


## Effectiveness of giving warm ginger in reducing the frequency of nausea and vomiting in first trimester pregnant women

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Article Info	ABSTRACT
<b>Keywords:</b> Ginger Drink, Nausea, vomiting	Nausea and vomiting (emesis) are typical joint symptoms in pregnancy. Nausea usually occurs in the morning but can also occur at any time of the night. Nausea and vomiting occur in 60-80% of primigravida and 40-60% of multigravida. Emesis gravidarum can interfere with daily activities and can even be dangerous for the mother and fetus. One of the complications of nausea and vomiting during pregnancy that is very dangerous for pregnant women and can have an impact on maternal and fetal death is excessive nausea and vomiting that continues to become hyperemesis gravidarum. Nausea and vomiting during pregnancy are felt by 50%-90% of pregnant women. Nausea and vomiting generally only occur in the first trimester of pregnancy, but 20% of women experience these symptoms throughout pregnancy that can interfere with daily activities. Quasy experiment with Pretest Posttest One Group design with 13 respondents. The work subjects of this study have a junior high school education level, all pregnant women are multigravida, and the majority are IRT. It was also found that the mean age of the research subjects was $26.0 \pm 5.29$ years and had a gestational age of $9.69 \pm 2.28$ months. The results showed that before the intervention, the average frequency of nausea and vomiting was $8 \pm 2.34$ times, while after the intervention, the average frequency was $5.0 \pm 1.87$ times. In addition, there was a decrease in the frequency of nausea and vomiting after the intervention by $3.0 \pm 1.77$ times. In this study involving 13 respondents, it was shown that the administration of 200 mL of ginger drink with a frequency of twice a day for one day was effective in reducing the intensity of nausea and vomiting in first-trimester pregnant women.
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### INTRODUCTION

50% to 90% of pregnant women experience nausea and vomiting during pregnancy, usually only occurring in the first trimester of pregnancy. However, 20% of women continue to experience these symptoms throughout pregnancy. Nausea and vomiting can interfere with daily activities, which can also cause the mother's body to become weak, the face pale, and the frequency of urination decreases (Amoah, 2020).

Pregnancy can present normal symptoms, such as nausea, known as nausea, and vomiting, known as vomiting. Pregnant women usually vomit in the morning, but they can vomit at any time at night. 40-60 percent of pregnant women experience vomiting, and 60-80 percent of pregnant women experience vomiting and nausea. Nausea and vomiting during pregnancy, or emesis gravidarum, can interfere with daily activities and can even harm the mother and fetus. One of the most dangerous pregnancy complications is hyperemesis gravidarum, which can cause maternal and fetal death. If hyperemesis gravidarum is not treated immediately, it can disrupt fetal development and cause congenital abnormalities. The consequences for the mother are dehydration, acid base balance disorders, and potassium deficiency (Saragih, 2019).

To treat emesis gravidarum in pregnant women, there are pharmacological and non-pharmacological therapies. Antihistamines, steroids, fluids and electrolytes are examples of pharmacological therapy, while non-pharmacological treatments include herbal concoctions such as ginger (Ozgoli, 2018).

## METHOD

This type of Quasy experiment uses a One Group Pretest Posttest design. The sample is given a pretest, or initial test, before treatment, and then given a posttest, or final test, after the experiment is complete. The aim of this design is to find out how effective drinking ginger during pregnancy in the first trimester is to reduce nausea and vomiting.

## RESULTS AND DISCUSSION

This study was conducted at the Satinah Private Practice Midwife Clinic, S.ST. Purworejo Hamlet RT 009/ RW 005 Air Putih Village, District. Kubu District Kubu Raya, West Kalimantan involving 13 pregnant women. The table below shows the characteristics of the research subjects.

**Table 1** Characteristics of Research Subjects

	Percentage	Frequency
Percentage Frequency		
elementary school	1	7,7
JUNIOR HIGH SCHOOL	9	69,2
SENIOR HIGH SCHOOL	3	23,2
Total	13	100,0
Work	12	92,3
IRT	1	7,7
Self-employed	13	100,0
Total		
Parity	8	61,5
1	4	30,8
2	1	7,7
3	13	100,0

Variable	Average	Standard Deviation	Median	Min-Max
Age (years)	26,0	5,29	25	18-37
Gestational Age (weeks)	9,69	2,28	8,0	7-13

The table above shows that most of the research subjects had junior high school education, all pregnant women were multigravida, and the majority worked as housewives. It was also found that the mean age of the research subjects was  $26.0 \pm 5.29$  years and had a gestational age of  $9.69 \pm 2.28$  months.

**Table 2** Univariate Analysis

Variable	Average Frequency
Frequency of Nausea and Vomiting Before Intervention	$8,0 \pm 2,34$
Frequency of Nausea and Vomiting After Intervention	$5,0 \pm 1,87$

The table above shows that the frequency of nausea and vomiting was an average of  $8 \pm 2.34$  times before the warm ginger drink intervention, and  $5.0 \pm 1.87$  times after the intervention.

**Table 3** Dependent Sample T-Test Results

	Mean Frequency of Nausea and Vomiting	Nilai <i>p</i>	% CI
Before Intervention	$8,0 \pm 2,34$	< 0,001	)2-4,07
After Intervention	$5,0 \pm 1,87$		
Difference	$3,0 \pm 0,47$		

The table above shows that before giving the warm ginger drink intervention, the average frequency of nausea and vomiting was  $8 \pm 2.34$  times, whereas after the warm ginger drink intervention, the average frequency of nausea and vomiting was  $5.0 \pm 1.87$  times. It was seen that there was a decrease in the frequency of nausea and vomiting by  $3.0 \pm 0.47$  times after giving the warm ginger drink intervention. This reduction proved to be statistically significant ( $p < 0.001$ ; 95% CI = 1.92-4.07)

## Discussion

More than two-thirds of pregnant women suffer from emesis gravidarum or nausea and vomiting in pregnancy which generally starts in the 6-8th week of pregnancy and ends around the 12th week although symptoms can persist until the 20th week in some cases. Severe nausea and vomiting accompanied by symptoms such as dehydration, acidosis, alkalosis, and weight loss increase morbidity. Addressing this, complementary medicine has received particular attention over recent years due to its assumed lower risk in pregnancy. Various methods can be used, including aromatherapy, acupressure/acupuncture, herbs, homeopathy, and reflexology. Consuming ginger-based drinks is one method that is also commonly used (Khorasani, 2020).

The results showed that the average frequency of nausea and vomiting before giving warm ginger drink was  $8 \pm 2.34$  times, while after giving warm ginger drink, the average frequency of nausea and vomiting was  $5.0 \pm 1.87$  times. It was seen that there was a decrease in the frequency of nausea and vomiting by  $3.0 \pm 0.47$  times after giving the warm ginger drink intervention. This decrease was shown to be statistically significant ( $p < 0.001$ ; 95% CI = 1.92-4.07). This shows that giving 200 mL of ginger drink twice a day for one day is effective in reducing the intensity of nausea and vomiting in pregnant women.

These results are in line with Hu's (2022) research. The research, which used a systematic review design with meta-analysis, aimed to determine the effectiveness of ginger drinks and vitamin B6 in reducing nausea and vomiting in pregnant women. The results of this study found that ginger supplementation significantly reduced symptoms of nausea and vomiting compared to placebo, but had no significant effect on vomiting. In addition, ginger treats pregnancy vomiting and nausea better than B vitamins (Liu, 2021).

Similar results were also reported in Khorasani's (2020) research. This study aims to find out how well ginger drinks reduce nausea and vomiting in pregnant women. One result is that a dose of 35-500 mg of ginger is better than vitamin B in reducing nausea and vomiting. However, when used longer (60 days), vitamin B6 is proven to be more effective than ginger (Veestergard, 2020).

Another study that also reported similar results was Volqvartz's (2020) study. Using a cohort design, this study looked at 225 pregnant women who experienced nausea and vomiting. The aim of this research is to find out how effective various complementary and alternative medicine methods are for treating their nausea and vomiting. The results of this study showed that ginger drink is very commonly used by pregnant women with high effectiveness in reducing the frequency of nausea and vomiting ( $p < 0.05$ ) (Saragih, 2019).

The exact mechanism of ginger in reducing nausea and vomiting during pregnancy is not known for certain, but compounds containing ginger such as 6 - gingerol, 6 - shogaol, and galano-lactogen have antiserotonin - 3 (5HT3) effects. In addition, ginger has central antiemetic and anticholinergic properties. The recommended dose of ginger in most studies is 250 mg every 4 hours. The side effects of this drink are not known for certain, although it can cause diarrhea and fibrinolysis. 4 In addition, ginger helps stimulate the movement of the digestive tract and the flow of saliva, bile and gastric secretions, so that upper gastrointestinal distension does not occur which has the potential to cause nausea. Extracts from ginger also inhibit the growth of some strains of H. Pylori (Liu, 2021).

## CONCLUSION

According to research findings, it was found that before giving 200 mL ginger drink twice the average frequency of nausea and vomiting was  $8 \pm 2.34$  times. After giving 200 mL ginger drink twice the average frequency of nausea and vomiting was  $5.0 \pm 1.87$  times. . Giving 200 mL of ginger drink twice a day for one day is effective in reducing the number of times pregnant women vomit. To help pregnant women in the early trimester of pregnancy consume ginger drinks to reduce complaints of nausea and vomiting during pregnancy, because research shows that consuming warm ginger drinks reduces the frequency of

nausea and vomiting during pregnancy. Health workers should advise pregnant women in the early trimester to consume ginger drink when they feel nauseous and vomiting. For further research, we can pay more attention to factors that can influence emesis gravidarum, such as predisposing factors and psychological factors. Future researchers are advised to conduct research over a longer period of time.

#### REFERENCES

1. Lumbanraja SN. Kegawatdaruratan Obstetri. Kegawatdaruratan Obstet. Published online 2017:9-12.
2. Togatorop E. Rasionalitas Penggunaan Anitemetik Pada Mual Muntah Kehamilan di RSUD DR PIRNGADI Medan.
3. Universitas Sumatera Utara; 2017.
4. Saragih SRID. Efektivitas minuman jahe terhadap pengurangan emesis gravidarum pada ibu hamil trimester I di klinik pratama niar tahun 2019. Skripsi. Published online 2019:1-94.
5. Ozgoli G, Saei Ghare Naz M. Effects of Complementary Medicine on Nausea and Vomiting in Pregnancy: A Systematic Review. *Int J Prev Med.* 2018;9(1). doi:10.4103/IJPVM.IJPVM\_430\_16
6. Hu Y, Amoah AN, Zhang H, et al. Effect of ginger in the treatment of nausea and vomiting compared with vitamin B6 and placebo during pregnancy: a meta-analysis. *J Matern Fetal Neonatal Med.* 2022;35(1):187-196. doi:10.1080/14767058.2020.1712714
7. Khorasani F, Aryan H, Sobhi A, et al. A systematic review of the efficacy of alternative medicine in the treatment of nausea and vomiting of pregnancy. *J Obstet Gynaecol.* 2020;40(1):10-19. doi:10.1080/01443615.2019.1587392
8. Volqvartz T, Vestergaard AL, Aagaard SK, et al. Use of alternative medicine, ginger, and liquorice among Danish pregnant women – a prospective cohort study. *BMC Complement Altern Med.* 2019;19(1). doi:10.1186/S12906-018-2419-Y
9. Liu C, Zhao G, Qiao D, et al. Emerging Progress in Nausea and Vomiting of Pregnancy and Hyperemesis Gravidarum: Challenges and Opportunities. *Front Med.* 2021;8:809270. doi:10.3389/FMED.2021.809270