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COMPARISON OF THE EFFECTIVENESS OF GIVING GINGER AND HONEY WITH GINGER, GREEN BEANS AND HONEY TO OVERCOME NAUSEA AND VOMITING IN FIRST TRIMESTER PREGNANT WOMEN

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Abstrak

Gejala yang paling umum dialami ibu hamil pada trimester pertama adalah mual dan muntah. Ketidaknyamanan ini sering dirasakan terutama di pagi hari. Tujuan dari penelitian ini adalah untuk mengatasi mual dan muntah pada ibu hamil di awal kehamilan dengan membandingkan minuman jahe dan madu dengan jahe, kacang hijau, dan madu. Desain penelitian menggunakan penelitian eksperimen semu dengan kuota sampel 60 orang. Hasil penelitian menunjukkan sebagian besar ibu hamil trimester I mengalami mual muntah ringan yaitu 63,3% setelah diberikan intervensi jahe, madu, dan kacang hijau. Pada kelompok intervensi madu dan jahe, sebagian besar (46,7%) ibu hamil mengalami mual muntah sedang. Hasil uji statistik menunjukkan p = 0,007 (<0,05), yang berarti terdapat perbedaan efektivitas antara intervensi jahe dan madu. Nilai rata-rata menunjukkan jahe, madu, kacang hijau lebih rendah dari madu 24,90, jahe memiliki nilai 36,10. Itu berarti menambahkan jahe, madu, dan kacang hijau akan lebih efektif daripada menambahkan jahe dan madu. Kesimpulannya, minuman yang mengandung jahe, kacang hijau, dan madu lebih efektif daripada minuman yang mengandung jahe dan madu.

Kata kunci: Jahe, Kacang Hijau, Madu, Mual Muntah

Abstract

The most common symptoms experienced by pregnant women in the first trimester are nausea and vomiting. This discomfort is often felt especially in the morning. The purpose of this study was to treat nausea and vomiting in pregnant women in early pregnancy by comparing ginger and honey drinks with ginger, green beans, and honey. The research design used a quasi-experimental study with a sampling quota of 60 people. The results showed that most of the pregnant women in the first trimester experienced mild nausea and vomiting, namely 63.3% after being given intervention with ginger, honey, and green beans. In the honey and ginger intervention group, most (46.7%) pregnant women experienced moderate nausea and vomiting. Statistical test results showed p = 0.007 (<0.05), which means that there is a difference in effectiveness between the ginger and honey interventions. The average value shows that ginger, honey, green beans are lower than honey 24.90, ginger has a value of 36.10. That means adding ginger, honey, and

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green beans will be more effective than adding ginger and honey. The conclusion is that drinks containing ginger, green beans, and honey are more effective than those containing ginger and honey drinks.

Keywords: *Ginger, Green Beans, Honey, Nausea Vomiting*

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1. Introduction

Pregnancy is a process that occurs and consists of ovulation, migration of spermatozoa and ova, conception and growth of the zygote, nidation (implantation) in the uterus, formation of the placenta, and growth and development of the products of conception until term. [1]

A natural process in a woman's pregnancy during Antenatal Care or prenatal visits, some pregnant women complain of discomfort often felt during pregnancy. One of the symptoms that are most often felt and complained of is nausea and vomiting, which usually occurs in the first trimester2 caused by an increase in hormones that cause nausea and vomiting that tends to peak. This is called morning sickness, although this condition can occur at any time. Some pregnant women experience it throughout the day. This condition makes pregnant women uncomfortable, tired, less enthusiastic about activities because they often experience nausea and vomiting. [3,4]

There are several ways to treat nausea and vomiting in pregnant women, both pharmacologically and non-pharmacologically. One of the pharmacological therapies is the use of antiemetics. The use of antiemetics has several side effects experienced by pregnant women, including dizziness, urinary retention, sedation, confusion, dry mouth, and constipation. An alternative begins with developing people's habits of consuming plants that are believed to be able to overcome health problems, one of which is the consumption of ginger. [5]

Research on ginger has several advantages, such as its essential oil content, which has a cooling effect, suppresses the vomiting reflex. Besides that, gingerol content can facilitate blood and nerves to function properly and facilitate blood circulation and nerves to work properly. Blood pressure can drop, and the nose does not run, nausea and vomiting may not occur. Ginger essential oil produces an aroma, and essential oil creates a spicy taste that warms the body and allows sweating. The composition of honey has many benefits for the body, including nutrition, health, and beauty. Honey is widely used as a mixture in the consumption of sweets, food flavoring, and beverages. [6]

Honey is often used as medicine. Honey contains amino acids, carbohydrates, proteins, some vitamins, and minerals that are easily absorbed by the body's cells as a source of food that the body needs. Honey also contains pyridoxine, which acts as chemical receptor antagonists that can block or block serotonin, dopamine, asticlon, histamine, and neurokinins that can activate the vomiting center. 7,8 Another nutrient with antiemetic effects is antioxidants. Food ingredients that

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contain lots of antioxidants are green beans; a very high antioxidant in green beans is the flavonoid content.[9,10]

The research results from Sihrini et al. (2019) and Galuh et al. (2020) show that the consumption of ginger and green beans reduces nausea and vomiting in pregnant women. [11,12]

2. Method

The research design used in this research is quantitative research using a quasi-experimental research design.

Population and Sample

The sample in this study was 60 respondents of first-trimester pregnant women divided into two groups: intervention group I and intervention group II. The sampling technique used quota sampling, divided into two groups, namely the intervention group I and the intervention group II.

3. Results and Discussion

Table 4.1 Age Distribution in the Ginger-Honey, and Ginger-Honey-Green Beans Intervention Group

Age	Intervention Group			
	Ginger, Honey, Green Beans		Ginger, Honey	
	n	%	n	%
< 20 y.o	1	3,3	1	3,3
20 – 35 y.o	29	96,7	27	90,0
>35 y.o	0	0	2	6,7
Total	**30**	**100**	**30**	**100**

Distribution of Education Level of Respondents in the Honey Ginger Intervention Group, and the Ginger, Honey, Green Beans Intervention Group

Table 4.1 Distribution of Education Levels of Respondents in the Ginger, Honey, and Ginger, Honey, Green Beans Intervention Group

Level of Education	Intervention Group			
	Ginger, Honey, Green Beans		Honey, Ginger	
	n	%	n	%
Elementary School	0	0,0	1	1,7
Junior and Senior High School	21	70,0	21	70,0
Diploma – Undergraduate Degree	9	30,0	8	28,3
Total	**30**	**100**	**30**	**100**

Job Distribution of Respondents in the Ginger Honey Intervention Group and the Ginger, Honey, Green Beans Intervention Group

Table 4.2 Occupational Distribution of Respondents in the Ginger, Honey, and Ginger, Honey, Green Beans Intervention Group

Occupation	Intervention Group			
	Ginger, Honey, Green Beans		Honey, Ginger	
	n	%	n	%
Housewives	14	46,7	18	60,0
Working Women	16	53,3	12	40,0
Total	**30**	**100**	**30**	**100**

Distribution of Pregnancy in Respondents in the Ginger Honey Intervention Group, and the Ginger, Honey, Green Beans Intervention Group

Table 4.3 Distribution of Pregnancy in Respondents in the Ginger Honey Intervention Group, and the Ginger, Honey, Green Beans Intervention Group

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Pregnancy	Intervention Group			
	Ginger, Honey, Green Beans		Honey, Ginger	
	n	%	n	%
1	23	76,7	13	43,3
2	3	10,0	8	26,7
3	3	10,0	7	23,3
4	1	3,3	2	6,7
Total	**30**	**100**	**30**	**100**

Distribution of Decreased Frequency of Nausea Vomiting After Intervention in the Ginger Honey Intervention Group, and the Ginger, Honey, Green Beans Intervention Group

Table 4.4 Distribution of Nausea Vomiting Decreased After Intervention in the Ginger Honey Intervention Group, and the Ginger, Honey, Green Beans Intervention Group

Decreased Frequency of Nausea Vomiting	Intervention Group			
	Ginger, Honey, Green Beans		Honey, Ginger	
	n	%	n	%
Yes	30	100	28	93,3
No	0	0,0	2	6,7
Total	**30**	**100**	**30**	**100**

Distribution of Activity Disorders Due to Nausea and Vomiting After Intervention in the Ginger Honey Intervention Group, and the Ginger, Honey, Green Beans Intervention Group

Table 4.5 Distribution of the Frequency of Nausea and Vomiting After Intervention in Respondents of the Honey, Ginger Intervention Group, and the Ginger, Honey, Green Beans Intervention Group

Activity Disturbance	Intervention Group			
	Ginger, Honey, Green Beans		Honey, Ginger	
	n	%	n	%
Yes	10	33,3	7	23,3
No	20	66,7	23	76,7
Total	**30**	**100**	**30**	**100**

Comparison of the Effectiveness of Ginger and Honey with Ginger, Honey, and Mung Beans for Overcoming Nausea and Vomiting in the First Trimester Pregnant Women

In this study, only one measurement of the category of nausea and vomiting was carried out in the first trimester of pregnancy, namely when the respondent had received the intervention. There were two intervention groups. Group 1 was given an intervention by giving ginger and honey, and group 2 was assigned an intervention by giving ginger, honey, and green beans. This means two different groups (unpaired) with ordinal data scales. So that the data analysis used is a non-parametric test with Mann-Whitney, the results of the Mann-Whitney test can be seen in the following table:

Table 4.6 Comparison of the Effectiveness of Ginger and Honey Interventions with Ginger, Honey, and Green Beans Interventions for Overcoming Nausea and Vomiting in the First Trimester Pregnant Women

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Table 4.6 shows that most (63.3%) pregnant women in the first trimester experienced mild nausea and vomiting after being given the intervention of ginger, honey, and green beans. While in the honey and ginger intervention group, most (46.7%) experienced moderate nausea and vomiting. The statistical tests showed a p-value = 0.007 (<0.05), meaning a difference in effectiveness between the ginger and honey intervention with the ginger, honey, and mung bean intervention. The mean rank

Interventions	Category Nausea and Vomiting						Total		*Mean Rank*	*p-value*
	No Symptoms		Mild		Moderate					
	n	%			n	%	n	%		
Ginger, Honey, and Green Beans	9	30	19	63,3	2	6,7	30	100	24,90	0,007
Ginger and Honey	6	20	10	33,3	14	46,7	30	100	36,10	

value in the Mann-Whitney test shows the average rating for giving ginger, honey, and green beans, which is 24.90, lower than the average rating for providing honey and ginger with a value of 36.10. This means that ginger, honey, and green beans are more effective in dealing with nausea and vomiting in first-trimester pregnant women than ginger and honey.

4. Conclusion

Characteristics of First Trimester Pregnant Women

The study results found that the age of first trimester pregnant women who experienced nausea and vomiting mainly at the age of 20-35 years were included in the category of healthy reproduction. 35 years old will experience nausea and vomiting less and less because they already have experience in dealing with nausea and vomiting from previous pregnancies, while young people with their first pregnancy experience are still unable to overcome nausea and vomiting. Most of the characteristics of education are secondary education. Education obtained through formal education will affect information about symptoms of nausea and vomiting because it is related to the ability to get health information from the mass media and health workers. The survey results of the respondents' occupations show that most of them are inactive or housewives. Pregnant women with a sufficient socioeconomic level will meet their needs, especially in dealing with nausea and vomiting. Pregnant women can provide adequate food or drink to overcome nausea and vomiting. [14]

The parity category, mostly primigravida respondents, relates to this problem caused by the difference in the production of pregnancy hormones for a primigravida. It is different from multi or grade multi because their primigravida mothers do not have experience with pregnancy, so they have not overcome the discomfort of nausea and vomiting that is often felt in the first trimester. Nausea and vomiting occur in 60-80% of primigravida and 40-60% of multigravida, according to Wiknjosastro (2007). This is following Safari research (2017) which shows a relationship between parity during pregnancy and the incidence of nausea and vomiting.[15] Health Parity 23 is safe parity for maternal mortality. Parity above 3 causes a decrease in organ function and lowers the body's resistance. According to the American Society of Obstetrics and Gynecology (ACOG), it leads to various

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risk factors during pregnancy. During pregnancy, the occurrence of nausea and vomiting increases the prevalence of pregnant women and can disrupt the psychology of pregnant women. ACOG explains that increased levels of HCG and increased levels of estradiol in pregnant women who experience nausea and vomiting in their first pregnancy are at risk for the same event in subsequent pregnancies and are at risk for a more severe event called hyperemesis gravidarum.[16]

The intensity of nausea and vomiting Pregnant women before and after the intervention

The research results on the intensity of nausea and vomiting before the procedure showed that pregnant women experienced dysfunction. Still, after the procedure, the pregnant women reduced the symptoms of nausea and vomiting. Drinks containing Ginger are stimulants with a strong aroma and can also control vomiting by increasing bowel movements to prevent vomiting. Studies show that the content of Ginger is very helpful in preventing nausea and vomiting in pregnant women. The pharmacological function of Ginger is as an antiemetic (antiemetic), which is a substance that can expel gas in the stomach and control vomiting by increasing intestinal motility. Ginger contains about six compounds that have been shown to have antiemetic effects, which are directed more towards the stomach wall than the central nervous system. In large doses of 6 grams or more, ginger rhizome can heal stomach irritation and lose the stomach's protective lining. The content of Ginger is very beneficial for the body because gingerol is the main compound and has been shown to contain antiemetic activity that can block serotonin, a chemical compound as a messenger. Serotonin compounds cause the stomach to contract when these compounds are blocked, the muscles in the digestive tract weaken and relax to relieve nausea and vomiting. [17]

Honey, other than as a sweetener, is used as a treatment that the body needs because it contains several minerals to treat nausea, vomiting, or morning sickness.

Honey has many benefits in various aspects, including nutrition, health, and beauty. Honey contains amino acids, carbohydrates, proteins, and various vitamins and minerals. It is a honey nutrient that is easily absorbed by somatic cells and is an excellent source of nutrients. [20,21] Ginger rhizome has long been known for its many benefits. Ginger rhizome is used as a spice, drink, and candy in cooking and as a medicinal drink and traditional medicine. According to Aly et al. (2013), Ginger produces potentially active gingerols, converted into shogaol, zingerone, and parador. The content of Ginger increases intestinal tension and motility through anticholinergic effects and anti serotonin acts in the digestive tract by increasing intestinal tension and motility through anticholinergic and anti serotonin effects. Although the exact mechanism is not clearly understood.

The compounds 6-gingerol and 6-shogaol have been shown to have several pharmacological effects, including antipyretic, analgesic, cough suppressant, and antihypertensive effects. Runiari (2010) found that the components of ginger essential oil have a cooling effect and can suppress the gag reflex. Still, gingerol can improve blood circulation and nerve function, relieving nausea and vomiting, cooling and reducing headaches, and affecting blood pressure. [20] A study by Saswita et al. Ginger rhizome is a therapeutic ingredient to minimize pain and relieve nausea and vomiting. In addition, Ginger is used to reduce nausea and vomiting in pregnant women in the first three months of pregnancy and pregnant women with twins. Ginger rhizome raw material has many benefits, especially in the digestive tract and the central nervous system, so

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Ginger is instrumental in reducing nausea during pregnancy.[17,18] Another nutrient that has an antiemetic effect is antioxidants. Chickpeas are high in antioxidants compared to black beans. Beans and soybeans have many antioxidants, namely flavonoids. Fatma and colleagues. Another study found that antioxidants can reduce nausea and vomiting in cancer patients treated with cisplatin. [9]

Comparison of the Effectiveness of Ginger, Honey with Ginger, Green Beans, Honey in Overcoming Nausea and Vomiting in First Trimester Pregnant Women

The results showed that consuming ginger, green beans, and honey was more effective than consuming ginger and honey in overcoming nausea and vomiting in first-trimester pregnant women. The statistical tests showed p = 0.007 (<0.05), which means that there is a difference in effectiveness between the ginger and honey intervention and the ginger, honey, and mung bean intervention. The average score for the Mann-Whitney test, which shows the average score for ginger, honey, and chickpeas, is 24.90, lower than the average score for honey and ginger, which is 36.10. In order to treat the symptoms, ginger (Zingiber officinale) and seed drinks rich in antioxidant and antiemetic activity should be supplemented to provide a more effective intake of functional vitamins. The content vitamins B2 and B1 are found in beans. Honey has energy-boosting and stamina-boosting effects, and these ingredients can help with nausea and vomiting that mothers commonly experience during early pregnancy. 19,20 Ginger can control nausea and vomiting by increasing bowel movements. The components in ginger have pharmacological functions of about 6 compounds, namely zingiberene (zingirona) essential oil, zingiberol, bisabilena, la curcumin, gingerol, and flandrena. 323 kcal, 22.9 g protein, and 7.5 mg iron per 100 g bdd), the fat content in chickpeas is relatively low (11.2%) compared to other beans so that chickpeas can be preserved longer. In addition, green beans contain protein and proteins used for cell growth. Protein is needed to make body tissues that make up the structure of organs such as bones and muscles. Protein is also required for the process, growth, development, and formation of new red blood cells in the fetus to function optimally to grow and develop normally and healthily. Honey is an herbal ingredient that contains natural ingredients that are very important for the body, honey contains B6 as a receptor antagonist, and honey is beneficial in maintaining the health and well-being of the body. The high nutritional content for the development of the fetus in the womb. [21]

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