

GINGER IN PREGNANT WOMEN WITH EMESIS

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Abstract

One of the complaints in pregnancy is nausea and vomiting or emesis of gravidarum that occurs in the first trimester of pregnancy. Ginger is one of the herbal plants that are often used to treat nausea and vomiting. This study aims to identify the effect of giving ginger on the reduction of emesis of gravidarum in first trimester pregnant women. The research design used the evidence-based nursing method using Google Scholar, PubMed, and ProQuest databases. The search was conducted in March and found 10 relevant articles. The inclusion criteria were that the population was pregnant women in the first trimester, using ginger intervention, with a quasi-experimental research design, and randomized control and trial, published in 2016-2021, using Indonesian or English. The results of the literature study showed that giving ginger affects decreasing the frequency of emesis of gravidarum in first trimester pregnant women. Ginger can be given in the form of drinks, aromatherapy, and ginger biscuits. The results showed that ginger can be given twice a day for 4-15 days. Suggestions that the administration of ginger can be done by pregnant women independently at home, by paying attention to the dose, processing method, frequency, and duration of ginger.

Keywords: Emesis of gravidarum, first trimester, ginger, pregnant women.

INTRODUCTION

Pregnancy is the growth and development of the fetus in the uterus that starts from conception and ends until the beginning of labor (Yayat et al., 2018). Pregnancy can affect the mother's body by causing several physiological changes that occur in all organ systems. Most of these changes are influenced by hormonal action. These changes occur due to an increase in the hormones estrogen, progesterone, and human chorionic gonadotropin (hCG) in the mother's body since the pregnancy process (Soa et al., 2018). This can cause various complaints, one of which is nausea, vomiting, or emesis of gravidarum that occurs in the first trimester of pregnancy (Putri et al., 2017).

Emesis of gravidarum or morning sickness is nausea and vomiting that occurs in pregnant women that appear at the age of four weeks of pregnancy and will gradually disappear after the age of twelve weeks of pregnancy (Indrayani et al., 2018). Nausea and vomiting occur because it is caused by increased levels of the hormones estrogen, progesterone, and hCG produced by the placenta. The frequency of nausea and vomiting can occur not only in the morning but can appear during the day and even at night (Putri et al., 2017).

Based on data from WHO (2018), 70-80% of pregnant women in the world experience emesis of gravidarum. Based on data from Kemenkes RI (2018), it is stated that more than 80% of pregnant women in Indonesia experience emesis of gravidarum. Data in West Java also shows the same thing, namely 60-80% of pregnant women experience nausea and vomiting during pregnancy (Dinkes Jabar, 2019). The incidence of emesis of gravidarum often appears in the first trimester of pregnant women experienced by 50-80% of pregnant women. In the first trimester, nausea and vomiting occur in primigravida as much as 60-80% and in multigravida as much as 40-60% (Soa et al., 2018). This is something that is commonly experienced by pregnant women and if left unchecked can have serious consequences.

Emesis of gravidarum can cause various impacts on the mother and fetus, the impact on pregnant women caused can occur physically and psychologically. The physical impacts that occur due to emesis of gravidarum are decreased appetite, weakness, a sensation of heat and irritation in the throat, changes in sleep patterns, urinary incontinence, ketosis, and inguinal pain (Anita et al., 2018). Psychological impacts that occur due to emesis of gravidarum in pregnant women include frequent crying, feelings of weakness, lack of self-care, and changes in sexual relations (Anita et al., 2018). While the impact on the fetus is premature birth, low birth weight, and abortion (Wardani, 2020). If nausea and vomiting occur continuously and are not treated immediately, it can lead to Hyperemesis of gravidarum. This condition can occur in 1.1% of pregnant women and require hospitalization (Isbir & Mete, 2016). Therefore, appropriate treatment is needed to overcome the emesis of gravidarum.

There are still first trimester pregnant women who experience emesis of gravidarum and when nausea and vomiting occur, they can only let it go because they do not know how to handle it at home. Nausea and vomiting that are not treated can lead to hyperemesis of gravidarum. Therefore, non-pharmacological treatment is needed to overcome the emesis of gravidarum. Ginger is one of the herbal plants that is often used to treat nausea and vomiting. Ginger processing must be done properly because otherwise, it can have an impact on the mother and fetus. Therefore, further studies are needed to determine the effects of ginger and the correct processing method for pregnant women in the first trimester.

METHOD

This study uses the method of a systematic review obtained from national and international journal articles by following per under predetermined themes. This journal article search uses several high and medium-quality databases, namely, Google Scholar, PubMed, and ProQuest. The keywords used in the national article search were “ginger administration for emesis of gravidarum”, while the international article search was (((“ginger”)) AND (“nausea and vomiting” OR “morning sickness”)) AND (“pregnancy”)) AND (“first trimester”). Researchers got 54 journal articles that matched these keywords from 2016-2021 which were obtained from the database. The assessment will be carried out based on eligibility according to the inclusion criteria, namely the population is first trimester pregnant women, using ginger intervention, with a quasi-experimental research design, and randomized control and trial, published in 2016-2021, using Indonesian or English. Finally, 10 articles from both national and international levels were obtained that could be used in a literature review.

RESULTS

Table 1. The Effect of Ginger on Emesis of Pregnant Women In The First Trimester

No	Researcher/ Setting	Research Design	Sample	Inclusion Criteria	Intervention	Results	Conclusion
1.	Putri, et al (2017) Indonesia	Pre- experiment with one group pretest- posttest design	34 pregnant women	Pregnant women who are willing to be research samples, gestational age 0-9 weeks, like ginger, and are not fasting	Ginger that is crushed is mixed using hot water and added a little brown sugar. Drink in the morning 3 times a week for 1 month	There was a decrease in the frequency of nausea and vomiting from 13 times per day to 3.18 times per day. There is a significant difference before and after the intervention with p value = 0.000.	Interventions can be applied as a strategy to reduce nausea and vomiting in first trimester pregnant women
2.	Indrayani, et al (2018) Indonesia	Quasi experiment with one grup pretest- posttest	15 pregnant women	Pregnant women who are willing to become pregnant women, experience nausea and vomiting, 0-12 weeks gestation, and are primigravida	The intervention was given in the form of a ginger drink. The intervention was carried out every day in the morning and evening as much as 1 glass in one drink for 4 days.	After the intervention there was a decrease in the frequency of nausea and vomiting from 9.3 times per day to 4.5 times per day. There is a significant difference before and after with p value = 0.000.	Giving ginger drink plays an important role in reducing the frequency of nausea and vomiting in pregnant women in the first trimester
3.	Rufaridah, et al (2019)	Pre- experiment	15 pregnant women	Pregnant women who	The procedure used in the study was to use 250 mg ginger that had been	The frequency of nausea and	Ginger drink can have an effect on

	Indonesia	with one group pretest-posttest design		are willing to become participant, pregnant women are at the time of the research, gestational age 0-12 weeks, and experience nausea and vomiting < 10 times a day	peeled and washed, grate the ginger until smooth and put it in 50 ml of hot water, wait 15 minutes until the color turns brownish yellow and a little sugar can be added. The intervention was carried out 2 times a day 4 times a week for 2 weeks.	vomiting before being given ginger infusion was 5.38 times per day, while the frequency of nausea and vomiting after being given ginger infusion was 2.19 times per day. Ginger has an effect on decreasing the frequency of nausea and vomiting (p=0.000).	reducing the frequency of emesis of gravidarum in first trimester pregnant women.
4.	Rochkman, et al (2018) Canada	Quasi experiment with time series design	30 pregnant women	Pregnant women who are willing to be respondents, first trimester pregnant women with gestational age of 4-12 weeks, and experiencing emesis of gravidarum or nausea and	The procedure used in this study was using 2.5 grams of ginger emprit which was sliced and boiled using 250 ml of hot water, with added brown sugar to taste (\pm 10 grams). The intervention was carried out 2 times a day for 15 days.	The frequency of nausea and vomiting before being given ginger decoction was 3.60 times per day, while the frequency of nausea and vomiting after being given ginger decoction was 1.27 times per day, indicating a	

				vomiting <10 times.		decrease in the frequency of nausea and vomiting.	
5.	Wulandari, et al (2019) Jepara, Indonesia	Quasi-experimental design with non-equivalent control group design	50 pregnant women were divided into an intervention group and a control group	Pregnant women who are willing to be research samples, and experience emesis of gravidarum	The intervention given used emprit ginger which was made into a warm ginger drink. The intervention was carried out 2 times a day for 7 days. Meanwhile, the control group was not given any treatment	In the intervention group, the frequency of nausea and vomiting before being given ginger drink was 13 times per day, while the frequency of nausea and vomiting after being given ginger drink was 7.56 times per day. In the control group, the frequency of nausea and vomiting was from 13.9 times to 12.8 times, indicating that in the intervention group there was a significant decrease compared to the control group (p=0.000).	Ginger drink can be used as a complementary therapy to reduce the frequency of emesis of gravidarum in first trimester pregnant women
6.	Budia, et al	Quasi-	64 pregnant	Pregnant	In the intervention group, the	The intervention	Ginger can be

	(2019) Palestine	experimental pre-post test with control group design	women were divided into an intervention group and a control group,	women who are willing to be research samples, gestational age 0-12 weeks, and like ginger	procedure used in the study was to use 20 ginger biscuits which would be consumed every day as many as 5 biscuits a day for 4 days. Meanwhile, the control group was not given any treatment.	group experienced a significant decrease compared to the control group. There is a significant difference before and after with p value = 0.001.	processed into biscuits which can reduce nausea and vomiting
7.	Cholifah, et al (2018) Germany	Pre-experiment with one group pretest and posttest design	31 pregnant women	Pregnant women who are willing to be research samples, gestational age 0-12 weeks, experience nausea and vomiting, and like ginger.	The procedure used in this study was using 250 mg of ginger mixed with 250 ml of hot water, with 1 tablespoon of sugar added. The intervention was carried out 2 times a day for 7 days.	The score for nausea and vomiting before being given ginger drink was 13 to 32 with an average of 23.9, while the score for nausea and vomiting after being given ginger drink was 8 to 20 with an average of 13.4, indicating a decrease in the frequency of nausea and vomiting. There is a significant difference before and after the intervention with p value = 0.000.	These interventions can be applied as part of nursing care
8.	Adity, et al	Experimental	60 pregnant	Pregnant	The procedure used in this research	The intervention	Ginger can be

	(2019) England	research design with randomized control trial design.	women	women with a maximum gestational age of 12 weeks, experiencing mild to moderate nausea, vomiting, and singleton pregnancies	is using ginger essential oil mixed in almond oil to get a final concentration of 10%, the oil is packaged in small bottles. Pregnant women take 2 drops of the oil and apply it on a cotton swab, inhale for 3-5 minutes until nausea subsides. The procedure is carried out for 7 days. The control group was only given almond oil.	group experienced a significant decrease compared to the control group.	processed into aromatherapy and used to reduce nausea and vomiting in pregnant women
9.	Usmiya, et al (2020) Malaysia	Quasi-experimental design with two group pretest-posttest design	60 pregnant women were divided into an intervention group and a control group	Pregnant women who are willing to be the research sample, 8-12 weeks of gestation, and experience physiological nausea and vomiting.	In the intervention group, the procedure used in the study was using ginger biscuits which would be consumed every day as many as 6 biscuits a day for 4 days. The rules for consumption are 3 biscuits at 7 am and 3 biscuits at 7 pm. Meanwhile, the control group was not given any treatment.	In the intervention group there was a significant decrease compared to the control group	Ginger can be processed into biscuits and is proven to be effective in reducing the onset of vomiting in pregnant women
10.	Uliyatu, et al (2020) Iran	Quasi-experimental with two group pretest-posttest design	40 pregnant women.	Pregnant women who are willing to be research samples, and experience emesis of gravidarum.	The intervention was given in the form of a warm ginger drink using ginger emprit. The intervention was carried out every day in the morning and evening 2 times a day for 7 days	The intervention had an effect on reducing the frequency of the onset of vomiting in pregnant women (p=0.000).	

DISCUSSION

How to give ginger

Intervention with ginger drink has a direct effect acting on the digestive tract by increasing gastric movement, as well as the absorption of toxins and acids. Ginger can also provide comfort to the stomach so that it can overcome nausea and vomiting. That occurs because of the content in ginger such as zingiberene essential oil, gingerol, zingiberol, flavonoids, bisabolene, kurkuman, vitamin A, and bitter resin. The content of a ginger will block serotonin which is a neurotransmitter in the central nervous system and enterochromaffin cells in the digestive tract which will work by inhibiting the induction of HCG into the stomach (Indrayani et al., 2018). To make a ginger drink, pregnant women only needs to boil the 250mg ginger that has been crushed in 250ml hot water and add a little brown sugar. Judging from the content and how to make, ginger is safe, easy to make it, and beneficial for pregnant women.

Ginger can also be given with aromatherapy. Pregnant women inhales ginger aromatherapy by dripping 2 drops of oil and smearing on a cotton swab, inhale for 3-5 minutes until nausea subsides. When aromatherapy is inhaled it will release molecules, then receptors in the nose will send impulses to the olfactory nerves in the brain, these impulses will release hormones that can increase mood which affects physical responses, so that nausea and vomiting can be reduced (Adity et al., (2019). Aromatherapy is easy to use and effective but may be difficult to make and obtain by pregnant women

Another way of processing ginger is with ginger biscuits. Ginger content in the biscuits functions as an antiemetic and antihistamine that can inhibit gastric emptying. Ginger can reduce nausea and vomiting by stimulating digestive tract motility and stimulating gastric secretion, saliva, and bile (Budia et al., (2019). Besides biscuits with a ginger content can reduce nausea and vomiting, the flour content can also fill the stomach of pregnant women. However, ginger biscuit requires a longer time to make than a ginger drink. Therefore, ginger drink is recommended because it is easy to obtain and can be made by pregnant women themselves.

Frequency and duration of administration of ginger

From the results of 10 articles that have been analyzed, it can be concluded that the frequency and duration of giving ginger can be done every day in the morning and evening 2 times a day for 4-15 days. Ginger in the form of drinks and biscuits can be given at least 4 days for effective results. While aromatherapy is at least 7 days by taking 2 drops of oil and smeared

on a cotton swab, inhale for 3-5 minutes until nausea subsides (Adity et al., 2019). Giving ginger must be done properly, one of which is by paying attention to the frequency and duration. Incorrect administration of ginger will cause side effects such as diarrhea and other GI symptoms including abdominal pain, bloating, gas, and epigastric distress (Anh, et al., 2020).

Frequency of nausea and vomiting after being given ginger

From the results of 10 articles that have been analyzed, all articles showed All articles show that there is a decrease in the frequency of nausea and vomiting after intervention using ginger.

Ginger contains zingiberena essential oil, gingerol, zingiberol, flavonoids, bisablenes, kurkuman, vitamin A, and bitter resin. The content of ginger will block serotonin which is a neurotransmitter in the central nervous system and enterochromaffin cells in the digestive tract which will work by inhibiting the induction of HCG into the stomach. Therefore, ginger can provide comfort to the stomach, so that it can overcome nausea and vomiting (Indrayani et al., 2018). Based on these, ginger can be used by pregnant women because the content is safe and the results have been proven to be effective in reducing nausea and vomiting

CONCLUSIONS

From the results of ten journal articles that have been analyzed by researchers, it can be concluded that ginger therapy is one of the non-pharmacological treatments that can help reduce the frequency of nausea and vomiting in first trimester pregnant women. Ginger can be given in the form of drinks, aromatherapy, and ginger biscuits. The way of giving ginger that can be done by pregnant women is in the form of ginger drink because it is easy to make and can be processed by yourself, while aromatherapy and biscuits must go through a long processing process. Suggestions that the results of this literature review are expected to be used to conduct health education in further research. Researchers recommend further research on the administration of ginger plus other interventions on nausea and vomiting of pregnancy, as a comparison of which intervention is more influential.

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