

THE EFFECT OF GINGER INFUSION ON NAUSEA AND VOMITING IN FIRST TRIMESTER PREGNANT WOMEN

Maisaroh¹, Nurliyani², Ike Ate Yuviska³

¹Diploma IV Program Midwifery Faculty of Health Sciences, Malahayati University
Email korespondensi : nurliani@malahayati.ac.id

ABSTRAK : PENGARUH SEDUHAN JAHE TERHADAP MUAL DAN MUNTAH PADA IBU HAMIL TRIMESTER PERTAMA

Latar belakang : World Health Organization (WHO) memperkirakan bahwa sedikitnya 15% dari semua wanita hamil memerlukan perawatan obstetrik yang terlatih dan bila tidak maka wanita tersebut akan mengalami kesakitan kecacatan yang serius dan berkepanjangan. Kejadian emesis gravidarum pada ibu hamil didunia menurut WHO berkisar 14% (Akbar, 2022). Mual dan muntah adalah gejala yang sangat umum yang dapat disebabkan oleh berbagai macam kondisi. data kunjungan ibu hamil di Wilayah Kerja Puskesmas Gedung Negara pada tahun 2022 sebanyak 467 ibu hamil dan yang mengalami mual muntah sebanyak 362 (77,5%) ibu. Upaya untuk mengurangi frekuensi muntah dapat diberikan beberapa tindakan seperti air seduhan jahe. Tujuan penelitian diketahui pengaruh seduhan air jahe dengan mual muntah ibu hamil TM I di Wilayah Puskesmas Gedung Negara tahun 2023.

Jenis penelitian kuantitatif dengan desain *quasi eksperiment* dengan pendekatan *one group pretest-posttest desain*. Populasi / subjek yang diambil dalam penelitian ini adalah seluruh ibu hamil di Wilayah Puskesmas Gedung Negara dengan sampel ibu hamil TM I yang mengalami mual muntah sebanyak 30 responden. Penelitian telah dilaksanakan di Wilayah Puskesmas Gedung Negara tahun 2023 pada bulan April 2023. Pengumpulan data menggunakan lembar observasi, analisis data secara univariat dan bivariat (*uji wilcoxon*).

Hasil penelitian Ada pengaruh seduhan air jahe dengan mual muntah ibu hamil TM I di Wilayah Puskesmas Gedung Negara Tahun 2023

Kesimpulan diketahui rata-rata mual muntah sebelum diberikan air seduhan jahe adalah 8,9 dan rata-rata mual muntah setelah diberikan air seduhan jahe adalah 5,1. Ada pengaruh seduhan air jahe dengan mual muntah ibu hamil TM I di Wilayah Puskesmas Gedung Negara Tahun 2023 (p value = 0,000).

Saran diharapkan jahe menjadi salah satu alternative terapi non farmakologis untuk mengatasi mual dan muntah pada ibu hamil sehingga kontak ibu hamil dengan obat-obatan bisa diminimalisir.

Kata Kunci : Mual Muntah ibu hamil dan seduhan air jahe

ABSTRACT

Background: The World Health Organization (WHO) estimated that at least 15% of all pregnant women require trained obstetric care, and without it, these women may experience severe and prolonged pain and disability. The occurrence of gravidarum emesis in pregnant women globally, according to WHO was around 14% (Akbar, 2022). Nausea and vomiting are highly common symptoms that can be caused by various conditions. Data from visits by pregnant women in the working area of Gedung Negara Primary Health Care in 2022 showed a total of 467 pregnant women, of which 362 (77.5%) experienced nausea and vomiting. Efforts to reduce the frequency of vomiting can be addressed through various measures, including the consumption of ginger-infused water. The research aimed to determine the effect of ginger-infused water on nausea and vomiting in first-trimester pregnant women in the working area of Gedung Negara Primary Health Care in 2023.

Research Method: This research was a quasi-experimental design using a one-group pretest-posttest approach. The population/subjects of the study included all pregnant women in the Gedung Negara Primary Health Care, with a sample of 30 first-trimester pregnant women experiencing nausea and vomiting. The research was conducted in the Gedung Negara Primary Health Care area in the year 2023, specifically in April 2023. Data collection was done using observation sheets, and data analysis involved both univariate and bivariate analyses (Wilcoxon test).

The results There was a significant effect of ginger-infused water on nausea and vomiting in first-trimester pregnant women in the Gedung Negara Primary Health Care in 2023.

Conclusion of the study revealed that the average level of nausea and vomiting before consuming ginger-infused water was 8.9, and the average level after consuming ginger-infused water was 5.1. There was a significant effect of ginger-infused water on nausea and vomiting in first-trimester pregnant women in the Gedung Negara Primary Health Care in 2023 (p-value = 0.000).

The suggestion that ginger becomes one of the non-pharmacological alternative therapies to address nausea and vomiting in pregnant women, potentially minimizing their reliance on medication.

Keywords: Nausea Vomiting pregnant women and ginger-infused water

INTRODUCTION

Pregnancy is a process that starts from ovulation, conception, nidation, implantation and development of the embryo in the uterus until a term (Prawirohardjo, 2018). Pregnancy affects the mother's body by causing physiological changes that occur throughout the organ system, most of the changes are caused by hormonal work. During pregnancy, there can be various pregnancy complications, namely nausea and vomiting which are often experienced by pregnant women, this condition is one of the earliest symptoms of pregnancy.

The World Health Organization (WHO) estimates that at least 15% of all pregnant women require skilled obstetric care and will otherwise suffer serious and prolonged disability. According to the American Pregnancy Association (APA) the majority of pregnant women experience some type of morning sickness and there are at least 60,000 cases of *hyperemesis gravidarum* reported to be hospitalized, and the number is estimated to be much higher because many pregnant women are only treated at home or outpatient (American Pregnancy Association, 2018). Pregnancy with *hyperemesis gravidarum* according to WHO reaches 12.5% of all pregnancies in the world with incidence rates ranging from 0.3% in Sweden, 0.5% in California, 0.8% in Canada, 10.8% in China, 0.9% in Norway, 2.2% in Pakistan, and 1.9% in Turkey (Tanjung, 2020).

Nausea and vomiting or called *emesis gravidarum* or *morning sickness* is a state of nausea which is sometimes accompanied by vomiting (frequency less than 10 times). During pregnancy, 70-85% of women experience nausea and vomiting (Hastuti, 2021). From the results of Lecasse's research, of 367 pregnant women, 78.47% of nausea and vomiting occurred in the first trimester, with the degree of nausea and vomiting, namely 52.2% experiencing mild nausea and vomiting, 45.3% experiencing moderate nausea and vomiting and 2.5% experiencing severe nausea and vomiting. In the second trimester, 40.1% of women still experience nausea and vomiting with details of 63.3% experiencing mild nausea and vomiting,

35.9% experiencing moderate nausea and vomiting and 0.8% experiencing severe nausea and vomiting (Adnyani, 2021). The incidence of hyperemesis gravidarum in Indonesia is ranging from 1-3% of all pregnancies (Tanjung, 2020).

The incidence of vomiting which is one of the proportions of disorders experienced during pregnancy in women aged 10-54 (WUS) is 20.1% (National Riskesdas Report, Ministry of Health RI 2018). In 2021, the number of pregnant women in Indonesia was 4,884,711, with the highest number in West Java Province with 897,215 and the lowest in North Kalimantan Province with 14,297 mothers while Lampung Province had 160,562 pregnant women. (Indonesian Ministry of Health., 2022). Disorders / complications experienced during pregnancy, based on Riskesdas data such as vomiting as much as 20%, high fever 2.4%, hypertension 3.3%, immobile women 0.9%, bleeding in the birth canal 2.6%, discharge of amniotic fluid 2.7%, swelling accompanied by spasms 2.7%, long cough 2.3%, chest pain 1.6%, and others 7.2% (Riskesdas, 2018).

The number of pregnant women in Lampung Province in 2021, with the highest number in Central Lampung Regency with 22,911 mothers and the lowest in Metro City with 19,447 pregnant women while North Lampung Regency had the fifth highest number of 12,024 pregnant women. (Lampung Provincial Health Office, 2022). Disorders / complications experienced during pregnancy, based on Riskesdas data in Lampung Province such as vomiting as much as 17.2%, high fever 1.8%, hypertension 2.6%, less mobile genitals 0.6%, bleeding in the birth canal 2.2%, discharge of amniotic fluid 1.6%, swelling accompanied by spasms 1.5%, long cough 0.9%, chest pain 0.8%, and others 5.8% (Riskesdas, 2018).

Based on the visits of pregnant women at Negara Ratu Primary Health Care, in 2020 the visits of pregnant women were 283 mothers and those who experienced nausea and vomiting were 152 (53.7%) mothers, in 2021 the visits of pregnant women were 264 mothers and those who experienced nausea and vomiting were 112 (42.2%) mothers and in 2022 the

visits of pregnant women were 273 pregnant women and those who experienced nausea and vomiting were 135 (49.4%) mothers (Medical Record Data of Negara Ratu primary health care, 2023). Based on Ketapang primary health care in 2020 there were 279 mothers and those who experienced nausea and vomiting were 152 (53.7%) mothers, in 2021 pregnant women visits were 285 mothers and those who experienced nausea and vomiting were 148 (51.9%) mothers and in 2022 pregnant women visits were 291 mothers and those who experienced nausea and vomiting were 164 (56.3%) mothers (Medical Record Data of Ketapang primary health care, 2023). Based on data on visits by pregnant women in the Working Area of Gedung Negara primary health care, North Lampung Regency, in 2020 there were 404 pregnant women and those who experienced nausea and vomiting were 289 (71.5%) mothers, in 2021 there were 425 pregnant women and those who experienced nausea and vomiting were 314 (73.8%) mothers and in 2022 there were 467 pregnant women and those who experienced nausea and vomiting were 362 (77.5%) mothers (Medical Record Data of Gedung Negara primary health care, 2023).

Based on data obtained by researchers from Gedung Negara Primary Health Care, the number of pregnant women patients in 2020 was 410 pregnant women and those who experienced mild HEG were 69 (15.1%) pregnant women, in 2021 there were 412 pregnant women and those who experienced mild HEG were 88 (21.3%) pregnant women and in 2022 there were 467 pregnant women and those who experienced mild HEG were 108 (23.1%) pregnant women. (Medical Record Data of Gedung Negara primary health care, 2022).

There is no law specifically regulating the implementation of complementary midwifery services in Indonesia, but the implementation of complementary medicine in general has been regulated in the Minister of Health Decree No.1109/Menkes/Per/IX/2007 on complementary-alternative medicine. For many midwives and women, complementary midwifery care is an option to reduce medical interventions during pregnancy and childbirth, and experience has shown it to be helpful. However, most of these therapies are not considered meaningful in conventional medicine. Complementary therapies or traditional medicine are now being regulated to have a legal aspect. For the Province, the provision of complementary therapies is contained in Governor Regulation No. 55 of 2019 concerning Traditional Medicine.

The results of the study stated that the ginger brew given to respondents was made from 2.5 grams of thinly sliced ginger then brewed with 250 ml of hot water plus 10 grams of white sugar. The ginger brew

was drunk 2x1 in a warm state for 4 days. Measurement of the frequency of nausea and vomiting was done every day. Based on the results of the study, it can be concluded that ginger water can reduce nausea and vomiting in the first trimester of pregnancy. Therefore, we believe this water will be effective for the further development of pregnancy patients (Dewi Aprilia, et al 2020).

The results of preliminary studies conducted by researchers on February 4-7, 2023, by looking at the visiting book of pregnant women there were 49 pregnant women in the first trimester (first), as many as 37 (77.0%) pregnant women experienced nausea and vomiting but not excessive, as many as 3 (6.2%) experienced excessive nausea and vomiting, 8 (16.7%) complained of dizziness and others did not have any complaints. Based on the pre-survey data conducted, the data obtained from *antenatal care* visits in January 2023 there were 143 first trimester pregnant women who checked their pregnancy, and obtained first trimester pregnant women who experienced nausea and vomiting there were 31 (21.6%) pregnant women. In overcoming the mother's complaints, health workers provide anti-nausea drugs (vitamin B6 consumed by the mother for 7 days) and counseling on diet. Health workers have not provided counseling related to non-pharmacological practices such as ginger water or asking to reduce nausea and vomiting.

Based on the above background, the researcher is interested in taking the title of the effect of ginger water steeping with Nausea and Vomiting of Pregnant Women TM I in the Gedung Negara Primary Health Care in 2023.

RESEARCH METHODS

This study employed a quantitative research with an analytic survey method. The research was conducted in April 2023 in the Gedung Negara Primary Health Care. analytic research with a *one group pretest-posttest design* approach. The population in this study were all pregnant women who made visits at the Gedung Negara Health Center recorded in March 2023 the number of visits by pregnant women TM I was 34 people, the sample was 30 respondents. to measure Nausea and vomiting in pregnant women, the measuring instrument used Questionnaire (PUQE). Ginger steeping therapy was given to pregnant women with complaints of nausea and vomiting 2 times a day as much as 250 ml for 4 days in one week. Data analysis used univariate and bivariate with wilcoxon test.

RESEARCH RESULTS

Based on table 1 above, it is known that out of 30 respondents with ages 20-35 years as many as

27 (90.0%), respondents with high school education as many as 20 (66.7%), respondents with IRT jobs

as many as 24 (80.0%), respondents with primiparous parity as many as 22 (73.3%).

Table 1
Respondent Characteristics

Variables	Category	Total	
		n	%
Age	20 - 35 years	27	90.0
	< 20 and >35 years	3	10.0
Education	SMP (Junior High School)	6	20.0
	SMA (Senior High School)	20	66.7
	Bachelor	4	13.3
Occupation	IRT (Housewife)	24	80.0
	Work	6	20.0
Parity	Primiparous	22	73.3
	Multiparous	8	26.7

Univariate Analysis

Based on table 2 above, the average nausea and vomiting before ginger water was given was 8.9

with a *standard deviation* of 1.7, a minimum value of 6, and a maximum value of 12.

Table 2
Average nausea and vomiting before given ginger water infusion in the Gedung Negara Primary Health Care in 2023

Nausea vomiting	Mean	Sd	Min	Max	N
Before	8,9	1.7	6	12	30

Table 3
Average nausea and vomiting after being given ginger water infusion in the Gedung Negara Primary Health Care in 2023

Nausea vomiting	Mean	Sd	Min	Max	N
After	5,1	0,7	4	6	30

Table 4
Data Normality Test

Hb levels	Shapiro-Wilk	Description
Before egg consumption	0.123	Normal
After egg consumption	0.088	Normal

Based on table 3 above, it is known that the average nausea and vomiting after being given ginger water is 5.1 with a *standard deviation* value of 0.7, a minimum value of 4 and a maximum value of 6.

Based on table 4.4 above, the data normality test using *Shapiro-Wilk*, it is known that the hb level data before and after obtained a significant value > 0.05, which means that the data is **normal**.

Bivariate Analysis

Based on table 4 above, the results of the Wilcoxon test, *p-value* = 0.000 (*p-value* < α = 0.05) which means there is an effect of ginger water steeping with nausea and vomiting of pregnant women TM I in the Gedung Negara Primary Health Care in 2023.

Table 5
Effect of ginger water Infusion on nausea and vomiting of pregnant women TM I in the Gedung Negara Primary Health Care in 2023

Variables	Ginger water Infusion	Mean	Median	Min-Max	P-Value
Nausea Vomiting	Before	8,9	9.0	6-12	0.0000
	After	5,1	5.0	4-6	

DISCUSSION

Average nausea and vomiting before being given ginger water infusion in the Gedung Negara Primary Health Care in 2023.

Based on the study, it is known that the average nausea and vomiting before being given ginger water brew is 8.9 with a *standard deviation value* of 1.7, a minimum value of 6, and a maximum value of 12.

Nausea and vomiting during pregnancy is a digestive system disorder during pregnancy that usually occurs in the morning caused by an increase in pregnancy hormones such as the hormone *Human Chorionic Gonadotropin* (HCG), *estrogen* and *progesterone* (Tiran, 2019).

In line with Farida's research (2020) the results showed that the average score of emesis gravidarum before being given ginger drink was 7.19. Wulandari's research (2019) found that the frequency of nausea and vomiting in the intervention group before the action had an average score of 13.08. Harahap's research (2020) The results showed that before being given a ginger wedang drink all respondents experienced severe nausea and vomiting as many as 30 people (100%).

The results of the study before the intervention obtained the highest PUQE score of 12 with a moderate category, and the lowest score was 6 with a mild score.

In the opinion of researcher, based on the results of the study, it was found that there was a difference in the average value of nausea and vomiting in mothers before and after consuming ginger broth so it was recommended for mothers to consume ginger broth if nausea and vomiting occurred but were still under supervision by health workers. providing information by health workers to pregnant women, especially in the first trimester to consume ginger broth given to reduce nausea and vomiting. By providing information, it is expected to increase the mother's knowledge so that she complies with the advice given.

Average nausea and vomiting after being given ginger water infusion in the Gedung Negara Primary Health Care in 2023.

Based on the study, it is known that the average nausea and vomiting after being given ginger water is 5.1 with a *standard deviation* value of 0.7, a minimum value of 4 and a maximum value of 6.

Pregnant women who experienced nausea and vomiting decreased after being given ginger drinks (Putri, 2017). The advantage of ginger is the content of essential oils that have a refreshing effect and block the gag reflex, while gingerol can launch blood and nerves work well. The fragrant aroma of ginger is produced by essential oils, while oleoresin causes a spicy flavor that warms the body (Khasanah, 2017). Ginger drink is effective in overcoming morning sickness (Rofiah, 2017).

Based on the description above, according to the researchers, after giving ginger water decoction, pregnant women felt a reduction in nausea and vomiting (nausea and vomiting) 5-6 times a day. This shows that giving ginger water decoction to pregnant women can reduce the frequency of nausea and vomiting during pregnancy. Ginger is very effective in the use of antiemetics to prevent emesis gravidarum in pregnancy. The majority of people in the Purus area work as housewives and fishermen with middle to lower socioeconomic status, so when facing complaints of emesis gravidarum in TM 1, they need alternatives to reduce the frequency of nausea and vomiting and discomfort during pregnancy. Pregnant women can continue their daily activities calmly and comfortably so that they can maintain the health of the mother and her fetus.

Bivariate Analysis

Effect of ginger water infusion with nausea and vomiting of pregnant women TM I in the Gedung Negara Primary Health Care in 2023

Based on the results of the *Wilcoxon* test, *p-value* = 0.000 ($p\text{-value} < \alpha = 0.05$) which means that there is an effect of ginger water steeping with nausea and vomiting of pregnant women TM I in the Gedung Negara Primary Health Care in 2023.

In line with the theory that a decrease in emesis gravidarium can be done using ginger drinks, because ginger drinks *essential* oils *Zingiberena* (zingirona), zingiberol, can bilena, curcumin,

gingerol, flavonoid, vit A and bitter resins that can block serotonin, a neurotransmitter that is synthesized in serotonergic neurons in the central nervous system and enterochromaffin cells in the digestive tract, so as to provide a feeling of comfort in the stomach, so it is believed to provide a feeling of comfort in the stomach.

In line with the research of Rufaridah (2019) from the results of data analysis using *paired sample t-test* obtained *p-value* 0.000 ($p < 0.05$), it can be concluded that there is an effectiveness of ginger brew on reducing *emesis gravidarum* in the first trimester. Faridah's research (2020) obtained *p value* = 0.000 < 0.05 , meaning that there is an effect of ginger drink on *emesis gravidarum* in first trimester pregnant women. Ariska's research (2018) obtained a *p value* of 0.000 (< 0.05), it can be concluded that there is a significant effect between the administration of ginger drink on reducing the frequency of *emesis gravidarum* in first and second trimester pregnant women at BPM Eni Marfiah Samarinda in 2018.

In the researchers' opinion, ginger tea is more effective in reducing nausea and vomiting in pregnant women. Based on the results of experiments conducted for 4 days, it can be seen that from the results of the study, mothers who consumed ginger brew experienced a reduction in nausea. This is because ginger brew which serves to accelerate the process of digestion of food in the stomach will help overcome the condition of nausea and vomiting that occurs in mothers, by giving this combination it will accelerate the decline in nausea and vomiting conditions in first trimester pregnant women.

In the opinion of the researcher, the results of the study found a significant effect on nausea and vomiting felt by mothers after consuming ginger broth, so it is expected that health workers provide information to pregnant women, especially in the first trimester, to consume ginger broth given to reduce nausea and vomiting. By providing information, it is expected to increase the mother's knowledge so that she complies with the advice given.

CONCLUSION

It is known that the average nausea and vomiting before being given ginger water is 8.9 with a *standard deviation value* of 1.7, a minimum value of 6, and a maximum value of 12. nausea and vomiting after being given ginger water is 5.1 with a *standard deviation value* of 0.7, a minimum value of 4 and a maximum value of 96. There is an effect of ginger water steeping with nausea vomiting of pregnant women TM I in the Gedung Negara Primary Health Care in 2023 (*p-value* = 0.000).

SUGGESTION

For Malahayati University, it can be used as a reference for academics on campus in improving the degree of public health, especially in research on nausea vomiting in pregnant women. This research can be used in community service programs as an innovation in non-pharmacological therapy for pregnant women who experience nausea and vomiting that can be used by pregnant women safely and can reduce nausea and vomiting. For Puskesmas Gedung Negara to open a class for pregnant women that contains activities such as pregnant gymnastics, counseling, demonstration of making ginger tea and others.

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