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The Effectiveness Of Giving Ginger And Mint Leaves To The Incidence Of Emesis Gravidarum

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The Effectiveness Of Giving Ginger And Mint Leaves To The Incidence Of Emesis Gravidarum

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Abstract--*Hormonal changes in early pregnancy occurs due to rising levels of the hormones estrogen and progesterone. This may result in some of the complaints in mothers in early pregnancy, such as morning sickness or nausea and vomiting. This can be overcome by pharmacological administration of drugs anti-nausea and vomiting as well as non-pharmacological manner mint leaves steeping water also steeping ginger rhizome.The purpose of this study was to analyze efektiftiveness of given mint leaves and ginger to the incidence of morning sickness in pregnant women. Using a quasi-experimental research design. The population and the sample is first trimester pregnant women who experience morning sickness in Midwives Practice Independenly in Surabaya for 3 months. In analysis of respondents given mint leaves using Wilcoxon showed the p-value 0.005 <α of 0.05 means that the mint proven effective in reducing the incidence of morning sickness. In analysis of respondents given ginger result p-value 0.000 <α 0.05, which means that the administration also proved effective steeping ginger reduces the incidence of morning sickness. The results mean rank test showed Award mint leaves steeping steeping ginger 6.87 and 9.86 giving a meaningful that ginger infusion administration more effectively reduce the incidence of morning sickness in comparison with the provision of mint leaves steeping. Pregnant women can reduce morning sickness with non-pharmacological ways to drink the infusion of ginger and mint leaves steeping.*

Keywords---*: Emesis Gravidarum,Morning Sickness, Mint Leaves, Ginger*

I. INTRODUCTION

Hormonal changes in early pregnancy occurs due to rising levels of the hormones estrogen and progesterone. This may result in some of the complaints in mothers in early pregnancy, such as morning sickness or nausea and vomiting. The complaint was made the mother feel uncomfortable to be able to influence the nutritional status in case of hyperemesis gravidarum. This can be overcome by pharmacological administration of drugs anti-nausea and vomiting as well as non-pharmacological manner mint leaves steeping water also steeping ginger rhizome.

Nausea and vomiting occur in 60-80% and 40-60% primigravidas multigravida. Hundred of thousand of pregnancy, these symptoms become more severe. Nausea is caused by rising levels of the hormones estrogen and hCG in serum. These hormones influence the physiology of the increase is unclear, probably because of the central nervous system or reduced gastric emptying.(Hanifa Wiknjosastro, 2010).

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Factors that may influence the occurrence of morning sickness by Retnowati study in 2019 showed that 87.6% primigravida pregnancies and pregnant mother doubles as 92.2% who experienced morning sickness. Meanwhile, according to research in 2009 Indrayani choose foods that are good habits during pregnancy is proven to reduce the incidence of morning sickness as much as 21.2%.(Retnowati, 2019)

Morning sickness will decrease and disappear with her pregnancy. Nausea and vomiting in early pregnancy can be reduced by anti-drug pharmacology as nausea and vomiting, may also be reduced by means of non-pharmacological which uses natural ingredients are easily available and easy to make as the mint and ginger.(Wulandari, Kustriyanti, & Aisyah, 2019)

Mint or peppermint leaves may help reduce the frequency of nausea and vomiting in pregnant women as much as 43.3% only twice nausea alone. According Banun et al contains essential oils of mint leaves 1-2%, 80-90% menthol, Menthon, d-pipirition, heksanolfenil-acetate, ethyl amilkarbinol, and neomenthol.(Banun, Puspita, & Suyati, 2017) The content contained in the mint ie 1-2% volatile oil which can inhibit the growth of bacteria and menthol can be used as an addition to the fresh aroma beverage.Mint (Mentha piperita L.) widely used in the pharmaceutical industry, cigarettes, food, among others for the manufacture of toothpaste, wind oil, balsam, confectionery and others(Karlina, 2016). Based on its use as a spice, mint (Mentha piperita L.) can be used for seasoning meat, fish, sauces, soups, stew, vinegar, tea beverages, tobacco and wine. The tip of the fresh leaves of all species of mint also used in beverages, fruit, applesauce, ice cream, jelly, salad, and vegetables. Meanwhile, in the medical world, the content of the oil extract volatile mint leaves that menthol is used for abdominal pain, cough, inhalation, mouthwashes, toothpaste, etc. Mint (Mentha piperita L.) used by herbalists as an antiseptic, antipruritik, anti-emetic and carminative medicine(Parwitasari, Utami, & Rahmalia, 2015)

Ginger many contain various phytochemicals and phytonutrients. Some of the substances contained in the essential oil of ginger is 2-3%, 20-60% starch, oleoresin, resin, organic acid, malic acid, oxalic acid, gingerin, gingeron, resin oils, flavonoids, polyphenols, alkaloids, and mucilage. Essential oils of ginger contains zingiberol, linaloal, kavikol, and geraniol. Dried ginger rhizome per 100 grams of edible portion contains 10 grams of water, 10-20 grams of protein, 10 grams fat, 40-60 grams of carbohydrates, 2-10 grams of fiber and 6 grams of ash. 1-2% of dry rhizome contains gingerol (Wulandari et al., 2019)

II. METHOD

In this study, the design of the study is quasi-experimental with a two-group pretest posttest design. The study population was all pregnant women who came controls in Midviwes Practice Independently in Surabaya in March-April 2019. The samples was 40 pregnants women who came to control at the midwife practicing independently during March – April 2019. Samples were taken using purposive sampling. Independent variables were mint leaves and ginger, while the dependent variable was the incidence of morning sickness.

III. RESULTS AND DISCUSSION

1. Respondent characteristics based on giving drinks

table 1.1 Respondent characteristics based on giving drinks

Method	**Frequency**	**(%)**
Mint leaves	20	50
Ginger	20	50
	40	100

Source: Primary Data March-April 2019

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Table 1.1 shows that half of the 40 respondents (50%) were given a drink of water mint leaves and half (50%) were given a drink of water ginger

2. Characteristics of respondents by age

table 1.2 The frequency distribution of respondents by age

Age (years)	**Drinks**				**Total**	**(%)**
	Mint leaves		Ginger			
	N	%	N	%		
20-35	28	70	10	25	38	95
> 35	2	5	0	0	2	4

Source: Primary Data March-April 2019

Table 1.2 shows that out of 40 respondents are almost entirely (95%) aged 21-35 years.

3. Characteristics of respondents by education

Characteristics respondents by education will be presented in frequency distribution table as follows:

Table 1.3 The frequency distribution of respondents by education

Education	Drinks				**Total**	**(%)**
	Mint leaves		Ginger			
	N	%	n	%		
Secondary	24	60	8	20	32	80
High	7	17.5	1	2.5	8	20

Source: Primary Data March-April 2019

Table 1.3 shows that out of 40 respondents are almost entirely (80%) secondary education.

4. Characteristics of respondents by job

Characteristics respondents based on the work will be presented in frequency distribution table as follows:

Table 1.4 The frequency distribution of respondents by occupation

Working status	Drinks				**Total**	**(%)**
	Mint leaves		Ginger			
	N	%	n	%		
Employee	21	52.5	8	20	29	72.5
Unemployee	8	20	3	7.5	11	27.5

Source: Primary Data March- April 2019

Table 1.4 shows that majority of respondents (72.5%) were employee

5. Characteristics of respondents by parity

Characteristics respondents based on the parity will be presented in frequency distribution table as follows:

Table 1.5 Distribution of respondents according to the frequency of parity

Parity	**Drinks**				**Total**	**(%)**
	Mint leaves		Ginger			
	N	%	n	%		
> 3	1	2.5	1	2.5	2	5
≤ 3	18	45	20	50	38	95

Source: Primary Data March- April 2019

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Table 1.5 shows that out of 40 respondents are almost entirely (95%) had a number of children live <3.

6. Characteristics of morning sickness before being given a drink of mint and ginger

Table 1.6 Characteristics of morning sickness before the administration of the mint and ginger

Characteristics of nausea and vomiting	f	%
Light	9	22.5
moderate	24	60
Weight	7	17.5
	40	100

From Table 1.6 above shows that more than half (60%) of respondents experienced morning sickness with moderate criteria

7. Characteristics of morning sickness after being given a drink of mint and ginger

Table 1.7 Characteristics of morning sickness after administration of the mint leaves and ginger

Characteristics morning sickness	Drinks			
	Mint leaves		Ginger	
	n	%	n	%
Light	11	47.5	15	67.5
Moderate	9	42.5	5	32.5
Weight	0	0	0	0
	20	100	20	100

Source: primary data 2019

From table 1.7 above it can be seen that respondents who were given mint leaves as much as 47.5% experienced mild morning sickness and 67.5% of respondents who were given ginger experienced mild morning sickness.

8. Differences in the degree of morning sickness before and after administration of the mint leaves and gingers

Table 1.8 Differences in the degree of morning sickness before and after administration of mint leaves

Group administration mint leaves	n	mean	mean Perub	SD	SE	P value
Before	20	3.65		.521	0.15	0,005
After	20	3.03	0.62	.710	0.22	

From the above table analysis using the Wilcoxon test can be concluded that there are differences in the degree of morning sickness are significantly before and after administration of mint leaves (p-value = 0.005 <α = 0.05)

Table 1.8 Differences in the degree of morning sickness before and after administration of gingers

Group administration gingers	n	Mean	mean change	SD	SE	P value
Before	20	2.80	1.27	0,532	0.161	0,000
After	20	1.53		0.426	0.123	

From table 4.8 above obtained difference between the before and after of ginger is 1.27. The results obtained by analysis of p-value = 0.000 <α = 0.05, so it can be concluded there are significant differences between the before and after of ginger.

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9. Effectiveness of the mint and ginger on the incidence of morning sickness

Table 1.9 Effectiveness of mint leaves and ginger for morning sickness

Group	n	Before		After		mean	p-value
		mean	SD	mean	SD	rank	
Mint leaves	20	17.83	.521	13.17	.710	6,87	0,025
Ginger	20	21.33	0,532	19.21	0.426	9.86	0,000

The results of tests on the mean rank shows 6,87 mint leaves and ginger 9.86, it indicates that administration of ginger proved to be more effective in reducing the incidence of morning sickness.

Discussion

1. Characteristics of respondents by age, education, occupation and number of children on the incidence of morning sickness

40 respondents who experienced morning sickness almost entirely (95%) aged 21-35 years. This is according to research conducted by Soa (2018) which states that the nausea and vomiting experienced by the mother at the age of 21-35 years. According Mariantari (2014), the older a person will eat less often experience nausea and vomiting during pregnancy because the older a person gets easier sickness because it already has sufficient experience, while the mother at the age of 21-35 in their first pregnancy do not know how to cope with nausea and vomiting during early pregnancy.

As many as 80% of respondents who experienced morning sickness discount secondary education. This is according to research which states that education will affect the mindset of a person in making decisions. The lower your education will be increasingly difficult to receive information from others.(Muhsinah, Emma Yuniarrahmah, 2014) Mothers with secondary education have less insight into how treatment of nausea and vomiting in early pregnancy (Fakhrudin Nasrul Sani, 2011)

Of the total respondents, amounting to 40, 72.5% are working mothers. This is according to research which states that working mothers have a limited time to access information on how to deal with nausea and vomiting in early pregnancy. In contrast to the socio-economic working mothers had better be able to meet antenatal health worker(Pramudawardhani & Shanti, 2017)

The respondents of this study as many as 95% are mothers who conceive their first child. According to research states that the morning sickness prevalent in primigravida mothers because they do not yet have enough experience in dealing with nausea and vomiting in early pregnancy.(Retnowati, 2019)

2. Characteristics before and after by the mint and ginger

Before being given mint and ginger leaves, 60% had moderate degree emesis gravidarum and 17.5% had severe degree emesis gravidarum. Emesis gravidarum in pregnant women is caused by the mother's emotional response to pregnancy and due to an increase in the hormone Hcg. It usually occurs in the 1st trimester of pregnancy(Erina Eka Hatini, 2018). The exact cause of emesis gravidarum itself is not yet known with certainty and multifactorial. The theory put forward is endocrine and non-endocrine factors. Matters related to endocrine factors include Human Chorionic Gonodotrophin, estrogen, progesterone, Thyroid Stimulating Hormone, Adrenocorticotropine Hormone, Human Growth Hormone, prolactin and leptin. While those related to non-endocrine factors include immunology, gastrointestinal dysfunction, Helicobacter pylori infection, metabolic enzyme disorders, nutritional, anatomic and psychological deficiency.(Khairoh, Rosyariah, & Ummah, n.d.)

Having been given a mint leaf as much as 47.5% of respondents experiencing morning sickness mild and 42.5% of respondents experienced a moderate degree of morning sickness and no respondents who experienced morning sickness

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severe degree. Test results analysis using Wicoxon obtained p = 0.005 <α = 0.05, which means mint effective to reduce morning sickness. Mint leaves contain menthol can accelerate circulation, relieve bloating, nausea and cramps. Mint leaves contain essential oils that menthol potentially improving the digestive system and relieve stomach cramps or cramps because it has the effect of anesthesia is mild and contain the effects carminative and antispasmodic who work in the small intestine of the gastrointestinal tract so that they can overcome or eliminate nausea and vomiting(Karlina, 2016).Mint is one of the herbs that can be used in a state of fresh or dry. Mint tea, containing mint in them can overcome the nausea and vomiting in pregnant women. Mint contains menthol taste cold, cold feeling in the gut menthol is more acceptable than regular flavored teas(Parwitasari et al., 2015)

In the group after the administration of ginger, as many as 67.5% of respondents experiencing emesis mild and 32.5% of respondents megalami moderate emesis and no respondents who experienced morning sickness severe degree. , The results obtained by analysis of p-value = 0.000 <α = 0.05, so it can be concluded there are significant differences between the before and after of ginger. On the comparison of the effectiveness of ginger extract and pyridoxine combination with pyridoxine alone in reducing nausea and vomiting in pregnant women. The result of this research is the analysis of the consumption of ginger extract at 700 mg per day has been good enough to reduce nausea and vomiting in pregnant women with a combination of pyridoxine, ginger extract concentration can be reduced, thereby reducing the risk to the pregnancy. Ginger extract is proven effective to reduce complaints of nausea and vomiting, but its use in pregnant women is still controversial. Some researchers recommend a dose of ginger extract that is safe for pregnant women consume below 1000 mg / day, the same as the dose that we can from the daily diet, some researchers also found that the ginger extract is more effective when combined with pyridoxine. Ginger is also a strong aromatic stimulant, in addition to control vomiting by increasing intestinal peristalsis. Some studies suggest that ginger has beneficial effects on cancer prevention, nausea and vomiting during pregnancy, nausea and vomiting in chemotherapy patients and nausea and vomiting after surgery(Marlina & Astina, 2016). but its use in pregnant women is still controversial. Some researchers recommend a dose of ginger extract that is safe for pregnant women consume below 1000 mg / day, the same as the dose that we can from the daily diet, some researchers also found that the ginger extract is more effective when combined with pyridoxine. Ginger is also a strong aromatic stimulant, in addition to control vomiting by increasing intestinal peristalsis. Some studies suggest that ginger has beneficial effects on cancer prevention, nausea and vomiting during pregnancy, nausea and vomiting in chemotherapy patients and nausea and vomiting after surgery but its use in pregnant women is still controversial.(Afriyanti, 2017) Some researchers recommend a dose of ginger extract that is safe for pregnant women consume below 1000 mg / day, the same as the dose that we can from the daily diet, some researchers also found that the ginger extract is more effective when combined with pyridoxine. Ginger is also a strong aromatic stimulant, in addition to control vomiting by increasing intestinal peristalsis. Some studies suggest that ginger has beneficial effects on cancer prevention, nausea and vomiting during pregnancy, nausea and vomiting in chemotherapy patients and nausea and vomiting after surgery, same as the dose that we can from the daily diet, some researchers also found that the ginger extract is more effective when combined with pyridoxine. Ginger is also a strong aromatic stimulant, in addition to control vomiting by increasing intestinal peristalsis.(Parwitasari et al., 2015)

3. Effectiveness of the mint and ginger on the incidence of morning sickness

The results of tests on the mean rank shows 6,87 mint leaves and ginger 9.86, it indicates that administration of ginger proved to be more effective in reducing the incidence of morning sickness. The results of this study are also consistent with studies on the effectiveness of ginger ale in reducing nausea and vomiting in pregnant women the first trimester with a gift by the ginger drink 4 times daily for 4 days decreased nausea and vomiting, so it can be concluded that ginger ale given in the first trimester pregnant women effective in relieving morning sickness. In accordance with the results of

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this study, administration of ginger decoction is more effective than having a mint leaf as ginger contains oil that can block serotonin in the digestive tract so that memberikanrasa comfortable in the stomach and nausea vomiting.(Parwitasari et al., 2015)

Ginger inhibits serotonin receptor and anti-emetic effects on the gastrointestinal system and the central nervous system. Galanolakton, is another element that is contained in the ginger, is a competitive antagonist at 5-HT receptors ileus, which is an anti-emetic effect. Ginger effects on the central nervous system shown in animal experiments to gingerol, there is a reduction in the frequency of vomiting (Afriyanti, 2017)

IV. CONCLUSION

1. Characteristics of respondents who experienced morning sickness is most in the age of 21-35 years, with secondary education, working mothers and expecting her first child.
2. Before being mint and ginger respondents mostly moderate degree experienced morning sickness and morning sickness fraction experiencing severe degree
3. Respondents were given a mint leaf, almost half have morning sickness mild and almost half have morning sickness moderate and no respondents who experienced morning sickness severe degree. The analysis shows mint leaves is effective in reducing the incidence of morning sickness in pregnant women in early pregnancy
4. Respondents were given ginger, more than half have emesis, mild and almost half have morning sickness moderate and no respondents who experienced morning sickness severe degree. Results showed analysts efeltif ginger reduces the incidence of morning sickness
5. Giving ginger proved significantly more effective in reducing the incidence of morning sickness in comparison with the provision of mint leaves.

SUGGESTION

Midwives as the spearhead of maternal and child health services can recommend the consumption of ginger to reduce morning sickness. Socialization benefits of ginger to the general public as an alternative treatment of morning sickness in early pregnancy

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