

The Effect of Giving Kajah Pudding (Cardamom Ginger) on Reducing the Frequency of Nausea and Vomiting in First Trimester Pregnant Women in the Medan Tuntungan Health Center Working Area in 2023

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ABSTRACT

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Nausea and vomiting occur in 60-80% of primigravida and 40-60% in multigravida. Hormonal changes in each pregnant woman will give a different response, so not all experience nausea and vomiting in pregnancy. The purpose of this study was to analyze the effect of giving Kajah (Cardamom Ginger) pudding on reducing the frequency of nausea and vomiting in first trimester pregnant women. This research method uses pre-experiment with pre test and post test group design. The sample of this study were 16 pregnant women TM I. The sampling technique used purposive sampling technique. Data analysis using paired sample t-test statistics. The results showed that the frequency of nausea and vomiting of respondents before being given Kajah pudding (Cardamom Ginger) the majority was in the medium category of 10 pregnant women (62.6%). After being given Kajah (Cardamom Ginger) pudding, the frequency of nausea and vomiting was mostly in the mild category as many as 11 pregnant women (68.8%). Based on the paired t test, the sig value or P value is 0.000 which shows less than 0.05 ($0.000 < 0.05$). The conclusion of this study is that there is an effect of giving Kajah Pudding (Cardamom Ginger) on reducing the frequency of nausea and vomiting in first trimester pregnant women in the Medan Tuntungan Health Center Working Area in 2023.

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1. INTRODUCTION

The process in pregnancy is a stage in a critical period that requires physiological adaptation and psychological adaptation influenced by the work of hormones in pregnancy by pregnant women. Physical and psychological changes during pregnancy are a result of the development and growth of the fetus in the mother's womb. However, if pregnant women are unable to adapt, there will be discomfort in undergoing the pregnancy process. One of these conditions is nausea and vomiting (emesis gravidarum) (Purba et al., 2023).

About 60-80% of primiparous women report experiencing nausea and vomiting, while the frequency of nausea and vomiting in multiparous mothers is around 40-60%. Nausea and vomiting are most common in the first trimester of pregnancy, but about 12% of pregnant women continue to experience it up to 9 months. Nausea and vomiting are part of the normal spectrum of pregnancy, hyperemesis is considered an extreme condition. If hyperemesis is not managed properly and adequately, it can lead to maternal complications such as Wernicke's encephalopathy (associated with 40% of fetal deaths), central myelinolysis, and death (Utami & Amalia, 2018).

According to the World Health Organization (WHO) in 2019 occurred throughout the world with varying incidence rates of 1-3% of all pregnancies in Indonesia, 0.3% in Sweden, 0.5% in California, 0.8% in China, 0.9% in Norway, 2.2% in Pakistan, 1.9% in Turkey and in the United States the prevalence of nausea and vomiting in pregnant women is 0.5% - 2%. It is suspected that 50% to 80% of pregnant women experience nausea and vomiting. In Indonesia there are (50-90%)

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cases of nausea and vomiting experienced by pregnant women. The main factor causing maternal mortality in Indonesia is not nausea and vomiting (emesis gravidarum), but the incidence of nausea and vomiting is quite large, namely (60-80%) in primigravida and (40-60%) in multigravida. One hundred out of 1000 pregnancies experience more severe symptoms (Juwita et al., 2023).

Nausea and vomiting (morning sickness) are common symptoms in the first trimester of pregnancy. Usually nausea occurs in the morning, but can also occur at any time of the day and night. These symptoms appear about 6 weeks after the first day of your last period and last about 10 weeks. Measures that can be taken to treat nausea and vomiting during pregnancy include pharmacology and non-pharmacology (Setiowati & Arianti, 2019). Nausea and vomiting during pregnancy are usually caused by changes in the endocrine system that occur during pregnancy, mainly due to high fluctuations in HCG (human chorionic gonadotrophin) levels, especially since the most common period of nausea or vomiting of pregnancy occurs in the first 12-16 weeks, at which time, HCG reaches its highest level. HCG is the same as LH (luteinizing hormone) and is secreted by trophoblast cells from blastocytes. HCG bypasses ovarian control in the pituitary and causes the corpus luteum to continue producing estrogen and progesterone, a function later taken over by the chorionic layer of the placenta. HCG can be detected in a woman's blood as early as three weeks gestation (one week after fertilization), a fact that forms the basis of most pregnancy tests (Nimasari et al., 2022).

Not all pregnant women can undergo therapy using drugs, there are some mothers who do not like if they have to take drugs, so the provision of non-pharmacological therapy is needed here Non-pharmacological therapy by eating often in small portions, for example every two hours, avoiding sharp-smelling foods, try snacking on biscuits after waking up in the morning, eating high-carbohydrate foods, drinking sweet juices in the morning, not smoking or consuming alcoholic beverages, and reducing stress, as well as complementary therapies such as acupuncture, drinking peppermint tea, chewing mint candy, spearmint, ginger aromatherapy, spearmint, peppermint, lemon, and ginger tea. One of the pharmacological functions of ginger is antiemetic (anti-emetic) ginger is an ingredient that is able to remove gas from the stomach, this will relieve flatulence (Sulistiyoningtyas & Khusnul Dwihestie, 2022).

One of the medicinal plants that can produce essential oils and is included in the top 9 major spice commodities in the world is cardamom. In global exports, cardamom is often sold in the form of essential oil or dried fruit. Cardamom can be used as antibacterial, bronchitis, cancer, cough, inflammation, rheumatism, nausea and vomiting. By the community, cardamom is also used to reduce excess uric acid levels (Zahwa Putri Pangestu et al., 2023). Ginger tea contains a core substance called gingerol, which is a powerful free radical molecule and can act as an antioxidant. Gingerol decreases oxidative products in the digestive tract which leads to a lack of nausea. The spicy flavor and aroma of ginger is due to the gingerol compound which can reduce nausea in pregnancy. A study states that ginger has properties to prevent disease and remove toxins (prophylaxis and detoxification). Ginger also contains essential oils that have a refreshing effect that can block the gag reflex (Pebrianthy & Sitonga, 2021).

Based on an initial survey that has been conducted on first trimester pregnant women in the Medan Tuntungan Health Center working area after interviews with 5 pregnant women, 3 pregnant women experience nausea and vomiting and have never heard of Kajah (Cardamom Ginger) pudding therapy to reduce the frequency of nausea and vomiting of first trimester pregnant women. Based on this background, the researcher is interested in examining the "Effect of Giving Kajah Pudding (Cardamom Ginger) on Reducing the Frequency of Nausea and Vomiting of First Trimester Pregnant Women in the Medan Tuntungan Health Center Working Area".

2. METHOD

This research is a quantitative study using the Pre-experiment method research design. The research design approach with one group pretest-posttest design is a research activity that provides an initial test (pretest) before being given treatment, after being given treatment then gives a final test (posttest). The population in this study were all first trimester pregnant women in the working area of the Medan Tuntungan Treatment Center. Sampling in this study was the entire population during the study. The sample in this study was 16 people. The sampling technique used was purposive sampling.

Data collection was carried out in the working area of Medan Tuntungan Health Center. Data collection techniques in this study were carried out by steps, namely submitting a permit application to LPPM INKESMUT. After that, apply for permission to conduct research to the Medan City Health Office and the Head of the Medan Tuntungan Treatment Center.

After obtaining consent from the respondent, data collection was carried out regarding the identity of the respondent and the respondent's ability to answer questionnaire questions. Pre-test was given to respondents by giving a research questionnaire containing questions related to nausea and vomiting. Then given treatment on the second day of first trimester pregnant women in the form of cardamom drinks made by researchers and taught to families. With ingredients 5 cardamom pods, 250 mg ginger, 500 ml water, and 50 g sugar. It is drunk 2 times a day, 1 time drinking 250 ml/1 glass, given in the morning 250 ml and in the afternoon 250 ml after meals. Given for 7 consecutive days. Post test was given after the researcher conducted the intervention. The nausea and vomiting questionnaire used was the same as the Pre Test and Post test questionnaires.

The post test was conducted on the 8th day on first trimester pregnant women. Furthermore, researchers processed and analyzed the data that had been collected. Data processing was carried out using software assistance. Before analysis, data processing was carried out through stages: editing, coding, data entry and cleaning. The data analysis that the researchers did was to compare the data before and after being given cardamom drinks, and obtained the mean difference between the pre-test and posttest. The significance level is 95% ($\alpha = 0.05$).

3. RESULTS AND DISCUSSION

Table 1. Characteristics of Respondents Based on Age

No.	Age	Frequency	%
1	<20 years old	2	12.5
2	20-30 years old	10	62.5
3	>30 years old	4	25.0
Totally		16	100.0

Based on table 1. Of the 16 pregnant women, the majority of respondents aged 20-30 years as many as 10 people (62.5%).

Table 2. Characteristics of Respondents Based on Education

No.	Education	Frequency	%
1	Secondary education	12	75.0
2	Tertiary Education	4	25.0
Totally		16	100.0

Based on table 2. Of the 16 pregnant women, the majority of respondents had secondary education as many as 12 people (75.0%).

Table 3. Characteristics of Respondents Based on Occupation

No	Occupation	Frequency	%
1	Working	3	18.7
2	Not Working	13	81.3
Totally		16	100.0

Based on table 3. Of the 16 pregnant women, the majority of respondents did not work as many as 13 people (81.3%).

Table 4. Characteristics of Respondents Based on Parity

No	Parity	Frequency	%
1	Primigravida	5	31.2
2	Scundigravida	9	56.3
3	Multigravida	2	12.5
Totally		16	100.0

Based on table 4. Of the 16 pregnant women, the majority of respondents with parity scundigravida, namely 9 pregnant women (56.3%).

Table 5. Distributions of Nausea and Vomiting Frequency among Pregnant Women Before Kajah Pudding (Cardamom Ginger) was Given

No	Pretest	Frequency	%	No	Pretest
1		Mild	3		18.7
2		Medium	10		62.6
3		Heavy	3		18.7
		Totally	16		100.0

Based on table 5. Of the 16 pregnant women, the majority of respondents experienced moderate nausea and vomiting as many as 10 people before the intervention with a moderate category (62.6%).

No	Postest	Frekwensi	%	No	Postest
1		Normal	3		18.7
2		Mild	11		68.8
3		Medium	2		12.5
		Totally	16		100.0

Based on table 6. Of the 16 pregnant women, the majority of respondents experienced mild nausea and vomiting as many as 11 people after the intervention with a mild category (68.8%).

Bivariate

Table 7. Effect of Giving Kajah Pudding (Cardamom Ginger) on the Frequency of Nausea and Vomiting of Pregnant Women

Variabel	N	Mean	Std Deviation	SE	Asymp. Sig. (2-tailed)
Pretest-posttest	16	4.063	1.569	.392	,000

Table 7. shows the mean value of 4.063. Based on paired t test, the sig value or P value is 0.000 which shows less than 0.05 ($0.000 < 0.05$). There is an effect of giving Kajah Pudding (Cardamom Ginger) on reducing the frequency of nausea and vomiting in first trimester pregnant women in the Medan Tuntungan Health Center Working Area in 2023.

Frequency of Nausea and Vomiting of Pregnant Women Before Given Kajah Pudding (Cardamom Ginger)

Based on the results of the study, the frequency of nausea and vomiting of respondents before being given Kajah pudding (cardamom ginger) was in the moderate category as many as 10 people before the intervention (62.6%). Nausea and vomiting is one of the signs and symptoms of pregnancy that commonly occurs in pregnant women in early pregnancy in the first trimester, but in some cases it can continue into the second and third trimesters of pregnancy, but this is rare. Emesis gravidarum causes discomfort due to dizziness, flatulence and weakness accompanied by the release of stomach contents through the mouth with a frequency of less than 5 times a day in first trimester pregnant women. Emesis gravidarum if not addressed immediately can become pathological (Munisah et al., 2022).

The incidence of nausea and vomiting in pregnancy (known as "morning sickness") is experienced by up to 70% of pregnant women. Nausea and vomiting in pregnancy can be found in varying degrees of severity, with 14% being severe. Hyperemesis gravidarum (HG) is a condition of excessive nausea and vomiting, leading to weight loss of more than 5%, followed by other metabolic complications. Based on an analysis of recent literature, the pathophysiology of hyperemesis gravidarum remains unknown. Several factors, including genetics, infection, psychopathology and hormonal influences, are believed to be predisposing factors. Studies in patients undergoing hospitalization with a diagnosis of HG suggest impairment in identifying taste and odor stimuli. Many studies have found changes in taste that occur during the first trimester of pregnancy, so a strongly suspected contributing factor is hormonal changes in early pregnancy (Marisca et al., 2022).

Frequency of Nausea and Vomiting in Pregnant Women After Kajah Pudding (Cardamom Ginger)

Of the 16 pregnant women, the majority of respondents experienced mild nausea and vomiting as many as 11 people after being given Kajah (Cardamom Ginger) pudding with a mild category (68.8%). This is because cardamom is good for maintaining digestion. This spice can balance the amount of fluid in the stomach. The part of cardamom that is commonly used is the fruit, because it

contains 8% essential oil consisting of sineol, terpineol, and alpha-borneol) which is efficacious to thin phlegm, facilitate the release of wind from the stomach, warm, clean blood, relieve pain (Rasyadi et al., 2021).

Ginger has anti-vomiting properties and can be used for pregnant women to reduce morning sickness. Research shows that ginger is very effective in reducing metoclopramide, a compound that induces nausea and vomiting. Small white ginger has a greater essential oil content than elephant ginger, so it tastes more spicy, in addition to high fiber and is often found in the market, so ginger can be used as an alternative treatment to overcome emesis gravidarum before using antiemetic drugs. The mechanism of ginger has a direct effect in the digestive tract by increasing gastric movement, as well as the absorption of toxins and acids. Ginger is believed to give a feeling of comfort in the stomach so that it can overcome nausea and vomiting due to the content of essential oils Zingiberena, Zingiberol, Bisabilena, Kurkuman, Gingerol, Flandrena, vit A and bitter resin (Hastuty, 2021).

The results of a study conducted on 36 pregnant women by giving a combination of SP-3 acupressure and cardamom aromatherapy found that there was an effect on the emetogenic status and emesis gravidarum of pregnant women. Currently, the use of nonpharmacology acupressure and aromatherapy is an alternative to reduce the duration of nausea, frequency of nausea, frequency of vomiting and hcg levels in emesis of first trimester pregnant women (Manek, 2019). The results of research conducted on 30 pregnant women TM I showed that there was a significant difference in the administration of ginger boiled water from the first day to the third day, before and after being given ginger boiled water with a p-value of $0.000 < 0.05$. The conclusion in this study is that there is an effect of ginger water on reducing nausea and vomiting in first trimester pregnant women (Harahap et al., 2020).

The Effect of Giving Kajah Pudding (Cardamom Ginger) on the Frequency of Nausea and Vomiting in First Trimester Pregnant Women.

Giving Kajah (Cardamom Ginger) pudding in which there is essential oil, containing cineol which is rather spicy, warming like eucalyptus oil. With ingredients 5 cardamom pods, 250 mg ginger, 500 ml water, and 50 g sugar. Drink twice a day, once drinking 250 ml/1 glass, given in the morning 250 ml and in the afternoon 250 ml after meals. Given for 7 consecutive days. Nausea and vomiting can be disruptive and cause fluid imbalance in kidney tissue and liver necrosis. Nausea is an unpleasant feeling associated with nausea or inducing vomiting, while vomiting is the expulsion of stomach contents through the mouth due to involuntary muscle spasm. Nausea and vomiting occur in 60-80% of first-time pregnant women (primigravida) and 40-60% in multigravida mothers (Lestari & Khairiah, 2022).

Nausea and vomiting in pregnancy result from changes in the endocrine system that occur during pregnancy, especially the increase in hCG hormone in pregnancy and are common complaints in almost 50-80% of pregnant women. Psychologically, nausea and vomiting during pregnancy affects more than 80% of pregnant women and has a significant effect on quality of life. Some pregnant women feel that nausea and vomiting are normal during pregnancy. Others feel uncomfortable and interfere with daily activities (Tanjung et al., 2020).

Complaints of nausea and vomiting in emesis gravidarum are physiological, but if not immediately addressed it will become dangerous. Nausea and vomiting also cause body fluids to decrease and hemoconcentration occurs which can slow blood circulation so that it affects fetal growth and development. In Indonesia, 50-75% of pregnant women experience nausea and vomiting in the first trimester or early pregnancy. Overcoming nausea and vomiting during pregnancy can be done through non-herbal and herbal measures (Prastika & Pitriani, 2021).

Emesis gravidarum can be treated with pharmacological therapy, including the administration of pyridoxine (Vitamin B6) doxylamine, antiemetics, antihistamines and anticholinergics, corticosteroid drugs that have side effects of headache, drowsiness, tingling that can harm the mother and baby in the womb (Nova Ari Pangesti, Sarifatun Naila, 2022).

One of the medicinal plants that can produce essential oils and is included in the top 9 major spice commodities in the world is cardamom. In global exports, cardamom is often sold in the form of essential oil or dried fruit. Cardamom can be used as an antibacterial, bronchitis, cancer, cough, inflammation, rheumatism, nausea and vomiting. By the community it is also used to reduce excess

uric acid levels. Cardamom contains phytochemical compounds. In addition, it contains fat, protein, calcium, oxalate, and kersic acid (Zahwa Putri Pangestu et al., 2023).

Cardamom seeds taken from the plant before the fruit is ripe can be used as medicine. Cardamom seeds contain 3-7% essential oil consisting of sineol, borneol, and terpineol. Cardamom seeds contain terpineol, terpineol acetate, sineol, borneol, and gutter which are efficacious to thin phlegm, facilitate the discharge of water from the blood, relieve pain, aromatize, stimulate, and give aroma (Anugrah et al., 2018). In addition, cardamom is used as a raw material for making cardamom oil which is then resold as a flavoring for packaged drinks and canned food (Hilman et al., 2021).

The appearance of nausea and vomiting in pregnant women is due to hormonal changes. In this case, the hormones somatomammotropin, estrogen, and progesterone have an important role in several changes that occur in pregnant women. Changes due to the hormone estrogen in pregnancy will result in excessive production of stomach acid, causing nausea and vomiting. In addition to estrogen, it is thought that the release of Human Chorionic Gonadotropine (HCG) in serum from the placenta also causes nausea and vomiting. Predisposing factors that cause nausea and vomiting are gravidity and age. Emesis gravidarum occurs in 60-80% of primigravida and 40-60% in multigravida. Most primigravida mothers have not adapted to the increase in estrogen and HCG hormones so that they experience emesis gravidarum more often (Wulandari et al., 2019).

Ginger has anti-vomiting properties and can be used for pregnant women to reduce morning sickness. Research shows that ginger is very effective in reducing metoclopramide, a compound that induces nausea and vomiting. Small white ginger has a greater essential oil content than elephant ginger, so it tastes more spicy, in addition to high fiber and is often found in the market, so ginger can be used as an alternative treatment to overcome emesis gravidarum before using antiemetic drugs. The mechanism of ginger has a direct effect in the digestive tract by increasing gastric movement, as well as the absorption of toxins and acids. Ginger is believed to give a feeling of comfort in the stomach so that it can overcome nausea and vomiting due to the content of essential oils Zingiberena, Zingiberol, Bisabilena, Kurkuman, Gingerol, Flandrena, vit A and bitter resin (Hastuty, 2021).

Other studies that have the same essential content with ginger have been conducted on the sample in this study amounted to 30 first trimester pregnant women who experienced nausea. The sampling technique used was total sampling. The research instrument used was PUQE Score which was used to assess the degree of nausea and vomiting in pregnant women. Data were analyzed using descriptive statistics, namely paired t-test. The results showed that there was a significant difference in the degree of nausea of pregnant women before and after being given ginger oil aromatherapy in the experimental group ($p < 0.05$) (Carolin, 2019).

Research that has been conducted on 15 pregnant women by giving 50ml ginger brew once a day for 7 days obtained the results of the level of nausea and vomiting before being given ginger brew water amounted to 7.13. The average level of nausea and vomiting after being given ginger brewed water is 5.40. There is an effect of ginger steeping water in reducing the level of nausea and vomiting in first trimester pregnant women at PMB Lidya Harsa with a p value of 0.000 ($\alpha < 0.05$) (Puspita et al., 2022). The results of research conducted on 36 pregnant women by giving a combination of SP-3 acupressure and cardamom aromatherapy found that there was an influence on the emetogenic status and emesis gravidarum of pregnant women. Currently, the use of nonpharmacology acupressure and aromatherapy is an alternative to reduce the duration of nausea, frequency of nausea, frequency of vomiting and hcg levels in emesis of first trimester pregnant women (Manek, 2019).

Based on this, it can be concluded that the results of this study show a paired t test sig value or P value of 0.000 which shows less than 0.05 ($0.000 < 0.05$). There is an effect of giving Kajah Pudding (Cardamom Ginger) on reducing the frequency of nausea and vomiting in first trimester pregnant women in the Medan Tuntungan Health Center Working Area in 2023.

4. CONCLUSION

Based on the characteristics, the age range of reproduction in the group of respondents in this study, the majority were 20-30 years old as many as 10 people (62.5%). Based on the education of the respondents, the majority of secondary education as many as 12 people (75.0%). Based on the respondent's work, the majority of respondents did not work as many as 13 people (81.3%). Based on

the respondent's parity, the majority of scundigravida parity is 9 pregnant women (56.3%). The frequency of nausea vomiting of respondents before being given Kajah (Cardamom Ginger) pudding in the category of moderate nausea vomiting as many as 10 people. The frequency of nausea vomiting of respondents after being given Kajah pudding (Cardamom Ginger) in the mild category was 11 people after the intervention with the mild category (68.8%). Based on the paired t test, the sig value or P value is 0.000 which shows less than 0.05 ($0.000 < 0.05$). There is an effect of giving Kajah Pudding (Cardamom Ginger) on reducing the frequency of nausea and vomiting in first trimester pregnant women in the Medan Tuntungan Health Center Working Area in 2023.

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