

Effect of Wedang Ginger Giving on Emesis Gravidarum in Pregnant Women in the Trimester I

Yantie Maya Saroisong, Lukman Nulhakim, Siti Raihanah

Student of Midwifery Study Program, Lecturer of Midwifery Major, Poltekkes
Kalimantan Timur, Indonesia
yantiemaya933@gmail.com

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Abstract

Introduction: In pregnancy, the mother experiences changes in terms of physical and psychological. One of the most common in the first trimester is emesis gravidarum. Implementation of nausea and vomiting by giving ginger wedang. **Objective:** The purpose of this study is to determine the effect of ginger wedang on emesis during pregnancy. **Method:** Using a quasy esperiment without control research design. The population in this study is 30 pregnant women in the first trimester. The instrument used in the study used an observation sheet to monitor emesis scores. The statistical analysis used is the Wilcoxon test. **Results and Discussion:** The administration of ginger wedang intervention reduces nausea and vomiting in emesis gravidarum by relaxing and weakening the muscles of the gastrointestinal tract so that nausea and vomiting have antiemetics, namely essential oils that can block serotonin which causes nausea and vomiting, in addition to the fragrant aroma of ginger if inhaled can make the feeling relaxed so that nausea and vomiting do not occur. **Conclusion:** the results of the study from 30 respondents were 25 respondents who experienced a decrease in emesis gravidarum and 5 respondents who did not experience a decrease in emesis gravidarum due to lack of cooperation in following the instructions given, namely irregularly drinking ginger wedang and continuing to consume fatty foods (offal, fried foods, chicken with coconut milk sauce and sharp smell).

Keywords: Emesis Gravidarum; Pregnant Women; Wedang Ginger;

Introduction

Pregnancy is the growth and development of the intrauterine fetus starting from conception and ending until the beginning of labor (Nirmayanti, 2023). The growth and development of pregnancy determines the degree of health of pregnant women and *Output* pregnancy. During pregnancy, there are changes in the body system that cause an uncomfortable response for pregnant women (Prananingrum, 2022). Pregnancy is a normal physiological process even though there are some cases of pregnancy that are accompanied by certain abnormalities and complications. In pregnancy, the mother experiences changes in terms of physical and psychological. One of the most common in the first trimester is emesis gravidarum, in obstetrics emesis gravidarum is found in the first trimester of pregnancy (Putri & BR SITUMORANG, 2020). Emesis gravidarum or name *Other* nausea gravidarum (NVP), is a common complaint that occurs in young pregnancies, namely nausea and vomiting. The occurrence of pregnancy causes hormonal changes in women because there is an increase in the hormones estrogen, progesterone and its release *Human Chorionic Gonadotropin*, this hormone is alleged to trigger emesis gravidarum (Ramadianti, Ulfa, & Andriani, 2024)

Hyperemesis gravidarum is a symptom of excessive nausea and vomiting in pregnant women, the term hyperemesis gravidarum with disorders *Metabolic* which means nausea and vomiting (Risma & Kusuma, 2022). According to the World Health Organization (WHO), the number of cases of hyperemesis gravidarum reaches 12.5% of all pregnancies in the world. Nausea and vomiting can interfere and make the fluid imbalance in the kidney and liver tissues become necrosis (Simbolon, 2022). Based on the results of research in Indonesia, data on mothers with hypermesis gravidarum reached 14.8% of all pregnancies (Ministry of Health of the Republic of Indonesia, 2013). Cases of emesis gravidarum in Indonesia are 50-90% experienced by pregnant women. However, in cases like this, it does not cause death in pregnant women due to emesis *gravidarum* only lack of nutrients and fluids. This complaint is a physiological thing, but if it is not addressed immediately, it will become a pathological thing so that it will cause disturbances in pregnancy (Prastika & Pitriani, 2021)

According to a research report conducted by Chiang Mai University in Thailand, it also proves the effectiveness of ginger efficacy in pregnant women in overcoming nausea and vomiting. In this research involving 32 pregnant women who experienced nausea and vomiting who were given supplements in the form of tablets containing 1 gram of ginger every day, it turned out that the results were very satisfactory where there was a decrease in nausea and vomiting symptoms *that* significant in pregnant women, the research used by the researcher is ginger extract (Febriyeni & Delfina, 2021). The research conducted by Ummi (2014) in her research entitled "The Effectiveness of Ginger Wedang (*Zingiber Officinale* Var.*Rubrum*) on the Reduction of Emesis Gravidarum in the First Trimester" The results of the study found that ginger wedang was effective in reducing emesis gravidarum so that people can use ginger wedang as an alternative treatment before using antiemetic drugs.

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The results of the initial survey at the Linggang Bigung Public Health Center in January - December 2019 from 254 pregnant women, of which *70 people were in the first trimester*, 90 people in the second trimester, 94 people in the third trimester, and 30 people (42.85%) who experienced emesis gravidarum. January-December 2020 out of 295 pregnant women, there were 80 pregnant women in the first trimester, 105 people in the second trimester, 110 people in the third trimester, and 35 people (43.75%) who experienced emesis gravidarum. In October-December 2021, out of 185 pregnant women in the first trimester, there were 30 people who experienced emesis gravidarum. Interviews were conducted with 5 pregnant women and 2 of them experienced emesis gravidarum with a frequency of 4-5 times, especially in the morning and never heard of and tried therapy using ginger. The treatment recommended by midwives at the Public Health Center is eating little but often, getting enough rest, avoiding odors that appear to trigger nausea and vomiting, and giving vitamin B6. No mother uses herbal remedies to treat emesis gravidarum. Based on what was obtained above, the researcher is interested in conducting a study entitled *The Effect of Ginger Wedang Giving on Emesis Gravidarum in Pregnant Women in the First Trimester at the Linggang Bigung Public Health Center*

Method

This research is a *quasi-experimental research*. One group pretest posttest *design research design*. The population in this study is all pregnant women in the first trimester who experienced emesis gravidarum who had their pregnancy checked at the Linggang Bigung Public Health Center from May to June 2022 totaling 30 people. The sampling technique in this study is *purposive sampling*. The research was carried out at the Linggang Bigung Public Health Center.

Results and Discussion

Result

Table 1

Distribution of Respondent Frequency by Age, Education, Occupation and Gravidarum

Age	(n)	%
<20	1	3.33
20-35	23	76.66
>35	6	20
Education Level	(n)	%
ES	2	6.66
JHS	8	26.66
SHS	15	50
Diploma	2	6.66
Work	(n)	%
Housewives	25	83.33
TKK	5	16.66
Gravida	(n)	%
Primigravida	7	23.33
Multigravida	23	76.66

Of the 30 pregnant women who became respondents, the most were at the age of 20-35 years, namely 23 respondents (76.66%), while at the age of <20 years 1 respondent (3.33%) and >35 years old, namely 6 respondents (20%). the most at the high school education level, namely 15 respondents (50%) and the least at the elementary and D3 education levels, namely 2 respondents (6.66%) and bachelors 3 respondents (10%). the most worked as IRT was 25 respondents (83.33%) and the least worked as TKK was 5 respondents (16.66%). Most in Multigravida is 23 respondents (76.66%) and the least in Primagravida is 7 respondents (23.33%).

Univariate Analysis

Before the Intervention

Table 2

Distribution of Emesis Gravidarum Frequency Before Giving Wedang Ginger to Pregnant Women in the First Trimester

Emesis Gravidarum	(n)	Mean	%
3x	2		6.66
4x	6		20
5x	11		36.66
6x	9		30
7x	2		6.66
Total	30	5.1x	100

Based on table 2, it shows that of the 30 pregnant women who were respondents before drinking wedang ginger, mothers who experienced emesis gravidarum with a frequency of nausea and vomiting 3 times were 2 respondents (6.66%), 4 times as many as 6 respondents (20%), 5 times as many as 11 respondents (36.66%), 6 times as many as 9 respondents (30%), 7 times as many as 2 respondents (6.66%) with an average of 5.1

times/day respondents experienced emesis gravidarum.

After the Intervention

Table 3

Distribution of Emesis Gravidarum Frequency After Giving Wedang Ginger to Pregnant Women in the First Trimester

Emesis Gravidarum	(n)	Mean	%
0x	1	2.633x/day	3.33
1x	2		6.66
2x	8		26.66
3x	12		40
4x	7		23.33
5x	0		0
Total	30		100

Based on table 3, it shows that of the 30 pregnant women who became respondents after drinking ginger wedang, mothers who did not experience nausea and vomiting were 1 respondent (3.33%), and mothers who experienced nausea and vomiting 1 time as many as 2 respondents (6.66%), 2 times as many as 8 respondents (26.66%), 3 times as many as 12 respondents (40%), 4 times as many as 7 respondents (23.33%), and no respondents with nausea and vomiting 5 times and the average emesis gravidarum decreased after the intervention to 2.6333 times/ day.

Bivariate Analysis

Data Normality Test

Table 4

Normality Test of Emesis Gravidarum Data Before and After Given Wedang Ginger to Pregnant Women in the First Trimester

Variable	Asmp.sig Values	α value
Pre-intervention emesis score	0.021	0.05
Post-intervention emesis score	0.021	

SPSS Shapiro Wilk Test Results, 2022

Based on table 4 above, it shows that the results of the normality test with the Shapiro wilk Test, before and after being given wedang ginger, the result of the value of $p=0.021$ which means the value of $p < \alpha 0.05$ which means that the data is distributed normally. The results of the normality test of the emesis score data of the intervention post were $0.021 < 0.05$. So it can be concluded that based on the results of the normality test, all data are distributed abnormally and nonparametric tests can be performed. Effect of Wedang Ginger Administration on Emesis Gravidarum in Pregnant Women in the First Trimester, Pretest and Posttest.

In analyzing the data testing, it was carried out using a statistical test, the wilcoxon test, which compared the data before and after being given wedang ginger, and obtained the mean difference before and after the intervention. The significance level is 95% ($\alpha=0.05$). The guideline in accepting a hypothesis is that the probability value (p) < 0.05 then H_0 is rejected and H_a is accepted, while if the probability (p) is > 0.05 then H_0 is accepted and H_a is rejected.

Table 5
 Results of Analysis of the Effect of Wedang Ginger Administration on Emesis Gravidarum in Pregnant Women in the First Trimester

Variable	N	Mean	Standard deviation	Error Standards	Difference Mean Standard Deviation	p-value
Before Intervention	30	5.10	1.028	0.187	2.466	0,000
After Intervention	30	2.63	1.159	0.211	1.306	

The table above shows that the average frequency of emesis gravidarum before ginger wedang administration is 5.10 times/day with a standard deviation of 1.028 and the average frequency of emesis gravidarum after ginger wedang administration is 2.63 times/day with a standard deviation of 1.159. The results of the statistical test obtained $p\text{-value}=0.000 < \alpha=0.05$, so it can be concluded that there is a significant difference in the frequency of emesis gravidarum before the intervention and after the intervention, so that the results are obtained H_0 is rejected and H_a is accepted, namely there is an effect of giving ginger wedang on emesis gravidarum in pregnant women in the first trimester at the Linggang Bigung Public Health Center 2022

Discussion

Respondent Characteristics (Mother's Age, Gestational Age, Gravida Status, Occupation, Gravidarum). Such as a study that was conducted at Muhammadiyah Hospital Palembang in 2012 (Wahyuningsih, 2020). Hyperemesis gravidarum should occur mostly at the age of less than 20 years and more than 35 years (Hijrawati, Sari, & Wulandatika, 2023). This is related to the psychological condition of the mother, where young mothers experience stress because they still feel that they are not ready to become mothers. The stress that arises can cause stimulation of the vomiting center in the brain which causes intense nausea and vomiting (Aprilasari, Sunarto, & Sumasto, 2021)

The difference between the results of the study and the concept shows that hyperemesis gravidarum that occurs in pregnant women at the age of 20-35 is associated with the lein aspect that triggers emesis in the first trimester of pregnancy felt by the respondents in this study. So that the findings between the research results and the concept show different results. With the difference in the results obtained from this study with the theory in the literature, it is interesting to learn further, as it is known that there are many risk factors that can cause hyperemesis gravidarum such as gonadotropic hormone levels.

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The results of this study which show that there is no significant relationship between maternal age risk factors and the incidence of hyperemesis gravidarum, do not directly show that the theory in the literature is wrong, but show that in patients who experience hyperemesis gravidarum in the working area of the Linggang Bigung Public Health Center. The results of this research were obtained by the majority of 5-8 weeks gestation age (70%) and 9-12 weeks gestation age as many as 9 respondents (30%). In line with the results of Aril's (2017) research, from 35 samples, it was found that the gestational age group of 1-12 weeks experienced more hyperemesis gravidarum, namely as many as 22 pregnant women with a percentage of 62.9% compared to the gestational age group of 13-28 weeks, which was as many as 13 pregnant women with a percentage of 37.1% (Athika, Putra, & Thaib, 2016)

The results of the research by RudiYanti & Rosmadewi (2019) showed that the incidence of emesis gravidarum was more than 62.2% in pregnant women in Bandar Lampung City. Parity is the number of pregnancies that produce a fetus that is able to live outside the womb (28 weeks) (Veenendaal et al, 2019). According to Prawirohardjo (2012), parity can be distinguished into primipara, multipara and grandemultipara. Parity conditions that are at risk of complications are parity with the number of children born >5 people. It is called grandemultipara. The condition of the uterus that has experienced many times of menstruation and childbirth is susceptible to uterine atonia so that bleeding is at risk of death for the mother. It is also supported by the incidence of grandemultipara at the age of more than 35 years, so that uterine function is not optimal as when the reproductive age is healthy 20-35 years. Vicky (2012) research showed that the incidence of emesis gravidarum in pregnant women in the first trimester was 42.86%. The highest parity was multigravida at 55.36%. The results of data analysis using chi square showed a meaningful relationship χ^2 Count (8.25) > χ^2 table (3.481). Yunia's research (2014) showed that respondents who experienced emesis gravidarum were primigravidas

The relationship with the condition of emaciation in pregnant women with multigravida is gestational age and other aspects such as the psychological condition of respondents. Multigravida is able to adapt to estrogen hormones and chorionic gonadotropins because it has experience with pregnancy and childbirth. This is evidenced through research conducted by Yasmin and Mardiana (2019) where there is a significant relationship between gravida status and the incidence of emesis gravidarum. So it can be concluded that emesis can cause concern in primigravids and multigravida. The concerns experienced by primigravida indicate a lack of knowledge, information and communication between women and midwifery caregivers. Meanwhile, multigravida already has experience, information and knowledge about the symptoms of emesis gravidarum so that it is able to overcome the symptoms.

The results of the study were related to the work where the majority of IRTs were 25 reboilers (83.33%). The results of the research by RudiYanti and Rosmadewi (2019) showed that the analysis of the relationship between work and emesis gravidarum was obtained that among the respondents who experienced abnormal emesis gravidarum there were 31 respondents (70.5%) who worked and 32.6% (15 orgs) who did not work. The

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results of the statistical test were obtained $P\text{-value}=0.001$, it was concluded statistically that there was a significant relationship between work and emesis gravidarum. Based on the results of the analysis, the OR value = 4.928 was also obtained, meaning that respondents who had jobs had 4.928 times the chance to experience abnormal emesis gravidarum compared to respondents who did not work (Masruroh, Retnosari, & Keb, 2016)

According to Tiran (2009, quoted by Henny, 2012) a lot of work as a housewife who has to take care of the needs of children and husband as well as household chores so that there is not enough time for breakfast can cause nausea and vomiting (Maulani, Hamzah, & Rahman, 2021). Depending on the nature of the woman's work, scents, chemicals, or the environment can add to women's nausea and cause them to vomit. In addition, the husband of the majority of respondents smoked, so this condition worsened the symptoms of nausea and vomiting, but it is unclear whether this is due to the olfactory (olfactory) effect or the nutritional effect, or whether an assumption can be made regarding the link between practice habits and psychoemotional distress. Of course, many women who experience nausea and vomiting will hate the smell of cigarette smoke and cigarettes

The main trigger emesis is the hormone HCG, which is controlled by the human mind. If the state of mind is not good, it will trigger excessive HCG spending. 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, in particular because the most common period of gestational nausea or vomiting is in the first 12-16 weeks, at which time, HCG reaches its high levels. Hormonal changes that will result in excessive production of stomach acid, especially in the morning. The feeling of nausea and vomiting in pregnant women is caused because during young pregnancy the intestinal movement becomes slow, due to the influence of pituitary hormones (Danging, 2020)

Therefore, it can be concluded that work has an influence on emesis gravidarum. Healthy home environmental activities and a light physical and psychological workload will reduce the incidence of excessive/abnormal emesis. A healthy household environment can be created through cooperation between husband and wife in the family. In addition, the burden of work, both physically and psychologically, is also a common concern in the family. Currently, there is a government regulation that regulates female workers in situations of pregnancy, childbirth and breastfeeding. If there is a division of work and a portion of work for housewives in the family together with their husbands, it is very beneficial for pregnant women and reduces the risk of emesis gravidarum in pregnant women.

The results of the study on job characteristics showed that the majority of high school education was 15 respondents (50%). The results of the study conducted by Umboh et al (2014) showed that there was a meaningful relationship ($p = 0.000$) between Education and the incidence of Hyperemesis Gravidarum. Education can affect a person's behavior, including lifestyle behavior, in motivating them to be ready to participate in

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health changes. The lower a person's education, the less desire to use health services, and conversely, the higher a person's education, the easier it is to receive information and take advantage of existing health services. Education is a predisposing factor is a factor that exists in individuals such as knowledge, attitudes towards health and education level. Where to behave healthily, for example (health check-ups for pregnant women), knowledge is needed about the benefits of pregnancy check-ups, both for the health of the mother herself and for the fetus

Assumptions related to education with the incidence of emesis in pregnant women at the Linggang Begung Public Health Center are related to the mother's understanding of the existence of high education with adequate knowledge in an effort to overcome risiko that can trigger nausea during pregnancy. So that with good knowledge, hyperemesis can be prevented properly. Effect of Wedang Ginger on Emesis Gravidarum Emesis gravidarum in pregnant women occurs due to changes in the hormones estrogen, progesterone and HCG so that it causes nausea and vomiting reactions in pregnant women in the first trimester (Retnoningtyas & Dewi, 2021). Wedang ginger, which is made from ginger, can overcome emesis gravidarum because ginger has an essential oil containing gingerol that is able to block the vomiting reflex (Harahap, Sahroni, Lestari, & Laia, 2021). Emesis gravidarum that is not treated immediately can result in Hyperemesis gravidarum which is excessive nausea and vomiting so that dehydration, weight loss, pregnancy disorders, nutritional disorders can occur

Based on the research obtained using the results of the wilcoxon test obtained before being given ginger wedang, the average respondent experienced the frequency of emesis gravidarum 5.10 times per day, and after being given ginger wedang, the average frequency of emesis gravidarum decreased to 2.63 times per day with a value of $p\text{-value} = 0.000 < \alpha = 0.05$. Wedang ginger can be used as an alternative treatment to treat emesis gravidarum before using antiemetic drugs. Wedang ginger reduces nausea and vomiting in emesis gravidarum by relaxing and weakening the muscles of the digestive tract so that nausea and vomiting can be reduced because ginger has antiemetics (anti-emetic), namely essential oils that can block serotonin, which is a chemical compound that causes nausea and vomiting, the fragrant aroma of ginger if inhaled can make the feeling relaxed so that nausea and vomiting do not occur (Khotimah, Nurhayati, & Dirgahayu, 2019)

Since it is not difficult to find ginger, this plant is widely used as a cooking spice and an ingredient in traditional medicines. The advantage of using ginger wedang to overcome emesis gravidarum is that ginger is cheap and easy to reach, the content of ginger wedang is safe from harmful ingredients because it can be made by yourself so that pregnant women do not have to worry about endangering their pregnancy. This study is in line with the research conducted by Rufaridah et al. (2019), a study was conducted on 12 respondents who experienced emesis gravidarum and then were given ginger infusion for 2 weeks, obtained results before being given ginger infusion the average frequency of emesis gravidarum was 3.38 times per day and after being given ginger infusion decreased to 2.19 times per day, and stated that there was an effect of ginger infusion on the decrease in emesis gravidarum in the first trimester of pregnancy.

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Research by Rofi'ah et al. (2017), which compared 3 groups to reduce nausea and vomiting in pregnant women, namely in group 1 consuming lemongrass ginger, group 2 consuming ginger, and group 3 consuming lemongrass, obtained the result that ginger was more effective in overcoming nausea and vomiting while lemongrass was not effective in overcoming nausea and vomiting in pregnancy. Another study conducted by Anita et al. (2018), namely the administration of therapy by comparing the ginger extract group and the mint leaf extract group in pregnant women who experienced nausea and vomiting, obtained the results of the ginger extract group $p\text{value} = 0.001$ and the mint leaf extract group $p\text{value} = 0.000$, there was no significant difference between ginger extract and mint leaf extract because both reduced nausea and vomiting in pregnant women.

Maghfiroh and Astuti (2016) researched, a comparison was carried out between the ginger candy treatment group and the vitamin B6 control group, after the intervention was obtained, in the ginger candy group 78.9% experienced a decrease in nausea and vomiting while in the vitamin B6 group 42.1% experienced a decrease in nausea and vomiting, so ginger is very effective in reducing the frequency of emesis gravidarum. Another study conducted by Wulandari et al. (2019), namely by comparing the intervention group with the control group, in the intervention group was given warm ginger drink 2 times per day for 7 days and experienced a significant decrease in nausea and vomiting compared to the control group that was not given ginger drink, so that pregnant women can apply warm ginger drink to prevent nausea and vomiting in pregnancy.

From the results of the research conducted by the researcher, it is assumed that there is an effect of ginger wedang on emesis gravidarum in pregnant women in the first trimester provides a significant influence to reduce the frequency of emesis gravidarum and according to existing studies there is an influence between the administration of ginger wedang and emesis gravidarum. From the results of the study conducted from 30 respondents, there were 25 respondents who experienced a decrease in emesis gravidarum after the administration of ginger wedang because in ginger wedang there are essential oils that block the cause of nausea and vomiting, and the fragrant aroma of ginger can make the feeling relaxed, and because the respondents followed the instructions given, but there were 5 respondents who did not experience a decrease in emesis gravidarum after the administration of ginger wedang due to several factors.

Can affect and lack cooperation in following the instructions given, namely not regularly drinking ginger wedang and not maintaining the consumption of foods that can cause nausea and vomiting, fatty foods in the form of offal such as chicken liver or beef liver, oily foods such as fried foods, foods containing coconut milk such as coconut milk vegetables, chicken with coconut milk sauce, and have a sharp smell

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Conclusion

The most frequency based on characteristics is 20-35 years old, the most education is high school, the most work is as a housewife, the most gravida is Multigravida, and the most gestational age is 5-8 weeks old. In addition, the average frequency of emesis before the intervention was 5.10 times/day and after the intervention decreased to 2.63 times/day, so that there is an effect of giving ginger wedang on emesis gravidarum in pregnant women in the first trimester at the Linggang Bigung Public Health Center 2022

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