

Effectiveness of Ginging Candy Against Nausea and Vomiting in Pregnant Mothers at The Joint Maternity Clinic North Padang Lawas District

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ABSTRACT

Pregnancy causes many changes in the mother's body, there will be various kinds of physiological discomfort in the mother, such as nausea and vomiting, usually mild and a condition that can be controlled according to the mother's condition. This condition sometimes stops in the first trimester, but its effects can cause nutritional disorders, dehydration, weakness, weight loss, and *electrolyte imbalance*, if not treated it will increase in weight to *Hyperemesis Gravidarum*. This study aims to determine the effectiveness of ginger candy in reducing the frequency of nausea and vomiting in first trimester pregnant women at the Joint Maternity Clinic with a *Quasy Experimental* study design with a *One Group Pretest Posttest design*. Respondents used were 15 people with *purposive sampling* technique. This data was taken using the *T - dependent* test. The results showed that the frequency of nausea and vomiting before the intervention was given was 10.93 and after the intervention was 3.33 with an average decrease of 7.60. The results of statistical tests obtained *p* value < (0.05) so it can be concluded that the administration of ginger candy is effective in reducing nausea and vomiting in first trimester pregnant women.

Keywords:

Ginger candy, nausea, vomiting

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1. INTRODUCTION

Based on data from the *World Health Organization* (WHO) in 2015, about 830 women die every day due to things related to pregnancy and childbirth. 99% of all maternal deaths occur in developing countries, especially those living in rural areas and among the poor [15]

Millennium Development Goals (MDGs) with a validity period of 5 years targeting the Maternal Mortality Rate (MMR) of 102/100,000 live births (KH) turned out to be less successful this was because the MDGs program was running very slowly, so that in 2016 the *Sustainable Development Goals* (SDGs) were launched. as a sustainable development with a new agenda, by 2030 reduce the MMR to 70/100,000 KH (Ministry of Health, 2015). Based on reports from the District/City profiles of maternal MMR reported in North Sumatra in 2015 only 93/100,000 KH [5].

Pregnancy causes many physical, psychological and hormonal changes in the mother's body. This gives rise to various complaints, one of the other is nausea and vomiting which usually occurs in early pregnancy [12]. Nausea and vomiting that occur in pregnancy are caused by increased levels of the hormones *estrogen* and *progesterone* produced by *Human Chorionic Gonadotropin* (HCG) in the serum in the placenta. Nausea and vomiting occur in 60-80% of *primigravida* and 40-60% of *multigravida*. Hormonal changes in each pregnant woman will respond differently, so not all experience nausea and vomiting in pregnancy [12]

Nausea and vomiting in pregnancy are usually mild and can be controlled according to the condition of the pregnant woman. This condition sometimes stops in the first trimester, but its effects can cause nutritional disorders, dehydration, weakness, weight loss, and *electrolyte imbalances*, if not treated, this nausea and vomiting will get worse into *Hyperemesis Gravidarum*. Overcoming nausea and vomiting during pregnancy can be done through pharmacological and non-pharmacological measures. Non-pharmacological measures commonly recommended by health workers such as recommending pregnant women to consuming ginger in the form of ginger tea, relaxation

techniques, and aromatherapy [1]

Psychologically, nausea and vomiting during pregnancy affects more than 80% of pregnant women and has a significant effect on *quality of life*. Some pregnant women feel nausea and vomiting is a common thing during pregnancy. Others feel it is something that is uncomfortable and interferes with daily activities [13]

Even many pregnant women who have to take drugs or other alternative measures to deal with nausea and vomiting. Anti-nausea drug that is often given to pregnant women is vitamin B6. However, this drug is reported to have side effects such as headache, diarrhea, and drowsiness [13]. Initial therapy for *emesis* should be *conservative* accompanied by dietary changes, emotional support, and alternative therapies such as herbs. Traditional herbs can be used by drinking a cup of ginger warm. In India, ginger made as drink for treat nausea in pregnant women. Ginger could consumed in various forms such as beverages, candy, or sweets [13]. Ginger is a plant with a million properties that have been known for a long time. Ginger is one of important spice. The rhizome is very much its benefits, among others, as a spice for cooking, drinks, and candy and is also used in cooking traditional medicinal herbs. The chemical content in ginger that can Overcoming nausea and vomiting include essential oils that have a refreshing effect and produce an aroma that blocks the vomiting reflex. *Its oleoresis* causes a spicy taste that warms the body and causes sweat. *Antiemetic* effects are also caused by *diterpenoid components*, namely *gingerol*, *shaogaol*, *galanolactone* [12]. The dose of ginger should be no more than 2 grams per day, because it can trigger miscarriage [3]. Based on the initial survey at the Joint Maternity Clinic 3 from 5 mother pregnant trimester first experience nauseous vomit. Based on the background above, the authors are interested in conducting research on The Effect of Ginger Candy on Reducing Nausea and Vomiting in First Trimester Pregnant Women at the Clinic Maternity Together.

2. METHOD

Research is a Quasy *Experimental* research with trimester pregnant women at the Clinic *One Group Pretest Posttest design*. In this design, before the treatment is given, the sample is first given a *pretest* (initial test) and after *the experiment* the sample is given a *posttest* (final test). The samples taken were 15 first trimester pregnant women at the Clinic.

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. Analysis Univariate

Characteristics of respondents from 15 respondents who performed ANC examinations at the Sunggal Maternity Clinic.

Table 1
Distribution of respondents based on the characteristics of respondents
(N=15)

number	Age Characteristics	F	%
1	<20 years	3	20.0
	20-35 years old	12	80.0
2	Education		
	JUNIOR HIGH SCHOOL	1	6.7
3	SENIOR HIGH SCHOOL	14	93.3
	IRT Jobs	13	86.7
4	Self-employed	2	13.3
	G1PoAo parity	8	53.3
	G2P1Ao	4	26.7
	<u>G3P2Ao</u>	<u>3</u>	<u>20.0</u>

Based on table 1, it is known that from 15 respondents the majority of first trimester pregnant women are aged 20-35 years, the majority of respondents have high school education, the majority of respondents work as housewives, and the majority of respondents do not have children or have just experienced pregnancy.

Table 2
Categories of nausea and vomiting before and after intervention
(N=15)

No	intervention	Category	F	%
1	Before	Medium	2	13,3
		Weight	13	86,7
2	After	not vomiting	11	73,3
		Light	4	26,7

Based on table 2 the majority of respondents were in the category of severe nausea and vomiting before the intervention. After the intervention, the majority of respondents were in the category of not experiencing nausea and vomiting.

3.1.2. Analysis Bivariate

Bivariate analysis in this study aims to determine the difference in the value of nausea and vomiting before the intervention and after the intervention using the *T-dependent test*. Based on the normality test, it is known that the result of *P* value is $0.415 > \alpha$ (0.05) and it can be seen that the data is normally distributed so that the requirements for using the *T-dependent test* are fulfilled. the results before the intervention were 10.93 with a standard deviation of 0.37. And after the intervention, the result was 3.33 with a standard deviation of 0.61. There was a decrease in the mean before and after the intervention was 7.60 with a standard deviation of 1.40. The results of statistical tests obtained *p* value $0.000 > (0.05)$ so it can be concluded that the administration of ginger candy is effective in reducing nausea and vomiting in pregnant women in the third trimester. first. as many as 8 people (53.3%). Gravida can also affect the incidence of nausea and vomiting. In accordance with Tiran's theory (2013), an increase in the incidence of nausea and vomiting occurs in women who have experienced pregnancy for the first time (*Primigravida*) compared to women who have experienced several pregnancies (*Multigravida*). This is because most of the primigravida have not been able to adapt to the hormones *estrogen* and *choreonic gonadotropin* so that *emesis gravidarum* is more common. Meanwhile, *multigravida* and grandemultigravida have been able to adapt to the hormones *estrogen* and *choreonic gonadotropin* because have experience with pregnancy and childbirth.

3.2. Discussion

The results showed that most of the respondents aged 20-35 years were 12 people (80.0%). Some studies say that the older a person is, the less often he will experience nausea and vomiting. This is because the elderly have had experience in dealing with nausea and vomiting, while at a young age they have not been able to cope because most of them are first pregnancies [12].

Based on the characteristics of education, most of the respondents have high school education as many as 14 people (93.3%). Education level is related to the ability to receive health information from the mass media and officers health.

The results showed that most of the respondents' occupations were housewives as many as 13 people (86.7%). In pregnant women who are among the family or in work routines [20]. Anxiety about current and future financial situations can cause additional worries that make women feel unwell. So with work as a housewife who cannot help the family economy, pregnant women can cause additional worries that make women feel unwell, causing nausea and vomiting in pregnancy [16]

Most of the respondents have not had children and this is the first pregnancy, namely lack of knowledge, information and poor communication between women and their caregivers also affect women's perceptions of the symptoms of nausea and vomiting. Whereas *multigravida* and grandemultigravida already have experience, information and knowledge about the symptoms of *emesis gravidarum* so that they are able to overcome the symptoms.

Based on the results of the study, it was found that the average nausea and vomiting before the intervention was 10.93 and after the intervention was given ginger candy to be consumed for 4 days and was measured again, the value of nausea and vomiting was 3.33 with a mean value of 7.60. These data indicate that the administration of ginger candy is effective in reducing nausea and vomiting in first trimester pregnant women.

The results of this study are supported by research conducted by Nugrahani (2015) on the effectiveness of giving steeped ginger with grapefruit juice on the frequency of nausea and vomiting of pregnant women in the first trimester. Puskesmas Adan - Adan Kediri Regency using the *Independent T-Test* statistical test, the average frequency of nausea and vomiting of respondents after being given ginger steeping is 1.62. While the average frequency of nausea and vomiting in respondents who were given grapefruit juice was 2.00. So it can be concluded that giving ginger steeping is more effective than giving grapefruit juice. According to research also conducted by Ardani, Ayu (2014) on the comparison of the effectiveness of giving ginger drink therapy with cardamom drink against *morning sickness* in first trimester pregnant women, it was found that the results of statistical tests showed the average level of morning sickness of pregnant women after being given ginger drink therapy. of 7.5. This value

is lower than the average value of the level of morning sickness after being given cardamom drink therapy of 9.93. With a p -value of $0.005 < (0.05)$, it can be concluded that there is a significant difference in the effectiveness of ginger drink therapy with cardamom drink therapy against morning sickness in first trimester pregnant women. In another study by Putri, Ayu [12]

about the effectiveness of giving warm ginger in reducing the frequency of nausea and vomiting in pregnant women in the first trimester, found that the results showed the average frequency of nausea and vomiting before being given warm ginger drinks was 13 times and after being given it decreased to 3.18 times. The test results showed that warm ginger drink was effective in reducing nausea and vomiting in pregnant women ($p = 0.000$).

The results of this study are also in accordance with the theory of Tiran (2013), nausea and vomiting is one of the earliest, most common and most stressful symptoms associated with pregnancy. Nausea and vomiting are often overlooked because they are considered a normal consequence of early pregnancy without acknowledging the severe impact it has on women and their families. For some women, symptoms may last all day, or may not occur at all upon waking in the morning. 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, which in At that time, HCG reached levels of height.

According to Rofi'ah, Handayani, Rahmawati [13] Initial therapy for emesis should be conservative, accompanied by dietary changes, emotional support, and alternative therapies such as herbs. Traditional herbs can be used by drinking a cup of warm ginger. In India, ginger is made as a drink to treat nausea in pregnant women. Ginger can be consumed in various forms such as drinks, candies, or sweets.

This study is in accordance with the statement [19] that ginger is an effective treatment to relieve nausea and vomiting in pregnancy. Types of diseases that can be treated with ginger include: headache, dizziness, appetite enhancer, and vomiting. According to [13] one of the pharmacological functions of ginger is antiemetic (anti-vomiting), an ingredient that is able to expel gas from the stomach, this will relieve flatulence, is also a strong aromatic stimulant, in addition to controlling vomiting by increasing intestinal *peristalsis*. About 6 compounds in ginger have been shown to have potent antiemetic (anti-vomiting) activity. The action of these compounds is more directed at the stomach wall than the nervous system center.

According to [24] Ginger is usually safe as an herbal medicine. Ginger does not have *acute* toxicity at doses commonly consumed for food or medicine. At large doses of 6 g or more, ginger rhizome can cause gastric irritation and loss of protective mucosa stomach. At normal doses (up to 2 g daily), ginger does not affect blood *coagulation* or *blood coagulation parameters*.

According to the researcher's assumption, ginger candy is effective in reducing nausea and vomiting in first trimester pregnant women. Where nausea and vomiting is caused by changes in the endocrine system that occur during pregnancy, mainly due to high *fluctuations* in HCG (*human chorionic gonadotrophin*) levels, especially in the period of *gestational* nausea or vomiting the most common is in the first 12-16 weeks. Meanwhile, ginger candy made from ginger contains chemical compounds in which the spicy taste in ginger is caused by *zingerone*, while the distinctive aroma in ginger is caused by *zingiberol*. Where ginger can work to inhibit *serotonin* receptors and cause *antiemetic effects* on the *gastrointestinal* system and central nervous system. Ginger also contains *essential oils* that 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. So it can be concluded that ginger candy is effective in reducing nausea and vomiting in first trimester pregnant women, the researcher's assumption is proven in this study with the results of the study $p < 0.05$.

4. CONCLUSION

A total of 15 respondents who experienced nausea and vomiting before the intervention and were measured using a PUQE questionnaire, the majority of respondents were included in the category of severe nausea and vomiting as many as 13 people and were measured again after the intervention found the majority of respondents were in the category of not vomiting as many as 11 people.

The frequency of nausea and vomiting of respondents before the intervention was 10.93 and after the intervention was 3.33 with an average decrease of 7.60. The results of statistical tests obtained p value $< (0.05)$ so it can be concluded that the administration of ginger candy is effective in reducing nausea and vomiting in pregnant women in the third trimester first.

recommended for educational institutions that the institution is expected to provide land to cultivate ginger plants around campus and cooperate with the agricultural department, and the results can be processed into ginger candy. For the processing of ginger candy, it is hoped that the institution will collaborate with the pharmacy department so that the processed products can later be developed as an entrepreneurship in the special department of the department midwifery.

to the Joint Maternity Clinic to use ginger as a plant that can be processed into candy in order to reduce the incidence of nausea and vomiting in trimester pregnant women first.

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