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EFFECTIVENESS OF ZINGIBER OFFICINALE AND HONEY AGAINST EMESIS GRAVIDARUM IN PREGNANT WOMEN

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Abstract
Pregnant women frequently have emesis gravidarum in the morning, however it can happen at any moment during the night. These symptoms often start six weeks after the last menstrual cycle and continue for at least ten weeks. Many factors influence the occurrence of emesis gravidarum. If emesis gravidarum is not treated properly, it will have an impact on the health of the mother and baby, therefore efforts are needed to treat emesis gravidarum, one of which is by giving a brew of zingiber officinale (ginger) and honey. The goals of the research are to investigate whether administering honey and zingiber officinale (ginger) to pregnant women can prevent emesis gravidarum. A quasi-experiment with a single group pre-post test design was employed in this study. The sample in this study was 32 pregnant women who experienced emesis gravidarum in Independent Practicing Midwife (BPM) Nanik using purposive sampling technique. The Pregnancy-Unique Quantification of Emesis (PUQE-24) is the tool utilized in this study. The Wilcoxon statistical test was employed for data analysis. According to the results, there was a significant difference in reducing emesis gravidarum in pregnant women before and after intervention for seven days at a frequency of twice daily (p value (0.00) < (0.05). This indicate that zingiber officinale (ginger) and honey are effective in reducing emesis gravidarum in pregnant women.

Keywords: Emesis Gravidarum, Pregnant Women, Honey, Zingiber Officinale

1. Introduction

Pregnant women often get emesis gravidarum, also known as nausea and vomiting during pregnancy, in the early stages of their pregnancy. While usually not harmful, this illness can affect pregnant women's quality of life and interfere with the fetus's ability to get the nutrients it needs. Hormonal changes that occur in pregnant women are one of the variables that impact the occurrence of emesis gravidarum (nausea, vomiting), which usually arises in the morning. Nausea and vomiting, generally referred to as morning sickness, are brought on by the rising hormones estrogen and HCG (human chorionic gonadotropin). (Liu et al., 2022; Setiyaningsih & Isro'aini, 2023; Yanuaringsih et al., 2020).

In 2020, the WHO revealed that at least 14% of pregnant women get emesis gravidarum. In the meantime, emesis gravidarum was found to arise in 2,203 pregnancies in Indonesia, with 543 pregnant women experiencing the sickness. In 2020, 67.9% of pregnant women in East Java suffered from morning sickness, commonly referred to as Emesis Gravidarum (morning sickness) (Saiyah & Rihardhini, 2023). 40–60% of multigravida pregnancies and 60–80% of primigravida pregnancies occur. In addition, emesis gravidarum

affects pregnant women worldwide, not just in Indonesia (Muchtar & Rasyid, 2023). Most cases of emesis and hyperemia gravidarum occur from 9-10 weeks of gestation. This incidence is decreasing and is then expected to end at 12-14 weeks of gestation, a small percentage can continue until 20-24 weeks of gestation. Symptoms of emesis gravidarum, whether mild, moderate or severe, can have a negative impact on a woman's overall early pregnancy, impacting her family, work and social life (Murdiana, 2016).

Reduced appetite from emesis gravidarum can lead to poor potassium, calcium, and sodium electrolyte balances, which can interfere with the body's metabolism. If left untreated, nausea and vomiting can lead to more severe (intractable) and persistent symptoms early in pregnancy, known as hyperemesis gravidarum, which can cause dehydration, electrolyte imbalances, or nutritional deficiencies. Hyperemesis gravidarum can have bad consequences for the mother and fetus (Aryasih et al., 2022).

Metoclopramide, corticosteroids, phenothiazines, pyridoxine (vitamin B6), antihistamines, and metoclopramide are among the medications that can be used to treat nausea and vomiting pharmacologically. In the meanwhile, non-pharmacological treatment include utilizing ginger, adopting a healthier lifestyle, keeping to regular eating schedules, getting acupuncture and acupressure, and avoiding or minimizing the risk of creating nausea. (Ali et al., 2021; Citrawati & Arwidianan, 2023).

Zinger Officinale (Ginger) and honey are natural ingredients that have long been used in traditional medicine to treat digestive problems, including nausea and vomiting. Both have anti-inflammatory and antioxidant properties that can help relieve digestive disorders and increase the comfort of pregnant women (Oktaviani et al., 2022). The rhizome Zinger Officinale, commonly known as ginger, has an antimyetic effect and is a potent aromatic stimulant that stimulates digestive peristalsis to reduce vomiting (Safitri, 2021). Ginger contains substances such as zingiberol, zingiberene essential oil, curcumin, bisabilena, flandrena, gingerol, vitamin A, and bitter resin that can block serotonin, a neurotransmitter made by enterochromaffin cells in the digestive tract and serotonergic neurons in the central nervous system, to help soothe the digestive tract, stomach that is capable of handling nausea or vomiting (Yanuaringsih et al., 2020). According to a University of Mayland Medical Center report, taking one gram of ginger extract daily during pregnancy is a safe and effective way to decrease morning nausea and vomiting. Women with hyperemesis who received 1 gram of ginger for 4 days following treatment experienced a marked decrease in nausea and vomiting (Prastika & Pitriani, 2021).

In addition to Zingiber Officinale (ginger), honey has the potential to reduce emesis gravidarum (vomiting and nausea) due to its mineral balance. Vitamin B6, pyridoxine, is a receptor antagonist found in honey. When carrying a baby, honey can help you stay healthy and strong and provide a high-nutrient diet for the developing fetus within your body. (Damayanti & Jannah, 2022). Using ginger and honey together can provide synergistic benefits. The combination of the two can help reduce nausea and vomiting in pregnant women through anti-inflammatory, anti-nausea effects and increasing digestive comfort. Additionally, a number of researchers discovered that pyridoxine and ginger extract worked better together (Putri et al., 2017). Given that honey contains pyridoxine, ginger and honey work well together to lessen emesis gravidarum in expectant mothers.

Based on previous research by (Setiyaningsih & Isro'aini, 2023) The results prove that providing pregnant women ginger and honey muniman has an impact on their nausea and vomiting. The average amount of nausea and vomiting was 3–4 times per day prior to the intervention, but it dropped to 1-2 times per day after 4 days of ginger and honey drinks. According to research, this (Mariyah et al., 2023) shows that there is a difference between lowering pregnant women's hyperemia gravidarum and giving ginger decoction. At the time of receiving ginger decoction, nearly all pregnant women experienced moderate levels of nausea and vomiting (78.1%); following four days of ginger decoction, these levels dropped to mild levels (90.6%). Based on

research (Prastika & Pitriani, 2021) Most pregnant women who endure nausea can get over it by sipping warm water, taking medicine to stop vomiting, and receiving some counseling at PMB. According to the preceding description, researchers are interested in studying the effects of giving honey and Zingiber Officinale (ginger) to pregnant women who have emesis gravidarum.

2. Materials and methods

2.1 Materials

A Quasi-Experimental one-group pre-post-test research strategy is used in this quantitative study. Purposive sampling was used to choose 32 pregnant women who were Independent Practicing Midwives (BPMs) in Nanik. The dependent variable in this study is pregnant women's emesis gravidarum, while the independent variables are zingiber officinale and honey. The Pregnancy Unique Quantification of Emesis (PUQE) questionnaire is used in this study. The Wilcoxon rank test was employed for data analysis.

2.2 Data collection procedures

A quasi-experimental methodology was used for this study, and there was just one group tested before and after. In June 2023, this study was carried out at the Independent Midwife Practice Center (TPMB) in Nanik. Purposive sampling was used in the study's sample collection process, meaning that samples that satisfied the inclusion criteria were added to the study, yielding a sample of thirty-two respondents. The study's inclusion criteria were pregnant women who were willing to participate, those who had emesis gravidarum, those who like ginger and honey, those without any medical contraindications, and those without digestive issues. In the meantime, pregnant women with digestive issues and emesis associated with chronic conditions were excluded from this study.

The Pregnancy Unique Quantification of Emesis (PUQE) questionnaire is used in this study to measure the frequency of emesis gravidarum in pregnant women. The reliability test results showed a Cronbach's alpha value of 0.75, and the validity values, which are based on the journal Psychometric properties of the Pregnancy-Unique Quantification of Emesis (PUQE-24) Scale, amounted to 0.776-0.831. Therefore, it can be said to be an instrument with valid and reliable measurements in pregnant women (Yilmaz et al., 2022). The intervention that will be carried out in this research is the administration of Zinger Officinale (ginger) and honey for 7 days with a frequency of 2x/day (morning and evening). A ginger and honey decoction was given following the seven-day intervention, which was conducted twice a day (morning and evening). Following the intervention, a second questionnaire will be given to measure the frequency of emesis episodes. Editing, coding, tabulation, and analysis will all be used to process the gathered data. The Wilcoxon Signed Rank Test was employed for data analysis.

2.3 Data analysis

Applying the Wilcoxon statistical test, the data analysis in this study was to determine how well zingiber officinale and honey prevented emesis gravidarum in expectant mothers.

3. Results and discussion

3.1 Results and discussion

Table 1. Characteristics of Respondents According to Age, Education Level, and Occupation

Respondent Characteristics	Pregnant Women (n = 32)	
	F	%
Mother's Age		
<20 years	0	0
20-35 years	29	90.6
>35 years	3	9.4
Parity		
Primigravida	23	71.8
Multigravida	8	25
Grandemultigravida	1	3.2
Gestational Age		
Trimester 1	25	78.1
Trimester 2	7	21.9
Work		
IRT	20	62.5
Self-employed	10	31.3
Civil servants	2	6.2
Number of Respondents	32	100

The results of this study show that in table 1. Characteristics of maternal age, most of them are 20-35 years old, amounting to 90.6%, with the parity of most primigravidas amounting to 71.8%, gestational age mostly in the 1st trimester, amounting to 78.1%, with the majority of mothers working as mothers. households by 62.5%.

Table 2. Emesis Gravidarum in Pregnant Women Before Intervention

No.	Emesis Grvaidarum	Amount	Percentage (%)
1	Light	8	25
2	Currently	22	68.8
3	Heavy	2	6.3
	Total	32	100

The results of this study show that in table 2. The level of emesis gravidarum in pregnant women before intervention was mostly in the moderate category at 68.8%.

Table 3. Emesis Gravidarum in Pregnant Women After Intervention

No.	Emesis Grvaidarum	Amount	Percentage (%)
1	Light	24	75
2	Currently	8	25
3	Heavy	0	0
	Total	32	100

The results of this study show that in table 3. The level of emesis gravidarum in pregnant women before intervention was mostly in the mild category

at 75%%.

Table 4. Effect of Giving Zingiber Officinale and Honey on Emesis Gravidarum in Pregnant Women

	Min	Max	Mean	Std. Deviation
Pre-Test	4	13	8.25	2,565
Post-Test	2	10	5.22	2,310
Wilcoxon test p value (0.00) < (0.05)				

Table 4's Wilcoxon statistical test findings indicate that the p value (0.000) < (0.05), indicating that ingiber officinale has an impact on reducing emesis gravidarum in mothers who are expecting. Prior to receiving the intervention, pregnant women's average level of emesis gravidarum was 8.25; following the intervention, this level dropped by 5.22.

3.2 Results and discussionn

In the first trimester of pregnancy, emesis gravidarum is a frequent and normal symptom that typically occurs in the morning but can happen at any moment during the night. These symptoms often start six weeks after the last menstrual cycle and continue for at least ten weeks(Fauziah et al., 2022). Many factors influence the occurrence of emesis gravidarum, namely parity, maternal age, employment, nutrition and psychology (Retnowati, 2019). Based on the results of the age characteristics, the majority of mothers were 20-35 years old, amounting to 90.6%. This is in line with research (Sriadnyani et al., 2022)Most pregnant women are aged 20-35 years (82%). At the age of 20-35 years is ideal for pregnancy and childbirth so that not all cases of emesis gravidarum occur at the age of < 20 years or > 35 years (Utami et al., 2023). Maternal age has a significant influence on reproductive development. This is related to the development of the fetus and the physical condition of the mother's organs that receive support. a woman reaches marriageable age or completes a certain stage of life, namely childbearing age.

Parity also influences the occurrence of emesis gravidarum, where in this study the majority of pregnant women were primigravida, amounting to 71.8%. this is in line with research (Sriadnyani et al., 2022)that the majority of pregnant women who experience emesis gravidarum are primigravida pregnant women (82%), because primigravida mothers have not been able to adapt to the hormones estrogen and chorionic gonadotropin. An increase in this hormone causes stomach acid levels to increase, resulting in complaints of nausea. Women who are pregnant for the first time (primigravida) are prone to experiencing nausea and vomiting compared to women who have been pregnant before (multigravida). This is caused by differences in hormone production. However, in some cases, these symptoms may be used to attract the woman's attention or to seek help if there are problems in her life. Lack of knowledge, information, and poor communication between pregnant women and their families also influence pregnant women's perceptions of the severity of the symptoms they experience(Putri et al., 2017).

Apart from that, gestational age in the first trimester is a factor in the occurrence of emesis gravidarum, this is in line with research results that the majority of pregnant women in the first trimester of pregnancy is 78.1%. The majority of mothers' work as housewives is 62.5%. According to (Sari et al., 2024). Moms without work may also have emesis gravidarum as a result of the burden they bear, which can lead to stress and an increase in hormones that trigger emesis gravidarum.

Emesis gravidarum in pregnant women has a very big impact on the mother and fetus. Under normal circumstances, vomiting does not cause serious harm to the pregnancy or fetus. However, if hyperemesis gravidarum continues and progresses to hyperemesis gravidarum, the risk of pregnancy problems may increase. Pregnant women with symptoms of vomiting during pregnancy are more likely to experience Malarie-Weiss syndrome due to dehydration, insufficient carbohydrate and fat stores in the body, small tears in the lining of the esophagus and stomach, or gastrointestinal bleeding. Therefore, there is a need for treatment to overcome emesis gravidarum in pregnant women, one of which is non-pharmacological using ginger rhizomes and honey. According to the Wilcoxon statistical test results, zingiber officinale has an effect on lowering emesis gravidarum in pregnant women, as indicated by the p value (0.000) < (0.05). Pregnant women who received the intervention for seven days at a frequency of twice per day experienced an average decrease in emesis gravidarum of 5.22 compared to an average of 8.25 prior to the intervention.

Ginger reduces nausea and vomiting in pregnant women because the gingerol compound in ginger blocks serotonin, a chemical that causes nausea and vomiting. Increased progesterone results in decreased smooth muscle tone and motility, resulting in esophageal insufficiency, increased gastric emptying time, and reversal of peristalsis. Therefore, ginger plays a role in stimulating the motility of the digestive tract and in other ways stimulates the secretion of saliva and bile. Ginger stimulates gastrointestinal motility and, after removing saliva and bile in other forms, relaxes and weakens the gastrointestinal muscles. The gingerol content contained in ginger suppresses its activity in the stomach (Kayanti et al., 2019).

According to researchers, the compounds contained in ginger are very beneficial for women in early pregnancy who suffer from nausea and vomiting. Where ginger helps eliminate excess gas from the digestive system which is caused by surges in pregnancy hormones and can cause nausea and vomiting. Mothers are advised to consume foods high in carbohydrates, protein, vegetables and fruit, and boil ginger water to relieve nausea and vomiting. In spite of ginger, honey can also aid pregnant women who are experiencing nausea and vomiting since it contains vitamin B6 (pyridoxine). Honey contains 0.024 mg (2%), or pyridoxine. Antioxidant-producing substances found in honey include chrysin, pinobankin, vitamin C, catalase, and pinocembrin. Thus, when administered in the proper doses, ginger and honey can help pregnant women who are experiencing nausea and vomiting (Kurniawati et al., 2023).

Based on research conducted by (Kurniawati et al., 2023) also demonstrated that giving ginger and acacia honey to pregnant women during the first trimester had an impact on their nausea and vomiting, and that there was no discernible difference between intervention groups I and II (Intervention 1: ginger and honey, Intervention 2: ginger alone for 7 days, twice daily). In research (Rufaridah et al., 2019)There is an effect of giving ginger infusion on emesis gravidarum (p value 0.000 < 0.05) with an average emesis gravidarum before being given the intervention of 3.38 and an average after being given the intervention of 2.19, however there are limitations to the research carried out, in the selection of respondents It is hoped that there will be more variation in the frequency of nausea and vomiting of 5-9 times/day so that a more significant difference can be seen in the frequency of emesis gravidarum before and after being given the ginger infusion, and the dose of ginger infusion used by researchers (250 mg) can be increased further so that the effect of giving the ginger infusion is more effective. .

4. Conclusion

From research conducted on pregnant women who experienced emesis gravidarum at the Nanik

Independent Midwife Practice (TPMB), it can be concluded that the intensity of emesis gravidarum in pregnant women in the 1st trimester at PMB Nanik before intervention was given, most of them experienced emesis gravidarum in the moderate category. However, pregnant women's emesis gravidarum significantly decreased in the mild category after receiving intervention in the form of zingiber officinale and honey. Therefore, with a p value of (0.00) < (0.05), it can be said that feeding zingiber officinale and honey to pregnant women had an impact on emesis gravidarum.

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Conflict of interest

In conducting research, the author has no conflicts of interest related to the research.

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