



Article

GERGA ORANGE (Citrus Sp.) ON NAUSEA AND VOMITTING FOR EMESIS GRAVIDARUM

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A B S T R A C T

Nausea and vomiting is the earliest, most common symptom and can cause psychological burdens for pregnant women associated with their pregnancy. This psychological state can move on pathological one in 60% pregnant women. One of many ways to decrease this condition is Gerga Orange Aromatherapy. This study aims to determine the effect of Gerga Oranges on Nausea and Vomitting for Emesis Gravidarum. This research used a quasi-experimental research using one group pretest-posttest design with univariate and bivariate analysis. The study population was all pregnant women in their first trimester who diagnosed with emesis gravidarum, sample were 10 mothers by using purposive sampling technique. Each respondent was treated with Gerga Oranges Aromatherapy. The results obtained by the average of PUQE Score before intervention was 12.75 and the average of PUQE Score after intervention was 6.43. The data analysis test used is the paired T-test, the result p value = 0,000. With the results of this study, it is expected that the administration of Gerga Oranges aromatherapy can be made into recommendations and applied to Emesis Gravidarum Mothers to decrease nausea and vomiting.

I. INTRODUCTION

Pregnancy is a change in order to continue the offspring that occurs naturally, resulting in a fetus that grows in the mother's womb, and then the growth rate and size of the fetus can be explained according to gestational age, at each pregnancy examination.. Pregnancy is a process that will cause physical, mental, and social changes that are influenced by several physical, psychological, environmental, socio-cultural and ecological factors. During pregnancy, there are various complications or problems that occur, such as nausea and vomiting that is often experienced in pregnant women which is one of the early symptoms of pregnancy(1).

Vomiting is the earliest, most common symptom and can cause psychological burdens for pregnant women associated with their pregnancy. Nausea and vomiting are excessive complaints in pregnant women that occur from the 6th week of pregnancy and last until the 12th week or more. This situation occurs in about 60-80% primigravida and 40-60% occurs in multigravida women. Physiologically, nausea occurs due to increased levels of estrogen in the blood that affect the digestive system. The causes of nausea and vomiting during pregnancy are usually caused by hormonal changes in the endocrine system that occur

during pregnancy, mainly caused by high levels of HCG (Human chorionic gonadotropin) (2).

Vomiting that occurs in pregnant women in the 1st and 2nd trimesters in a long time which can last up to 4 months which can interfere with the general condition of everyday pregnant women is called hyperemesis gravidarum (Proverawati, 2015). Vomiting occurs in 60-80% of primigravidas and in 40-60%

multigravida(2).

Koren (2014) describes vomiting as the most common medical disorder during pregnancy. Power et al (2013) noted that around 51.4% of women experienced nausea and 9.2% experienced vomiting. Glick and Dick (2013) assume that about 50% of women experience this symptom. Emelianova et. al (2013) found a 67% frequency of nausea and a 22% incidence of nausea in a group of 193 women. Meanwhile O'Brien and Naber (2014) said that 70% of women experienced nausea and 28% experienced vomiting. A systematic review of Jewell and Young (2014) identified a nausea rate of between 70 and 85% with about half of this percentage experiencing vomiting(3).

According to WHO (World Health Organization) the number of vomiting incidents reaches 12.5% of the number of pregnancies in the world (WHO, 2015). In Indonesia, there are 50-90% cases of vomiting experienced by pregnant women. Based on a medical survey in 2015, discomfort in the first trimester of pregnant women includes cravings, vaginal discharge, frequent urination (Prawirohardjo, 2016). The first month of pregnancy, there is a feeling of

nausea and vomiting, this is due to increased levels of the hormone estrogen. It is not uncommon to find vomiting symptoms in the first month of pregnancy (Manuaba, 2014). According to Conway (2015), the effects of vomiting include dehydration, electrolyte imbalance, venous hypertension, bleeding, esophageal rupture, and advanced conditions can make patients experience severe dehydration. Changes due to pregnancy are experienced by the entire woman's body starting from the digestive, respiratory, cardiovascular, integumentary, endocrine, metabolic, musculoskeletal, breast, immune and reproductive systems, especially in the external and internal genitalia. In this case the hormones estrogen and progesterone have an important role(1).

According to Prawirohardjo (2016), vomiting (*emesis gravidarum*) is a normal symptom and is often seen in the first trimester of pregnancy. This emesis causes a decrease in appetite so that there is a change in electrolyte balance with potassium, calcium and sodium which causes changes in body metabolism. *Emesis Gravidarum* will increase in weight to become hyperemesis gravidarum(4).

Emesis Gravidarum can be influenced by hormonal factors, psychological factors, parity factors, nutritional factors and allergic factors (Proverawati and Asfuah, 2015). Psychological problems can include unwanted pregnancy, work or financial burden, ambivalence, anxiety, conflict and physical discomfort. Financial problems can affect the state of vomiting in pregnancy, as anxiety about the current and future financial situation can cause worries to create the woman feels unwell, especially if she intends to stop working completely after giving birth. Emotional factors due to shock and adaptation to multiple pregnancies or pregnancies that occur in close proximity can also trigger hyperemesis gravidarum. Lack of knowledge, information, and communication between women and their caregivers can affect the perception of pregnant women about the severity of symptoms(2).

Emesis Gravidarum is a common complaint presented in early pregnancy. The clinical symptoms of *Emesis Gravidarum* are headache, especially in the morning, accompanied by nausea and vomiting until the pregnancy is 4 months old. Vomiting usually occurs in the first 3 months of pregnancy (first trimester of pregnancy) (Novianti, 2015)

Aroma therapy using the sense of smell is one that has nerve receptors that are connected to the channel to the brain so that the effect given can be felt immediately by pregnant women who experience nausea and vomiting. Therapy that uses essential oils or pure oil extracts that help improve or maintain health, arouse enthusiasm, listen and relax the mind and body. Aroma therapy has very diverse benefits, ranging from first aid to evoking a sense of joy(5).

The refreshing citrus aroma can reduce nausea in pregnant women. Oranges have good benefits for smoothing the digestive system, so that mothers can avoid constipation and fluids inside the body remains sufficient. Oranges also contain high levels of vitamin C which is useful in boosting the immune system during pregnancy. This fruit is also good for protecting skin problems that are often complained of by pregnant women. Selection of aromatherapy to solve the problem of vomiting in pregnant women, namely grapefruit which contains limonene, linalin acetate, geranyl acetate, felandren, citral and citral acid which are useful for suppressing nausea and preventing vomiting because these compounds can cause a calming effect. for anyone who inhales it(6).

This study aims to identify the effect of Gerga Oranges on Nausea and Vomiting for Emesis Gravidarum.

II. METHODS

This type of research was a quantitative study that used Pre-Experimental Design method with the pretest-posttest control group design. The populations in this study were all of pregnant women in their first trimester who diagnosed with emesis gravidarum..

The total sample was 10 respondents, sampling using non-probability techniques, purposive sampling. Each respondent were count pretest nausea and vomiting frequency before intervention, and after intervention, we count nausea and vomiting frequency posttest.

Gerga oranges aromatherapy were given with a distance of approximately 2 cm from the nose of the pregnant woman who is inhaled by breathing for 30 minutes

Data collection tools used in this study were PUQE Score (Pregnancy Unique Quantification of Emesis and Nausea). The analysis was done by univariate and bivariate using SPSS for Windows applications. Data were normally distributed based on the normality test with Saphiro Wilk, so the data was processed by Paired T-Test to see the difference in the mean difference between the two paired samples.

III. RESULT

Table 1. Average of PUQE Score before Intervention

PUQE Score	Mean	SD	Min-Max
Pretest	12.75	1.054	10-13

Based on Table 1 we know that the average PUQE Score before intervention were 12.75 with 1.054 deviation standard. Minimal volume was 10 and maximal volume was 13.

Table 2 Average of PUQE Score before Intervention

PUQE Score	Mean	SD	Min-Max
Posttest	6.43	0.738	5-7

Based on Table 2 we know that the average PUQE Score after intervention were 6.43 with 0.738 deviation standard. Minimal volume was 5 and maximal volume was 7.

Table 3. The Effect of Gerga Oranges on Nausea and Vomitting

	Paired T-Test		
	Mean	Deviation Standar	P value
Pretest	12.75	1.054	0,000
Posttest	6.43	0.738	

Based on Table 3, we know that p value 0.000 (<0.05), it means that there are significant differences between pretest PUQE Score and posttest PUQE Score. This shows that nausea and vomiting on women with emesis gravidarum decreased after intervention. This proves that there is an effect of Gerga Oranges on Nausea and Vomitting on Women with Emesis gravidarum.

IV. DISCUSSION

For 50% of pregnant women, vomiting known as emesis gravidarum is an “unpleasant” part of pregnancy(5). According to Prawiroharjo (2005) nausea and vomiting occur in pregnant women in the first and second trimesters and the duration of nausea and vomiting can last up to 4 months. Nausea and vomiting occur in 60-80% of primigravidas and 40-60% in multigravidas. One in 1000 pregnancies, these symptoms become more severe. This feeling of nausea is caused by increased levels of the hormone estrogen HCG in the serum.

Emesis Gravidarum can be influenced by hormonal factors, psychological factors, parity factors, nutritional factors and allergic factors (Proverawati and Asfuah, 2015). Psychological problems can include unwanted pregnancy, work or financial burden, ambivalence, anxiety, conflict and physical discomfort. Financial problems can affect the state of vomiting in pregnancy, as anxiety about the current and future financial situation can cause anxiety that makes a woman feel unwell, especially if she intends to stop working completely after giving birth. Emotional factors due to shock and adaptation to multiple pregnancies or pregnancies that occur in close proximity can also trigger hyperemesis gravidarum. Lack of knowledge, information, and communication between women and their caregivers can affect the perception of pregnant women about the severity of symptoms(2).

Management of vomiting in pregnancy depends on the severity of symptoms. Treatment can be done by pharmacological or non-pharmacological. Non-pharmacological therapy is done in a way giving aromatherapy. Vomiting in early pregnancy can also be treated using aromatherapy.

Aromatherapy provides various effects for the inhaler, such as calmness, freshness, and can even help pregnant women overcome nausea(7).

One of the aromatherapy to reduce vomiting is the aromatherapy of Jeruk Gerga (Citrus SP). The results of research conducted by Dwi Rukma Santi in 2013 on the Effect of Aromatherapy Blended Peppermint and Ginger Oil on Nausea in First Trimester Pregnant Women which stated that before being given peppermint aromatherapy, nausea and vomiting were more in the moderate category than severe(8).

The results of this study are in line with research conducted by Astriana in 2015 which stated that the frequency of nausea before being given lemon inhalation aromatherapy obtained an average value of nausea frequency higher than after being given lemon inhalation, namely 4.53(8).

Aroma therapy using the sense of smell is one that has nerve receptors that are connected to the channel to the brain so that the effect given can be felt immediately by pregnant women who experience nausea and vomiting. Therapy that uses essential oils or pure oil extracts that help improve or maintain health, arouse enthusiasm, listen and relax the mind and body. Aroma therapy has various benefits, ranging from first aid to evoking a sense of joy(5).

Selection of aromatherapy to overcome the problem of vomiting in pregnant women, namely grapefruit which contains limonene, linalin acetate, geranyl acetate, felandren, citral and citric acid which are useful for suppressing nausea and preventing vomiting because these compounds can cause a calming effect on anyone who inhales it (Dhini Anggraini, 2018). The content of Linalil Acetate in the aromatherapy of gerga oranges functions to normalize emotional states and unbalanced body conditions and has properties as a sedative and tonic, especially in the nervous system (Wiriyodigdo, 2013). Gerga citrus has more unreal acetates, such as limonen, linalin acetate, geranyl acetate, felandren, citral and citric acid more than sweet oranges and tangerines(6)

The results of the study are in line with research conducted by Astriana in 2015 which stated that the frequency of nausea after being given lemon aromatherapy inhalation obtained an average value of nausea and vomiting frequency was lower than before being given lemon inhalation, which was 3.13 times a day.

The results of research conducted by Dwi Rukma Santi in 2013 on the Effect of Blended Peppermint Aromatherapy and Ginger Oil on Nausea in First Trimester Pregnant Women show that peppermint aromatherapy is effective in reducing nausea in first trimester pregnant women. In addition, a study conducted by Puspita in 2012, giving lemon aromatherapy was able to reduce nausea and vomiting in pregnancy. Similarly, Santi's research results suggest that there is a significant reduction in nausea and vomiting in pregnancy(8).

Lack of acceptance of pregnancy is thought to trigger feelings of nausea and vomiting. During early pregnancy, pregnancy is considered to be unexpected, whether because of contraceptive failure or because of extramarital relationships. This can trigger the mother's rejection of her pregnancy (Cunningham, 2010).

The essential oil extract of sawn orange peel contains limonene, myrcene, linalool, octanal, dean, citronellal, mineral, geranial, valensen, β sinential, α -financial which is useful for suppressing nausea and preventing vomiting because these compounds can cause a calm effect for anyone who inhale it, as a sedative, antidepressant and antiseptic tonic so that it is useful for stabilizing appetite, giving a sense of happiness, and curing diseases(9).

This is in accordance with Puspita's opinion in 2012 that lemon aromatherapy can reduce nausea and vomiting in pregnancy. Similar to the results of Santi's research in 2017 which stated that there was a significant reduction in nausea and vomiting in pregnancy, with a p-value of 0.0001 ($p < 0.05$) after using aromatherapy(8).

The results of the study are in line with research conducted by Astriana in 2015 which states that there is an effect of giving lemon aromatherapy inhalation on nausea in pregnancy at BPS Varia. Mega Lestari S.ST., M.Kes Batu Puru, Natar District, South Lampung Regency with a P-value of 0.000(8).

V. CONCLUSION

Nausea and vomiting is the earliest, most common symptom and can cause psychological burdens for pregnant women associated with their pregnancy. This psychological state can move on pathological one in 60% pregnant women. One of many ways to decrease this condition is Gerga Orange Aromatherapy. It is recommended for health practitioner to increase their skills by using complementary midwifery such as this aromatherapy.

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