nausea And Vomiting Before And After Being Given Honey Lime Juice”

Intensity Of Nausea Vomiting	N	Mean ± SD	Average Difference ±SD	P Value
<i>Pre-test</i>	30	7,43 ± 1,612	4,47 ± 1,502	0,000*
<i>Post-test</i>	30	4,47 ± 1,502		

The above study showed that nausea and vomiting severity scores dropped from 7.43 to 4.47 after the intervention. The statistical results explained that there was a significant difference in the decrease in frequency before and after getting honey lime juice, with a P value of 0.000. This explains the honey lime juice has an effect in reducing nausea and vomiting of a pregnant woman suffering from emesis gravidarum.

“In this study, the findings collected from 30 pregnant women who experienced emesis gravidarum and were given an intervention in the form of honey lime juice showed substantial results (p-value = 0.0000 < ③ = 0.05). The results showed that there were significant differences in the frequency of emesis gravidarum in 30 respondents before and after being given honey lime juice. This shows that honey lime juice has an effect in reducing nausea and vomiting in pregnant women with emesis gravidarum. This study is in line with previous research conducted by Astri Yulia Sari Lubis, Asr Abilowo (2023) with the title “giving honey lime juice in overcoming Emesis Gravidarum in pregnant women”, from the results of the Mann-Whitney Test, A P value of 0.000 was obtained, this showed that H0 was rejected. It can be concluded that there are differences in the frequency of emesis gravidarum in pregnant women before and after giving honey lime juice.

Pregnancy is a period of time that begins with conception (fertilization) and ends with the birth of a baby. All women who become pregnant during the first trimester have symptoms of nausea and vomiting, also known as emesis gravidarum. The exact cause of emesis gravidarum has not been found, even today. On the other hand, this may be directly related to changes in the endocrine system that occur during pregnancy. More " specifically, this is due to significant changes in the level of HCG (human chorionic gonadotropin) (Retni et al., 2020).

Pregnant women can experience nausea and vomiting due to various causes, including changes in the hormones estrogen, progesterone, and HCG (Human Chorionic Gonadotropin). Pregnant women can experience nausea and vomiting as a result of increased amounts of the hormones estrogen and progesterone, which can disrupt the digestive system and cause an increase in stomach acid. When there is a rapid surge in the HCG hormone, this hormone affects the stomach lining, resulting in nausea and vomiting in women who are pregnant (Nurwiyani, Hidayani, 2024).

If emesis gravidarum is not treated effectively and continues to occur, this can lead to hyperemesis gravidarum, which leads to extreme nausea and vomiting. This condition can negatively affect the health of the mother and fetus, including electrolyte balance problems, dehydration, acidosis, and shock. If you vomit too much, the capillaries in your stomach will burst, and you will vomit blood. The weight of the fetus will be determined by the mother's diet during pregnancy. Pregnant women who vomit frequently may experience fluid loss, which can alter blood circulation and metabolism. This can lead to a small fetus in pregnancy (intrauterine growth retardation, or IUGR) or even fetal death (intrauterine fetal death, or IUFD) (Sari et al., 2023).

There are several different ways to treat emesis gravidarum. The most convenient way is to use drugs as a stage in the therapeutic process. However, it is very important to remember that these drugs may have a teratogenic effect, which means that they can interfere with the development of the fetus in the early stages of pregnancy. As a result, many pregnant women are looking for alternative therapies using alternative or conventional ways. Bay leaf, ginger, chamomile, raspberry leaf, peppermint, and lime juice are some herbal plants known to relieve nausea and vomiting, according to the literature (Lubis & Abilowo, 2023).

Acidic fruits, such as lime, can promote saliva production, which is useful for breaking down food in the digestive tract. Flavonoids found in lime can also stimulate peristaltic movements in the stomach, which helps the stomach digest food more easily. Flavonoids found in lime can increase the synthesis of bile, acids, and digestive juices, where the concentration of flavonoids will neutralize acidic digestive secretions and remove toxins from the body (Melly Damayanti, 2022)."

Using honey is another alternative treatment that can help reduce nausea and vomiting in women who are pregnant during the first trimester. Honey has a number of minerals that are essential for the body. Pyridoxine is a receptor antagonist found in honey. Honey can help maintain stamina and health during pregnancy, as well as provide a high intake of nutrients for fetal development in the womb (Melly Damayanti, 2022).

Honey is a delicious substance made from the nectar of plants. The bees digest the nectar and then store it in the "honeycomb cells. Honey has several advantages, including those related to diet, health and attractiveness. Honey is often used as a natural sweetener, flavor enhancer in cooking, and beverage ingredients. Honey is also often used as a type of traditional medicine. Honey is a food that contains amino acids, carbohydrates, proteins, various vitamins, and minerals that have been absorbed by cells in the body (Lubis & Abilowo, 2023).

In addition, lime juice has a tonic effect on the liver, which is an organ that works hard while you sleep. Tonics are given in the morning as a "gift" to the liver because a healthy liver is essential for the general health of the body. When the liver is healthy, the body will be better able to defend itself from disease, making it more difficult for Disease to develop and

making it easier for the body to fight various diseases. Since lime is naturally alkaline, drinking warm lime water does not increase stomach acid production, which means it is safe for the stomach. This suggests that drinking warm lime water does not cause the stomach to produce more acid. This drink can also indirectly help the work of other important organs, such as the kidneys, during the secretory phase of the body (Sari Lubis et al., 2024).

In addition, lime can also aid digestion by stimulating peristaltic movements in the stomach, which makes the process of digesting food easier. Lime is also a source of vitamin B6 (Pyridoxine), which acts as a serotonin receptor antagonist. This function helps reduce the symptoms of nausea and vomiting that are common during pregnancy (Sari Lubis et al., 2024).

Lime contains acids and can promote saliva production, which helps break down food in the digestive tract. However, this effect can be countered by adding honey. Honey and Lime both contain B6 (Pyridoxine), which acts as a serotonin receptor antagonist. This means it can help reduce nausea and vomiting during pregnancy. This honey lime juice can effectively help pregnant women who experience nausea and vomiting (emesis gravidarum) while supporting the maintenance and improvement of maternal and fetal health (Lubis & Abilowo, 2023).

4. Conclusion

This study shows that " the administration of lime juice with honey has a significant effect in reducing nausea vomiting (emesis gravidarum) in pregnant women in the first trimester. The results of statistical tests showed a significant difference between the frequency of emesis gravidarum before and after the intervention, with a value of $p < 0.05$. The combined effect of lime and honey is supported by the nutritional content of both, such as flavonoids and vitamin B6, which act as antagonists of serotonin receptors, as well as tonic and antioxidant properties. This therapy is considered safe, natural, and beneficial not only in overcoming emesis gravidarum but also in supporting the health of the mother and fetus.

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