

EFFECTIVENESS OF GINGER DRINK ON EMESIS GRAVIDARUM IN FIRST TRIMESTER PREGNANT WOMEN

Rini Kundaryanti¹, Sri Dinengsih^{2*}, Nurul Latifah³

^{1,2,3} Midwifery Study Program, Faculty of Health Sciences, Nasional University

*Email correspondence: sridinengsih@civitas.unas.ac.id

ABSTRAK : EFEKTIFITAS MINUMAN JAHE TERHADAP EMESIS GRAVIDARUM PADA IBU HAMIL TRIMESTER I

Latar Belakang: Mual muntah atau emesis gravidarum yang terjadi pada kehamilan yang disebabkan karena terjadi peningkatan kadar hormon estrogen dan progesterone yang diproduksi oleh *Human Chorionic Gonadotropine* (HCG). Perubahan hormon pada setiap perempuan hamil responnya akan berbeda, sehingga tidak semua mengalami mual muntah pada kehamilan. jahe merupakan bahan terapi untuk meredakan dan mengurangi rasa mual dan muntah, jahe juga efektif dalam mengurangi emesis gravidarum pada ibu hamil trimester pertama kehamilan.

Tujuan: Mengetahui efektifitas minuman jahe terhadap minuman jahe terhadap emesis gravidarum pada trimester I di Puskesmas Kedaung Wetan Tahun 2023.

Metodologi penelitian: desain *Quasy experiment* dengan rancangan *pretest-posttest with control group design*. Sampel dalam penelitian Ibu hamil trimester I yang emesis gravidarum di Puskesmas Kedaung Wetan pada bulan Juli tahun 2023 sebanyak 24 responden dengan teknik *total sampling*, analisa data menggunakan uji *paired sample t-test* dan *T-Test Independent* yang sebelumnya dilakukan uji normalitas dan homogenitas.

Hasil Penelitian: Emesis gravidarum sebelum dan sesudah pemberian *minuman jahe* mengalami penurunan dengan selisih nilai rata-rata 1,00. Hasil penelitian bivariat uji *paired sample t-test* kelompok intervensi (*p value* 0,000) dan kelompok kontrol (*p value* 0,000). Hasil uji *T-Test Independent* dengan *p value* 0,006.

Simpulan : Ada pengaruh antara tingkat emesis gravidarum sebelum dan sesudah diberikan minuman jahe pada kelompok intervensi, sehingga dapat disimpulkan bahwa minuman jahe efektif terhadap emesis gravidarum pada ibu hamil trimester I di Puskesmas Kedaung Wetan Provinsi Banten Tahun 2023.

Saran : Diharapkan bagi ibu hamil trimester I yang mengalami emesis gravidarum dapat mengkonsumsi minuman jahe sebagai pengobatan kombinasi atau alternatif terapi

Kata Kunci : Emesis, Gravidarum, Jahe, Trimester I

ABSTRACT

Background: Nausea, vomiting or emesis gravidarum that occurs in pregnancy is caused by increased levels of the hormones estrogen and progesterone produced by Human Chorionic Gonadotropine (HCG). Hormonal changes in every pregnant woman will respond differently, so not all experience nausea and vomiting during pregnancy. ginger is a therapeutic ingredient to relieve and reduce nausea and vomiting, ginger is also effective in reducing emesis gravidarum in pregnant women in the first trimester of pregnancy.

Objective: To determine the effectiveness of ginger drinks on emesis gravidarum in the first trimester at the Kedaung Wetan Health Center in 2023. Methodology research: Quasy experiment design with pretest-posttest design with control group design. The sample in the study of pregnant women in the first trimester with emesis gravidarum at the Kedaung Wetan Health Center in July 2023 was 24 respondents using the total sampling technique. Data analysis used the paired sample t-test and Independent T-Test, which were previously tested for normality and homogeneity.

Results Research: Emesis gravidarum before and after giving ginger drinks decreased with an average difference of 1.00. The results of the bivariate study were paired sample t-test in the intervention group (*p value* 0.000) and the control group (*p value* 0.000). The results of the Independent T-Test test with a *p value* of 0.006.

Conclusion: There is an influence between the level of emesis gravidarum before and after being given ginger drink in the intervention group, so it can be concluded that ginger drink is effective against emesis gravidarum in first trimester pregnant women at the Kedaung Wetan Health Center, Banten Province Year 2023.

Suggestion: It is hoped that pregnant women in their first trimester who experience emesis gravidarum can consume ginger as a combination treatment or alternative therapy.

Keywords: Emesis, Gravidarum, Ginger, First Trimester

INTRODUCTION

Pregnancy is the growth and development of the fetus since conception and ends until the onset of labor. Every process in pregnancy is a crisis condition that requires psychological and physiological adaptation to the influence of pregnancy hormones and mechanical stress due to uterine enlargement and other tissues. Physiological changes in early pregnancy are hormonal changes, an increase in the hormones estrogen and progesterone which results in nausea and vomiting (Rizki, Harahap, and Fitri 2022)

Nausea and vomiting is one of the earliest, most common and most stressful symptoms associated with pregnancy. Nausea and vomiting that occurs in pregnancy is caused by increased levels of *estrogen* and *progesterone* hormones produced by *Human Chorionic Gonadotropine (HCG)* in the serum of the placenta. The frequency of morning sickness is not only in the morning but can be during the day and even at night. In addition, because of the smell of a dish, half of pregnant women will definitely experience nausea and vomiting. Nausea and vomiting occur in 60- 80% of primi gravida and 40-60% of multi gravida. Hormonal changes in each pregnant woman will respond differently, so not all experience nausea and vomiting in pregnancy (Aprilia 2020)

Interventions to maintain maternal comfort during pregnancy can use drugs or without drugs. The use of drugs can sometimes cause side effects (P and Pernoll, 2017). but interventions without drugs are now widely used to minimize side effects, including the use of aromatherapy, hypnotherapy and massage therapy (Purba, Sharfina Haslin, and Siregar 2023)

Currently, complementary therapy with ingredients from plants that are easily available has been widely used, including: ginger, peppermint leaves and lemon. I Wayan Redi Aryanta (2019), explains that ginger is an anti- emetic (anti-vomiting) which contains zingi beren essential oil which can treat complaints of nausea and vomiting, and provide a comfortable sensation (Redi Aryanta 2019)

Ginger is a plant with a million properties that has been known for a long time. Ginger is one of the important spices. Its rhizome has many benefits, including as a seasoning, beverage, and candy and is also used in traditional medicinal herbs. (Rusman and Andiani, Dewi 2017)

The first advantage of ginger is its volatile oil content, which has a refreshing effect and blocks the gag reflex, while gingerol can get the blood flowing and the nerves working properly. As a result, tension can be melted, the head becomes fresh, and nausea

and vomiting are suppressed. The fragrant aroma of ginger is produced by the essential oil, while the oleoresin causes a spicy flavour that warms the body and releases sweat. (Rahayu and Sugita 2018).

The results of Hartuti's research (2021) showed that before being given the intervention, the average respondent experienced the frequency of nausea vomiting 13 times a day, after being given the intervention of warm ginger drink, the average frequency of nausea vomiting decreased to 3.18 times a day with a p value of 0.000. It can be concluded that both clinically and statistically, warm ginger drink has an effect on reducing the frequency of nausea vomiting in first trimester pregnant women (Hastuty 2021)

Based on the results of Yanuaringsih's research (2020), it was found that the average nausea and vomiting in first trimester pregnant women before being given ginger tea was 3.87 and after being given a ginger consumption intervention for 7 days the frequency of nausea and vomiting was 1.19 from the above data it was found that ginger tea was able to reduce nausea and vomiting in first trimester pregnant women (Yanuaringsih, Nasution, and Aminah 2020)

Preliminary studies conducted by researchers at the Kedaung Wetan Health Centre found that out of 10 pregnant women in the first trimester who checked their womb, 3 people complained of experiencing severe nausea and vomiting, 4 people complained of experiencing moderate nausea and vomiting and 3 people complained of experiencing mild nausea and vomiting. So far, the intervention provided is only in the form of medical intervention. Furthermore, mothers have never consumed ginger brew to overcome nausea and vomiting, so this study aims to determine the effectiveness of ginger drink on Emesis Gravidarum in Trimester I pregnant women at Kedaung Wetan Health Centre in 2023.

RESEARCH METHODS

This type of research is *Quasy Experimental* with *Two group Pretest Post test* design. The sampling technique in this study was *total sampling*, namely first trimester pregnant women who experienced emesis gravidarum at the Kedaung Wetan Health Center, totaling 24 people, divided into ginger boiled water groups as an intervention group and a control group treated with vitamin B6, making ginger water twice a day as much as 100 mg / day for 7 days carried out in July 2023. The pretest measurement was done on day 1 and the post test was done on day 8, The research instrument used the Pregnancy Unique Quantification of Emesis and Nausea (PUQE-24) questionnaire sheet. The

analysis was carried out using the *paired T Test* statistical test using SPSS.

RESEARCH RESULTS

Based on table 1, it is known that in the intervention group, the mean score for nausea and vomiting before (Pretest) was 7.42 and the post test score for nausea and vomiting was 6.42. It can be concluded that there was a significant decrease in

the mean score for nausea and vomiting in pregnant women in the first trimester after given ginger drink

In the control group, the pretest score for nausea and vomiting was 7.25 and the posttest score for nausea and vomiting was 7.00, so it can be interpreted that there was a decrease in the average score for nausea and vomiting in pregnant women in the 1st trimester, but it was not significant after administering vitamin B6.

Table 1
Emesis Gravidarum Score Values in First Trimester Pregnant Women before and after in the intervention group and control group At The Kedaung Wetan Health Center

Kelompok		n	Mean	Max	Min	Std.D
Intervensi	Pretest	12	7.42	5	8	0.996
	Posttest		6.42	5	7	0.669
Kontrol	Pretest	12	7.50	4	5	1.485
	Posttest		7.00	9	8	0.953

Table 2
Differences In Emesis Gravidarum In The Intervention And Control Groups In First Trimester Pregnant Women At The Kedaung Wetan Health Center

Kelompok		Mean	Selisih Mean	Sig (2-tailed)
Intervensi	Pretest	7.42	0.167	0.000
	Posttest	6.00		
Kontrol	Pretest	7.25	-1.000	0.013
	Posttest	7.00		

Based on table 2, the results of statistical tests in the intervention group show that the sig (2-tailed) value is 0.000 <0.05, meaning that there is a significant difference in reducing the nausea and vomiting score after being given ginger drink.

In the control group, the sig (2-tailed) value was 0.013 <0.05, so it can be concluded that there was a difference in the decrease in nausea and vomiting scores after being given vitamin B6. It can be concluded that in the 2 groups there was a decrease in nausea and vomiting scores, but significant score values occurred in the intervention group (ginger drink).

DISCUSSION

Nausea and Vomiting Score Values in First Trimester Pregnant Women before and after in the intervention group and control group

The results of this study show that in the intervention group, the mean emesis gravidarum score before (Pretest) being given ginger drink to pregnant women in the trimester of pregnancy was 7.42 after (Post test) giving ginger drink the mean emesis score was 6.42. It can be concluded that

there was a significant decrease in emesis score. gravidarum in first trimester mothers after being given ginger drink

In the control group, the emesis score value before being given vitamin B6 was 7.25 and after being given vitamin B6, the emesis gravidarum score value for pregnant women was 7.00, so it can be interpreted that there was a decrease in emesis gravidarum levels after giving vitamin B6. So it can be concluded that there was a decrease in the emesis gravidarum score in first trimester mothers after being given vitamin B6.

In line with research by Ucu (2020) shows that the results of measuring the frequency score of emesis gravidarum levels in pregnant women (Fazar and Uci 2020)

According to Dewi's (2020) research results, the average frequency of emesis in pregnant women before being given ginger infusion was 9.36 times/day and decreased to 4.86 times/day after being given ginger infusion. There is a difference in the average frequency of emesis before and after the ginger infusion intervention with a mean difference of 4.50 with a Z value = -4.123 and a p value = 0.000,

meaning that giving ginger infusion is effective in reducing the frequency of emesis in first trimester pregnant women in the work area Lubuk Sanai Health Center, Mukomuko Regency (Ningsih et al. 2020)

Emesis Gravidarum is a common complaint presented in young pregnancies which is caused by hormonal changes in women due to an increase in the hormones estrogen, progesterone and the release of human chorionic gonadotropine from the placenta, causing nausea and vomiting (Bella Puspa Sari 2021)

Risk factors for severe nausea and vomiting in pregnancy can cause dehydration and weight loss in the mother (Petry et al. 2018)

Ginger contains the essential oils Zingiberena (zingirona), zingiberol, bisabilena, curcumin, gingerol, flandrena, vitamin A and bitter resin which can block serotonin, a neurotransmitter that is synthesized in serotonergic neurons in the central nervous system and cells. lanterochromaffin in the digestive tract so it is believed to give a comfortable feeling in the stomach so it is believed to give a comfortable feeling in the stomach so it can overcome nausea and vomiting (Hastuty 2021)

Ginger treats nausea and vomiting in pregnant women in the first trimester. where nausea and vomiting are caused by changes in the endocrine system during pregnancy, mainly caused by high fluctuations in HCG levels. Ginger contains zingerone and the aroma of ginger is caused by zingiberol. Ginger can work to inhibit serotonin receptors and cause an antimetic effect on the gastrointestinal system, thus reducing nausea and vomiting (Yanuaringsih, Nasution, and Aminah 2020)

Researchers assume that the influence of the increase in the hormones estrogen, progesterone and the release of Human Chorionic Gonadotropine from the placenta causes nausea and vomiting. As a traditional medicinal ingredient, ginger has properties for preventing and treating various diseases, such as digestive system disorders such as nausea and vomiting.

Differences in Emesis Gravidarum in the Intervention and Control Groups in 1st Trimester Pregnant Women

Based on the results of this study, it was found that in the intervention group the p-value was $0.000 < 0.05$, it was concluded that there was a significant difference in the nausea and vomiting scores at the Kedaung Wetanma Community Health Center, while in the control group the p-value was $0.013 < 0.05$, so It can be concluded that there is a difference in nausea and vomiting scores after being given to the

vitamin B6 group at the Kedaung Wetan Community Health Center, but it is not significant.

Ginger (*Zingiber officinale*) is a rhizome plant that is very popular as a spice and medicinal ingredient. The rhizome is finger-shaped and bulges in the middle segments. The dominant spicy taste is caused by a ketone compound called zingerone. Ginger belongs to the Zingiberaceae family (meetings).

The results of this study are in line with research by Ramadhani & Ayudia (2019), pregnant women before being given ginger drink 3.65 times/day and after being given ginger drink it decreased to 2.18 times/day. The results of the analysis used a paired t test with a calculated value of 8.452 and p value = 0.000 ($\alpha = 0.05$). Ginger is effective in reducing emesis gravidarum in pregnant women in the 1st trimester. (Ramadhani and Ayudia 2019)

According to the research results of Inrayani (2017), there is a difference in the average frequency of nausea and vomiting before and after the ginger wedang intervention of 2.45 with a p value = 0.000, which means that giving ginger wedang is effective in reducing the frequency of nausea and vomiting in North Bengkulu Regency in 2017 (Indrayani, Burhan, and Widiyanti 2018)

According to Wati (2020), univariate results were obtained before giving the ginger brew, the majority of respondents experienced moderate emesis, 85.7%, and after giving the ginger brew, the respondents' emetic condition decreased to mild emesis at 78.6%. The results of the Paired Sample T-test obtained a p value = 0.000 (p-value < $\alpha = 0.05$). So it can be concluded that warm ginger infusion is very influential in reducing emesis gravidarum in the Harapan Raya Pekanbaru Community Health Center Working Area (Wati 2020)

In his article entitled 'The benefits of spices for health', Suparyo (2014) states that ginger has anti-histamine properties which are usually used to cure stress, allergies, fatigue and headaches, overcome throat problems, nausea during seasickness, and treat side effects of chemotherapy. Apart from that, ginger also has anti-inflammatory properties so it is good for treating arthritis and various muscle disorders, reducing bad cholesterol levels, and maintaining heart health. (Redi Aryanta 2019)

Supported by research conducted by Yanuaringsih that from the results of analysis tests using Wilcoxon, P - Value was obtained, which means there is an effect of ginger infusion on nausea and vomiting in pregnant women in the first trimester. The average nausea and vomiting after being given ginger tea was reduced by 2.68 with a standard

deviation of -0.061 . The results of the analysis test using Wilcoxon showed that $P - \text{Value} < \alpha$, which means that there is an effect of ginger infusion on nausea and vomiting in pregnant women in the first trimester. The average nausea and vomiting after being given ginger infusion was reduced by 2.68 with a standard deviation of -0.061 ((Yanuaringsih, Nasution, and Aminah 2020)

In terms of anti-inflammatory properties, ginger extract has shown the ability to inhibit TNF (Tumor Necrosis Factor) activity and cyclooxygenase expression in vitro from human synoviocytes. Substances that inhibit cyclooxygenase, namely gingerol, work by blocking the activity of p38 MAP kinase and NF- κ B. Ginger also contains essential oils which function as anti-inflammatory, so ginger can inhibit the inflammatory process caused by H.pylori infection. therefore, the frequency of nausea and vomiting caused by H.pylori infection can be reduced. As a herbal medicine, ginger can be used to prevent motion sickness and also anti-vomiting (Ningsih et al. 2020)

According to Purba, his research showed that before and after the intervention was given the average decreased by 5.60 with an SD of 0.83. The results of the statistical tests carried out obtained a p-value of $0.000 > (0.05)$, meaning that giving ginger candy intervention is quite effective in reducing complaints of nausea accompanied by vomiting in pregnant women in the first trimester of pregnancy (Purba, Sharfina Haslin, and Siregar 2023)

One of the pharmacological functions of ginger is antiemetic (anti-vomiting) which is an ingredient that can remove gas in the stomach which will control vomiting by increasing intestinal peristaltic movements. About 6 compounds in ginger have been proven to be effective antiemetics. These compounds are more directed at the stomach wall than the central nervous system. 18 Ginger is usually safe as a herbal medicine, ginger does not have acute toxicity at doses usually consumed as food or medicine. In large doses of 6 grams or more, ginger rhizome can cure stomach irritation and loss of the protective gastric mucosa (Yanuaringsih, Nasution, and Aminah 2020)

The active substance contained in ginger can make digestion comfortable, causing an anti-vomiting effect by relaxing the intestinal muscles and a stimulant that inhibits the central nervous system from reacting so that the sensation of nausea and vomiting does not arise because it contains phenolic compounds (paradol, shogaol, and also gingerol. The main polyphenols (6-gingerol, 8-gingerol, and 10-gingerol) also include quercetin, zingerone, gingerenone-A, and 6-dehydrogingerdione. Apart

from that, there are other components such as terpenes in ginger; β -bisabolene, α -curcumene, zingiberene, α -farnesene, and β -sesquiphellandrene, which can be said to be the components that make up ginger essential oil (Redi Aryanta 2019)

Researchers assume that ginger drink is effective in reducing nausea, vomiting or emesis gravidarum in first trimester pregnant women. The gingerol content is the most important compound and has been proven to have effective antiemetic (anti-vomiting) activity by blocking serotonin, a chemical messenger. This compound causes the stomach to contract so that if it is blocked, the muscles of the digestive tract will relax and weaken so that the feeling of nausea is reduced a lot,

CONCLUSION

There were differences in nausea and vomiting scores in the intervention group and the control treatment group, however the reduction in nausea and vomiting scores was more effective in the intervention group compared to the control group.

SUGGESTION

It is hoped that pregnant women can use ginger as a traditional ingredient which can be processed into ginger drink as an alternative effort to reduce the frequency of nausea and vomiting in pregnant women in the first trimester.

REFERENCES

- Aprilia, Wahyu. 2020. "Perkembangan Pada Masa Pranal Dan Kelahiran." *Yaa Bunayya : Jurnal Pendidikan Anak Usia Dini* 4(1): 40–55.
<https://jurnal.umj.ac.id/index.php/YaaBunayya/article/download/6684/4246>.
- Bella Puspa Sari. 2021. Politeknik Kesehatan Kemenkes Bengkulu Prodi Sarjana Terapan Kebidanan *Pengaruh Pemberian Aromaterapi Lavender Dalam Mengurangi Emesis Gravidarum Pada Ibu Hamil Trimester I*.
- Fazar, Kumaladewi, and Ciptiasrini Uci. 2020. "Perbedaan Penurunan Emesis Gravidarum Dengan Minuman Jahe Dan Aromaterapi Lemon Pada Ibu Hamil Trimester 1." *Jurnal Ilmiah Kesehatan* Vol 19 No.(Perbedaan Penurunan Emesis Gravidarum): 115–19.
- Hastuty, Yulina Dwi. 2021. "Aromaterapi Lemon Dan Wedang Jahe Dapat Menurunkan Mual Muntah Pada Ibu Hamil Di Kota Medan." *Jurnal Ilmiah PANNMED (Pharmacist, Analyst, Nurse, Nutrition, Midwifery, Environment, Dentist)* 16(2): 388–96.

- Indrayani, Iluh Meta, Rialike Burhan, and Desi Widiyanti. 2018. "Efektifitas Pemberian Wedang Jahe Terhadap Frekuensi Mual Dan Muntah Pada Ibu Hamil Trimester I Di Kabupaten Bengkulu Utara Tahun 2017." *Jurnal Ilmu dan Teknologi Kesehatan* 5(2): 201–11.
- Ningsih, Dewi Aprilia, Metha Fahriani, Melly Azhari, and Mika Oktarina. 2020. "Efektivitas Pemberian Seduhan Jahe Terhadap Frekuensi Emesis Gravidarum Trimester I." *Jurnal SMART Kebidanan* 7(1): 1.
- Petry, Clive J. et al. 2018. "Vomiting in Pregnancy Is Associated with a Higher Risk of Low Birth Weight: A Cohort Study." *BMC Pregnancy and Childbirth* 18(1): 1–8.
- Purba, Agnes Erna Taulina, Sharfina Haslin, and Ronni Naudur Siregar. 2023. "Pengaruh Permen Jahe Dalam Mengatasi Keluhan Mual Dan Muntah Pada Ibu Hamil." *Oksitosin : Jurnal Ilmiah Kebidanan* 10(1): 54–61.
- Rahayu, RD, and Sugita Sugita. 2018. "Efektivitas Pemberian Aromaterapi Lavender Dan Jahe Terhadap Penurunan Frekuensi Mual Muntah Pada Ibu Hamil Trimester I Di BPM Trucuk Klaten." *Jurnal Kebidanan dan Kesehatan Tradisional* 3(1): 19–26.
- Ramadhani, Ika Putri, and Fanny Ayudia. 2019. "Pengaruh Pemberian Minuman Jahe (Zingiber Officinale Var. Rubrum) Terhadap Penurunan Emesis Gravidarum Trimester Pertama." *Jik- Jurnal Ilmu Kesehatan* 3(2): 97.
- Redi Aryanta, I Wayan. 2019. "Manfaat Jahe Untuk Kesehatan." *Widya Kesehatan* 1(2): 39–43.
- Rizki, Syari Fitria Budia, Fatma Sylvana Dewi Harahap, and Aida Fitri. 2022. "Efektivitas Aromaterapi Lavender (Lavandula Angustifolia) Dan Peppermint (Mentha Piperita L) Terhadap Intensitas Mual Dan Muntah Pada Ibu Hamil Trimester I." *Femina Jurnal Kebidanan* 2(1): 49–57.
- Rusman, Ayu Dwi Putri, and Usman Andiani, Dewi. 2017. "Prosiding Seminar Nasional IKAKESMADA 'Peran Tenaga Kesehatan Dalam Pelaksanaan SDGs' Efektifitas Pemberian Jahe Hangat Dalam Mengurangi Frekuensi Mual Muntah Pada Ibu Hamil Trimester I." *Prosiding Seminar Nasional*: 978–79.
- Wati, Harida. 2020. "Pengaruh Jahe (Zingiber Officinale) Hangat Dalam Mengurangi Emesis Gravidarum Di Wilayah Kerja Puskesmas Harapan Raya Pekanbaru." *Al-Insyirah Midwifery: Jurnal Ilmu Kebidanan (Journal of Midwifery Sciences)* 9(1): 1–7.
- Yanuaringsih, Galuh Pradian, Ade Saputra Nasution, and Siti Aminah. 2020. "Efek Seduhan Jahe Sebagai Anti Muntah Pada Perempuan Hamil Trimester Pertama." *Window of Health : Jurnal Kesehatan* 3(2): 151–58.