

## **DIFFERENCES IN EFFECTIVENESS BETWEEN LEMONGRASS PLUS GINGER AND LEMON PLUS HONEY TO REDUCE MORNING SICKNESS**

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### **ABSTRACT**

Nausea and vomiting are normal in pregnant women. However, this condition will change if sustained with a high quantity in a day, so it can disrupt nutritional balance, electrolyte fluids, and can affect the quality of pregnancy. Anti-nausea drugs sometimes can not work effectively when pregnant women continuously vomit, one of the nonpharmacological therapies. The purpose of this study was to measure the effectiveness of ginger drink plus lemongrass compared to lemon plus honey on reducing morning sickness symptoms in pregnant women. This research is a type of intervention research with experimental quasy design. The location used for this research is in the working area of the Bandung Health Center, Serang Regency, Banten Province in May – June 2023. The sample used in this study used a total sampling of 32 pregnant women. Sample selection with purposive sampling techniques. Statistical analysis using independent t test. The results of the independent t test for ginger + lemongrass were p value  $0.028 < 0.05$ , while the test results for lemon honey were p value  $0.048 < 0.05$  it can be concluded that giving ginger and lemongrass water as well as lemon and honey has an effect in reducing morning sickness and is statistically significant.

Keywords: ginger; citronella (lemongrass); honey; lemon; morning sickness

### **INTRODUCTION**

Nausea and vomiting (emesis gravidarum) are normal in 1st trimester pregnant women. This condition will change if nausea vomiting is sustained in high quantities in a day, so that it can disrupt nutritional balance, electrolyte fluids, and can affect the general state and interfere with daily life. Emesis gravidarum is a common or frequent symptom of first trimester pregnancy. Nausea usually occurs in the morning, but some arise at any time and night. These symptoms usually occur 6 weeks after the first day of the last menstruation and last approximately 10 weeks. The incidence rate of Hyperemesis Gravidarum in Indonesia in 2015 was 1.5 out of 3% of pregnant women. (Anggraini, 2022) (Ningsih, 2020)(Retni, 2020)(Riyanti, 2022) Nausea vomiting during young pregnancy is often called morning sickness but in fact this nausea vomiting can occur at any time . In some cases it can continue until the second and third trimester of pregnancy, but this rarely happens Nausea vomiting that occurs continuously can cause dehydration and even weight loss in pregnant women. If this is not handled appropriately and quickly, it will be bad for pregnant women and fetuses and can even cause the death of pregnant women and fetuses. (Purwanti, 2022)(AULIA, 2022)

Morning sickness is a common symptom that occurs in pregnant women on TM I. This certainly worries most mothers and families because mothers become often unwell and interfere with maternal activities especially accompanied by nausea and vomiting that cause food that has been eaten to be removed again.(Latifah, 2017) Anti-nausea drugs sometimes can not work effectively When pregnant women continue to vomit, one of the nonpharmacological therapies that is reported to be quite effective one of them is by using herbal plants that can be used to reduce nausea vomiting during pregnancy, namely ginger, peppermint, lemon, honey. Lemons have flavonoids that increase the production of bile, acids, and digestive juices. Where the content of Flavonoids

will neutralize acidic digestive juices, the removal of toxins in the body .(KUSUMA, 2021)(Madiuw, 2021)

Ginger with the scientific name *Zingiber officinale* is a rhizome containing gingerols and shogaols. The gingerol content in ginger can inhibit cyclooxygenase and lipooxygenase enzymes in the synthesis of prostaglandins and leukotrienes. Anti-inflammatory substances in ginger can also inhibit prostaglandin synthesis. This is a key mechanism of gingerol's effect in reducing pain during menstruation (Rifiana, A 2020). Ginger can stimulate the release of adrenaline hormones and widen blood vessels, as a result of which blood flows faster and smoother and lightens the work of the heart pumping blood, so as to reduce pain. The purpose of this study was to measure the effectiveness of ginger drink plus lemongrass compared to lemon plus honey on reducing morning sickness symptoms in pregnant women.(Kayanti, 2019)(Widowati, 2020)(Novelia, 2023)

## METHOD

This research is a type of intervention research with an experimental quasy design.The location used for this research is in the working area of the Bandung Health Center, Serang Regency, Banten Province in May – June 2023. The sample used in this study, using a total sampling of 32 pregnant women divided into 16 respondents received ginger + lemongrass and 16 respondents received lemon + honey. Sample selection with purposive sampling techniques. Mothers with a minimum gestational age of 20 weeks and a maximum of 28 weeks when the study began were conducted, experienced nausea vomiting more than 3 times in the morning, no signs of dehydration and did not have hypersensitivity to ginger, lemon or honey. Giving decoction extract of 100 grams of ginger and 1 medium-sized lemongrass stick of about 20-30 grams along with about 200-250 ml of water for 14 days. Giving warm water mixed with half of the sliced lemon mixed with 1 teaspoon of honey, taken 2-3 times a day for 14 days. Nausea and vomiting are measured by INVR (Index Nausea, Vomiting And Retchin) with the provisions 0 = no vomiting nausea, 1-8 = mild vomiting nausea, 9-16 = moderate vomiting nausea, 17-24 = severe vomiting nausea, and 25-32 = bad vomiting nausea. Bivariate analysis is an independent T test.

## RESULT AND DISCUSSION

Table 1  
Characteristics of respondents

Characteristic	f	%
<b>Age of Respondents</b>		
< 20 Years	14	43.8
20 – 35 Years	16	50
> 35 Years	2	6.3
<b>Parity</b>		
Primipara	15	46.9
Multiparous	17	53.1
<b>Work</b>		
Housewives	22	68.8
Trader/ self-employed	5	15.6
Civil servants	5	15.6

Based on the results of research that has been conducted, it is illustrated that the majority of pregnant women are the most in productive age, namely 20-35 years old with 16 people or

equivalent to 50%, with the majority of multiparity parity, as many as 17 people or 53.1% and working as housewives as many as 22 people or 68.8%. All post-test Sig values produced  $> 0.05$ , so it can be concluded that the data is distributed, so the next step is *an independent T test*

Table 2.  
Normality test

Result		Kolmogrov-Smirnova			Shapiro - Wilk		
		Statistics	Df	Sig	Statistics	Df	Sig
Intervention Ginger + lemongrass	Pretest	,088	16	,200	,963	16	,716
	Posttest	,216	16	,054	,940	16	,349
Intervention Lemon + honey	Pretest	,142	16	,200	,938	16	,352
	Posttest	,158	16	,200	,946	16	,429

Table 2 shown that the average frequency of morning sickness before the intervention was 7.94 and the average frequency of morning sickness after the intervention was 5.88. The results of the independent t test obtained Sig.2-tailed values of  $0.028 < 0.05$ , so it can be concluded that giving ginger water added lemongrass has an effect in reducing morning sickness and is statistically significant.

Table 3.  
Independent T Test for Ginger and Citronella

Result	Independent T test					Df	Sig (2-tailed)
	Mean before	Mean after	Std error	95 Confidence Interval			
				Lower	Upper		
Pretest – Posttest Intervention	7.94	5.88	0.88	0.24	0.39	32	.028

Table 3 the average frequency of morning sickness before the intervention was 8.56 and the average frequency of morning sickness after the intervention was 6.56 there was a decrease of 2 points. The results of the independent t test obtained Sig.2-tailed values of  $0.048 < 0.05$ , so it can be concluded that giving lemon water added honey has an effect in reducing morning sickness and is statistically significant.

Table 4.  
Independent T Test for Lemon and Honey

Result	Independent T test					Df	Sig (2-tailed)
	Mean before	Mean after	Std error	95 Confidence Interval			
				Lower	Upper		
Pretest – Posttest Intervention	8.56	6.56	0.97	0.24	3.98	32	.048

Table 4 this result is in line with research conducted by which states that there is a difference between before giving Lemon Infused Water and after being given Lemon Infused Water. Based on these results, it can be concluded that there is an effect of giving Infused Water Lemon (citrus limon) and Red Ginger (zingiber officinale rubrum variety) to reduce nausea-vomiting in Trimester I Pregnant Women.(Kaban, 2021) Lemon fruit is known as a source of vitamin C, but actually this fruit also contains other essential nutrients, including carbohydrates (sugar and dietary fiber), potassium, folate, calcium, thiamin, niacin, vitamin B6, phosphorus, magnesium, copper, riboflavin, pantothenic acid, and phytochemical compounds.(Permata, 2018)

The results showed 40% of women had used lemon to relieve nausea and vomiting, and 26.5% and consuming lemon juice is an effective way to control the symptoms of nausea vomiting, in lemon also contains limonene, vitamin C, and limonene which can prevent prostaglandin activity to control cytoooxygenase I and II, and reduce pain including nausea vomiting. Flavonoids in oranges can also increase bile production which will neutralize acids that can reduce nausea so that the frequency of morning sickness can be reduced or even disappear. In Lemon contained Limonene which will. Lemon (Citrus Limon) is famous as an ingredient to squeeze and extract the juice as a drink making.(Rofi'ah, 2019)(Safira, 2022)

Ginger works to inhibit serotonin receptors and cause anti-emetic effects on the gastrointestinal system and central nervous system. Galanolactone, another substance sometimes in ginger, is a competitive antagonist in ileus 5-HT receptors that causes anti-emetic effects. Ginger contains substances that can overcome nausea vomiting including diterpentinoid components, namely gingerol, shogaol, galanolactone. In addition essential oils with ginger aroma have a refreshing effect and produce aroma that blocks the gag reflex. Its oleoresis causes a warming, spicy taste(Kundarti, 2017) (Anggraini, 2022) Lemongrass has many uses for health, with the content of lemongrass is essential oil, the use of lemongrass combined with ginger to overcome nausea and vomiting has never been done before but has researched about giving ginger and vitamin B6 against morning vomiting in pregnant women with the results of ginger more effective to reduce nausea and vomiting during pregnancy. (Yulviana, 2019)

The use of a combination of spices to overcome nausea and vomiting in pregnant women who say that the combination of ginger extract with pyridoxine can relieve nausea and vomiting better than just using pyridoxine alone consumption of lemongrass ginger is most effective in overcoming morning sickness in pregnant women. The ingredients that make up lemongrass essential oil are known to have anti-fungal, anti-insect, antiseptic, and anti-inflammatory properties. Lemongrass prevents the growth of some bacteria and fungi and has antioxidant properties.(Sari, 2022)(Vieira, 2018).

## **CONCLUSION**

The results of the independent t test it can be concluded that giving ginger and lemongrass water as well as lemon and honey has an effect in reducing morning sickness and is statistically significant

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