SYSTEMATIC REVIEW: EFFECTIVENESS OF GINGER DECOCTION TO MANAGE FIRST TRIMESTER EMESIS GRAVIDARUM

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Abstract. Introduction: Continuous nausea and vomiting (emesis gravidarum) will affect the health condition of the mother and fetus. Ginger decoction is one way to reduce nausea and vomiting during pregnancy. ginger has essential oil content that has a refreshing effect and blocks the gag reflex, while gingerol can launch blood and nerves work properly. Objective: to overcome excessive emesis gravidarum in first-trimester pregnant women with non-pharmacological therapy. Methods: This systematic review by tracing the Problem, Intervention, Comparison, and Outcome. It uses electronic search by referring to various sources. The research design in the journal used experimental research. Results: Reviews and views related to the effectiveness of ginger boiled water on the intensity of nausea and vomiting in first-trimester pregnant women. Conclusion: Ginger-boiled water is effective in reducing emesis gravidarum. Recommendations for health workers to provide information to pregnant women about the methods and doses of ginger-boiled water that are safe to consume to reduce nausea and emesis gravidarum.

Keywords: [emesis gravidarum, ginger brew, mint leaves, pregnant women]

INTRODUCTION

Pregnancy is a meeting between ovum and sperm, thus forming a zygote that attaches to the endometrial wall and the embryo develops in the uterus until a term. When someone experiences pregnancy, there will be physical and psychological changes that are influenced by hormones. (Aulia, D. L. N., Anjani, A. D., & Utami, 2022; Bobak. Lowdermilk, 2012).

Emesis gravidarum is a complaint that often occurs in young pregnancy, usually called Morning Sickness because it often occurs in the morning. Symptoms of emesis gravidarum start from feeling bad to vomiting, aggravated by pungent odors and psychological conditions. Pregnant women who feel emesis gravidarum need to be given food that is easy to digest (light). If experiencing excessive nausea and vomiting, anti-vomiting drugs can be given. (Nugroho, 2014).

Nausea and vomiting are common in pregnant women due to hormonal changes in the endocrine system. The main reason lies in the high variability of HCG (human chorionic gonadotropin) levels (Tiran, 2009). (Tiran, 2009). (Tiran, 2009).

Vomiting is caused by stimulation of the vomiting center in the spinal cord (medulla oblongata) and occurs through several mechanisms ranging from direct stimulation through the CTZ (chemoreceptor trigger zone). CTZ is a highly receptor-rich area in the bone marrow adjacent to the emesis center but outside the blood-brain barrier. The neurotransmitter dopamine (DA) and the CTZ (chemoreceptor trigger zone) may help maintain circulatory signaling... Stimulation of the presence of substances in the circulation. (TJay, 2010).

Ginger contains Zingiberena essential oil (zingirona), zingiberol, bilene, curcumin, gingerol, flandrena, has a bitter resin so that it can block serotonin, which is a neurotransmitter that will be synthesized in serotonergic neurons in the central nervous system and enterochromaffin cells found in the digestive tract so that the muscles in the digestive tract relax and weaken so that it can cause a sense of comfort in the stomach. Therefore, nausea and vomiting are reduced. (Ramadhan, 2013).

Ginger blocks serotonin receptors and can have antiemetic effects on the gastrointestinal tract and central nervous system. Ginger also has anti-inflammatory properties, while ginger extract can inhibit TNF (Tumor Necrosing Factor) activity and Cyclooxygenase 2 expression in vitro by human synoviocytes. Gingerol works by inhibiting the activity of p38 MAP kinase and NF- kB, gingerol is included in the class of substances that inhibit cyclo-oxygenase 2. Ginger essential oil acts as an anti-inflammatory substance that can prevent the inflammatory process caused by H. pylori infection. therefore, ginger can reduce the frequency of nausea and vomiting caused by H.pylori infection. (Wiraharja et al., 2011).

METHODS

Article searches were conducted through Google Scholar, Publish, or Perish using several keyword combinations. The literature search was conducted using the EBHC (Evidence-Based Health Care) principle by using keywords based on PICO, namely P (Problem): emesis gravidarum; I (Intervention): the patient wants to consume ginger decoction; C (Comparison): mint leaves; and O (Outcome): overcoming emesis gravidarum in first-trimester pregnant women.

RESULTS AND DISCUSSION

The following results were obtained:

Table 1. Review of the Journal

No	Author	Title	Methods	Results	Database
1.	Sumarni, Rosita, Musdalifah	Effectiveness of Ginger and Mint Leaf Decoction on the Intensity of Nausea and Vomiting of First Trimester Pregnant Women at Puskesmas Dahlian Makassar (2019)	The research method used is quantitative research, research design. This research design is a pseudo-experiment (quasi-experiment) with two groups pre and post-test and a nonequivalent control group design.	The results of this study show that before being given ginger decoction, the average value obtained was 9.47 and after being given ginger decoction water ginger water decoction got an average value of 3.80. The result of paired sample test value gets p 0.000 is smaller than 0.05. Bivariate analysis before the administration of mint get an average score of 9.00 and after being given mint leaves mint get an average value of 5.73. Paired sample test results value gets p 0.000 smaller than 0.05. The results of the T-test analysis independently show the results of the analysis Nausea vomit which provided Water decoction and Ginger decoction received a mean score of 3.80 and nausea and vomiting given using mint leaves received a mean score of 5.73. Conclusion Ho is rejected and Ha is Accepted meaning that giving Water decoction ginger is more effective compared to mint leaves on the intensity of nausea vomiting in first-trimester pregnant women diastemas Dahlia Makassar.	*Google Scholar, Publish or Perish, PubMed*
2	Putri Oktaviani, Sri Dinengsih, Triana Indrayani.	Effectiveness Ginger and Mint Leaf Decoction on Nausea and Vomiting of Pregnant Women at PMB Bogor Regency (2021)	This research is quasi-experimental with pre and post-test designs without a control group.	The results of this study show that according to Independent T-Test, the average intensity of nausea and vomiting intensity before the administration of boiled ginger was 9,00, and in the mint decoction group was 9.60 with a p-value = 0.588. Thus p-value is	*Google Scholar, Publish or Perish, PubMed*

				greater than 0.05 so Ho is accepted and Ha is rejected. Therefore, it is concluded that administration of ginger mint steeping before does not affect reducing nausea and vomiting in first-trimester pregnant women < 0,05. Then on a mint decoction of 6.73 with p-value = 0.034< 0,05, so Ho is rejected and Ha is accepted. It can be concluded that there is an effect of reducing nausea and vomiting in first-trimester pregnant women after the administration of a brew of mint leaves.	
3	Sumarni, Jumrah Sudirman, Rosita Passe	Effectiveness of Ginger and Mint Leaves to Reduce Nausea and Vomiting in First Trimester Pregnant Women (2022)	This research is a type of Quasi-experimental research with a pre and post-test design without a control group.	The result of this study shows that according to Piared's random sample test t. The test results showed a value of P = 0.000 at the significance level of α = 0,05. Therefore p<; α can conclude that Ho is accepted and Ha is rejected, which means that if ginger soup and mint leaves are given to pregnant women in the first trimester of PKM Batua then intensity nausea and vomiting intensity is reduced. Based on the independent t-test, p-value = 0.000 <; 0.05 which means Ho is rejected and Ha is accepted, so it can be concluded that there is an effect of Reducing nausea and vomiting in first-trimester pregnant women after the administration of steeping ginger with mint leaves. Ginger decoction effectively reduces trimester nausea and vomiting first pregnancy.	*Google Scholar, Publish or Perish, PubMed*
4	Dewi Aprilia Ningsih, Melly Azhari, Metha Fahriani, Mika Oktarina.	Effectiveness Ginger Decoction on Vomiting Frequency in the First Trimester (2020)	The research method used is Quasi experiment with the design of One Group Pretest- Post test. Methods of data collection used in this research this is by using primary and secondary data.	The results of this study showed that the average frequency of vomiting in pregnant women was 9.36 times a day before consuming ginger decoction and decreased to 4,86 times a day after consuming ginger. There is a difference in the mean frequency of	*Google Scholar, Publish or Perish, PubMed*

				vomiting frequency before and after the ginger steeping intervention with a mean difference of 4.50 with Z = -4.123 and p-value = 0.000, this shows that the frequency of vomiting before and after the ginger steeping intervention is higher than after the ginger steeping intervention. shows that giving ginger-boiled is effective in reducing vomiting in the first case. pregnant women in Trimester III in the Community Health Center Lubuk Sanai District Mukomuko working area.	
5	Devy Lestari Nurul Aulia, Arum Dwi Anjani, Risqi Utami, Berty Prima Lydia.	Effectiveness of Ginger Drinking Water on Emesis Gravidarum in First Trimester Pregnant Women (2022)	This research method is a pre-experiment with one group design pretest-posttest design.	The results of the study based on the Paired t Test t-test obtained a value of p = 0.000 (p <0.005) and t count = 18.255 and t table = 2.032 (t count > t table). From here it can be concluded that administration of water decoction ginger has an effect on the frequency of nausea and vomiting in mothers with emesis gravidarum.	*Google Scholar, Publish or Perish, PubMed*
6	Dyah Ayu Wulandari, Dwi Kustriyanti, Rofiatul Aisyah	Warm Ginger Drink that Works Reducing Vomiting in Pregnant Women at the Health Center Nalumsari Jepara (2019)	The research method used was NonEquivalent Control Group Design.	The results of this study showed that the frequency of nausea and vomiting in the intervention group averaged 13.08%. before action, while after action average of 7.56. Paired Samples T-test analysis results (data normal distribution) give a p-value of 0.000 which indicates that giving ginger drink is effective on pregnant women in the first trimester at the Health Center Nalumsari Jepara.	

Ginger is a traditional medicine that is often used as a spice and raw material for medicine, the Ginger Plant is classified as a cultural artifact and ginger is categorized as a cultigenous plant. The plant with the scientific name (Zingiber officinale) can only survive in the tropics, ginger planting can be done in equatorial areas such as Brazil, Southeast Asia, and Africa. Ginger has many benefits, one of which is as an antiemetic.

According to Sumarni, Rosita, and Musdalifah. (2019), in the journal Effectiveness of Ginger and Mint Leaves on the Intensity of Nausea and Vomiting in Trimester I Pregnant Women at the Makassar Dahlian Health Center stated that the results of the independent T-test analysis showed the results of the analysis of nausea and vomiting in pregnant women who were given ginger boiled water on average 3.80 while nausea and vomiting given mint leaves had an average of 5.73. It can be concluded that Ho is rejected and Ha is accepted, meaning that giving ginger-boiled water is more effective than Mint leaves.

According to Putri Oktaviani, Triana Indrayani, Sri Dinengsih. (2021), in the journal The Effectiveness of Ginger and Mint Leaf Steeping on Nausea and Vomiting in Trimester I Pregnant Women at PMB Bogor Regency 2021 stated that after the Independent T-test test was carried out, the p-value of the two treatments was smaller than 0.05 so that Ho was rejected and Ha was accepted. It can be concluded that there is an effect of giving ginger and mint tea in reducing nausea and vomiting in first-trimester pregnant women. The average value of the decrease shows that ginger brew is more effective than mint leaves, but in theory, both can be used to reduce nausea and vomiting in first-trimester pregnant women.

According to Sumarni, Rosita, and Musdalifah. (2022), in the journal The Effectiveness of Giving Ginger and Mint Leaf Steeping in Reducing the Frequency of Nausea and Vomiting in First-trimester Pregnant Women stated that after the Paired Sample t Test was conducted. The paired sample t-test results showed a value of P = 0.000 with a significant level of $\alpha = 0.05$. Therefore, the value of $p < \alpha$ can be concluded that Ho is accepted and Ha is rejected, meaning that there is a decrease in the intensity of the degree of nausea and vomiting when giving a decoction of ginger and mint leaves to first-trimester pregnant women at PKM Batua. Based on the Independent T-test test obtained p-value = 0.000 <0.05, meaning Ho is rejected and Ha is accepted, it can be concluded that there is an effect after giving ginger and mint decoction in reducing the frequency of nausea and vomiting in first-trimester pregnant women. Giving ginger decoction is proven effective to reduce nausea and vomiting in first-trimester pregnant women.

According to Ningsih, Fahriani, Azhari, Oktarina. (2020), in the journal The Effectiveness of Ginger Steeping on the Frequency of First Trimester Gravidarum Emesis. The results of this study showed that the average frequency of emesis in pregnant women before being given ginger tea was 9.36 times/day and decreased to 4.86 times/day after being given ginger tea. There is a difference in the average frequency of emesis before and after ginger steeping intervention with a mean difference of 4.50 with a Z value = 4.123 and a p-value = 0.000, meaning that there is a difference in the frequency of emesis before and after the application of ginger steeping techniques, this indicates that the application of ginger steeping techniques succeeded in reducing the frequency of emesis in first-trimester pregnancy in the Lubuk Sanai Health Center Working Area in the Mukomuko region.

According to Aulia, Anjani, and Utami. (2022), in the journal The Effectiveness of Ginger Drinking Water on Emesis Gravidarum in Trimester I Pregnant Women. The results of the study based on the Paired t Test test obtained a value of p = 0.000 (p <0.005) and t count = 18.255 and t table = 2.032 (t count> t table) so it can be concluded that there is an effect of giving ginger boiled water on the frequency of nausea and vomiting in mothers with emesis gravidarum.

According to Wulandari. (2019), in the journal Warm Ginger Drink to Reduce Emesis Gravidarum in Pregnant Women at the Nalumsari Jepara Health Center. The results of this study found that the frequency of nausea and vomiting in the intervention group before the action had an average score of 13.08, while after the action the average score was 7.56. The results of the Paired Samples T-test analysis (normally distributed data) obtained a p-value of 0.000, indicating that the provision of ginger drinks proved effective against the frequency of emesis gravidarum in first-trimester pregnant women at the Nalumsari Jepara Health Center.

CONCLUSION

Based on the results of the journal that has been reviewed, namely about the comparison of the effectiveness of ginger decoction with mint leaf decoction to overcome emesis gravidarum in first-trimester pregnant women with a comparison of the independent T-test, it can be concluded that Ho is rejected, and Ha is accepted, which means that giving ginger boiled water is more effective than Mint leaves. Theoretically, ginger is an effective herb in reducing nausea and vomiting in first-trimester pregnant women because it contains components that are useful for the body, one of which is gingerol which blocks serotonin. This compound causes the stomach to contract so that if it is blocked, the muscles of the digestive tract will relax and weaken it will cause nausea to decrease.

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