



## Overcoming Emesis Gravidarum With Cardamom Essential Oil Aromatherapy

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### ABSTRACT

**Background:** The cause of emesis gravidarum is due to the increase in the hormones estrogen, progesterone, and human chorionic gonadotropin (HCG). There are 70%-80% of pregnant women experiencing emesis gravidarum, namely nausea and vomiting during the first trimester. Emesis gravidarum is caused by the increase in estrogen, progesterone, and human chorionic gonadotropin (HCG). If nausea and vomiting are allowed to continue, it can cause adverse effects on the health of the mother and fetus such as chronic energy deficiency, anemia, bleeding and low birth weight. Efforts to overcome nausea and vomiting during the first trimester of pregnancy can be done using aromatherapy, one of which is cardamom essential oil. The purpose of this study was to determine the aromatherapy of cardamom (cardamom) essential oil can overcome the intensity of nausea and vomiting of pregnant women in the first trimester.

**Methods:** The research is Quasy Experimental Design with One Group Pretest Posttest Design and purposive sampling technique as many as 30 respondents. The research instrument used a questionnaire sheet. Data analysis using Wilcoxon test.

**Results:** There was a significant difference between before and after the intervention of cardamom (cardamom) essential oil aromatherapy in overcoming the intensity of nausea and vomiting in first trimester pregnant women with a p-value of 0.00.

**Conclusion:** The results of this study can be used as a complementary treatment for pregnant women who experience nausea and vomiting to improve their condition by using cardamom essential oil aromatherapy.

Keywords: Emesis Gravidarum; Cardamom Essential Oil Aromatherapy

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**Background** Emesis gravidarum or nausea and vomiting is one of the most common problems in first trimester pregnant women, it is also known as nausea gravidarum (NVP) or morning sickness. (Princess & Hastina, 2020). Many changes occur in the body of pregnant women. One form of change in the mother's body such as hormonal changes. There are changes in Human Chorionic Gonadotropin (HCG) which can cause symptoms of nausea and vomiting during pregnancy. When pregnant, the mother's body will experience an increase in HCG levels from the placenta (placenta). HCG functions to maintain the availability of the production of the hormones estrogen and progesterone in the ovaries, so that the mother's pregnancy can be healthy and smooth. In addition to HCG, the hormone

estrogen can also trigger nausea in pregnant women. Symptoms of nausea and vomiting in pregnant women will usually disappear by itself when the mother has entered the second trimester. (Naviri, 2011)

The digestive tract in pregnant women also undergoes changes, with the growing fetus will require a large enough space, so that the gastrointestinal tract is getting squeezed which makes it difficult for the digestive tract to absorb nutrients and because the gastrointestinal tract is getting more pressed, it can lead to reflux of stomach acid. trigger nausea in pregnant women. Another thing that can trigger nausea and vomiting in pregnant women is psychological factors. (Ambarwati et al., 2015).

Nausea and vomiting continuously can have a significant impact on the condition of pregnant women because reduced body fluids make the mother weak, causing the blood to become thick (hemoconcentration) and can slow down blood circulation, which means that oxygen consumption and food to the tissues are disrupted, which can endanger the mother's health. and the development of the fetus it contains (Rofi'ah et al., 2019)

There are 70% -80% of pregnant women experiencing nausea and vomiting during the first trimester (Lee & Saha, 2013). Complaints of nausea and vomiting occur in primigravida mothers by 60-80% and complaints of nausea and vomiting in multigravida women occur in 40-60% of pregnant women. (Princess & Hastina, 2020) Excessive nausea and vomiting can cause fat and carbohydrate reserves in the body of pregnant women to be used up. Pregnant women will become weak and lethargic and lose energy. The impact of continuous nausea can lead to malnutrition in pregnant women which triggers the occurrence of chronic energy deficiency, abnormal weight gain in pregnant women, bleeding and anemia. It can also inhibit fetal growth, anemia and the occurrence of low birth weight. (Ambarwati et al., 2015).

Various ways to overcome emesis gravidarum can be done with several actions such as eating a little but often, eating biscuits and drinking a glass of water before getting out of bed, avoiding spicy, fatty, spiced and pungent-smelling foods, trying to drink or eating foods that are spicy, fatty, spicy and smelly. Sweet before bed and maintain a semi-sitting position after eating. Additional therapy to reduce symptoms of nausea and vomiting is by using aromatherapy, acupuncture therapy in the wrist area, and giving 50 mg of B6. (Khairoh et al., 2019:80). Non-pharmacological or complementary therapies to treat emesis gravidarum can also use aromatherapy such as aromatherapy of cardamom, peppermint, lemon, ginger and pericardial acupressure 6 (P6). (Ozgoli, Giti Naz, 2018:67)

Cardamom is known as one of the oldest spices. The aroma of cardamom is warm-spicy. The chemical composition of cardamom oil consists of -pinene (1.5%), -pinene (0.2%), sabinene (2.8%), myrcene (1.6%), -phellandrene (0.2%), limonene (11.6%), 1,8-cineole (36.3%), -terpinolene (0.5%), linalool (3.0%), linalyl acetate (2.5%), terpinene -4-ol (0.9%), -terpineol (2.6%), -terpinyl acetate (31.3%), citronellol (0.3%), nerol (0.5%), geraniol (0.5%), methyl eugenol (0.2%), and trans-nerolidol (2.7%). (Battaglia, 2019:1) The largest content in cardamom is 1,8- The compound 1,8-cineol has a characteristic fresh smell and a spicy aroma and can warm up like the content found in eucalyptus (Efruan et al., 2016:177) Cardamom (*Elettaria cardamomum*) has a spicy and sweet aroma, digestive properties, antispasmodic, antibacterial, anti-inflammatory, anti-microbial and diuretic properties. In addition, according to Rani et al., 2018, cardamom can accelerate digestion and stop nausea and vomiting which contains ingredients that help eliminate belching and flatulence, prevent gastric acid reflux, heartburn and diarrhea.()

Based on the results of a preliminary study in the working area of the Ngombol Health Center conducted by researchers through interviews with 10 samples of pregnant women at first trimester, there were 8 people (80%) pregnant women who experienced complaints of nausea and vomiting and sometimes interfered with their daily activities such as working and drinking. rest. In dealing with nausea and vomiting, mothers only rest, go to the public health for treatment and some people still do not know about aromatherapy to treat nausea and vomiting during pregnancy.

**Methods.** The type of research is Quasy Experimental Design with One Group Pretest Posttest Design. The study was conducted using one group that was given an intervention, namely the provision of cardamom aromatherapy. How to use cardamom aromatherapy when you are nauseous is to drip 1-3 essential oils onto a

tissue and inhale slowly for 3-4 seconds then pause, inhale again regularly for 5 minutes.

This research was conducted from February to April 2021 in the working area of the Ngombol Public Health Center, Purworejo Regency.

In this study, the method of sampling by using a sampling technique using a purposive sampling technique with a total population of all pregnant women in first trimester who experienced nausea and vomiting in February-April 2021, namely 38 pregnant women in first trimester and a sample of 30 respondents was taken according to the results. inclusion and exclusion criteria.

The instrument used in this study was the Rhodes Index of Nausea Vomiting and Retching (RINVR) questionnaire. The Rhodes Index of Nausea Vomiting and Retching (RINVR) has 8 questions with a Likert scale of 0-4. The questions consist of 3 questions about nausea contained in questions number 4,5,7 and 5 questions regarding vomiting consisting of numbers 1,2,3,6 and 8.

The intervention of cardamom essential oil aromatherapy was carried out by assessing the pretest and posttest during the administration of cardamom essential oil aromatherapy intervention for 12 hours. This is done by dripping 1-3 drops of essential oil on a tissue by inhalation or directly inhaled by the respondent, slowly for 3-4 seconds and then paused, inhaled again regularly for 5 minutes when experiencing nausea.

The comparative method is used for research that examines differences or comparisons. Paired data, namely individuals/respondents used from 2 groups of data are the same individual. The categorical comparative test is divided into 2, namely paired and unpaired. For paired categorization, at 2x repeated measurements, you can use the Wilcoxon test.(Dahlan, 2014:8-10). The statistical test in this study used the Wilcoxon test.

## Results and Discussion

### Distribution of nausea and vomiting intensity in first trimester pregnant women

Characteristics of respondents in this study based on age, education level, and parity of the respondents. The characteristics of the respondents are described in table 1 as follows:

Table 1. Characteristics of Respondents in the Working Area of the Ngombol Health Center (n=30)

	Characteristics of Respondents	Total (n)	Percentage (%)
Age	20-25	7	23.3
	26-30	13	43.3
	31-35	10	33.3
	SD	2	6.7
Education	junior high school	5	16.7
	senior High School	20	66.7
	College	3	10.0
Parity	Primigravida	11	36.7
	multigravida	19	63.3

Based on table 1, it was found that the age category in this study was dominated by age 26-30 years as many as 13 respondents (43.3%). In the education status category, the group was dominated by high school education status as many as 20 people (66.7%) and in the parity category it was dominated by multigravida as many as 19 people (63.3%)

The results of the analysis of the intensity of nausea and vomiting in first trimester women based on before and after the cardamom essential oil aromatherapy intervention was carried out, can be seen in table 2

Table 2. Distribution of Nausea and Vomiting Intensity in Pregnant Women Before and After Giving Cardamom Essential Oil Aromatherapy

Intensity of nausea and vomiting	Before		After	
	F	%	N	%
No Nausea Vomit	-	-	1	3.3
Nauseous vomit Light	1	3.3	22	73.3
Moderate Nausea Vomiting	29	96.7	7	23.3
Total	30	100.0	30	100.0

Table 2 shows that the intensity of nausea and vomiting before the intervention of cardamom essential oil aromatherapy was dominated by pregnant women with moderate nausea and vomiting (96.7%). After the intervention, the intensity of nausea and vomiting decreased, dominated by mild nausea and vomiting as many as 22 respondents (73.3%) and moderate nausea and vomiting only 7 respondents (23, 3%).

### Analysis of giving cardamom essential oil aromatherapy in overcoming the intensity of nausea and vomiting of pregnant women with first trimester

Table 3 Differences in the Average Pre-test and Post-test of Cardamom Essential Oil Aromatherapy in Overcoming the Intensity of Nausea and Vomiting for Pregnant Women with first trimester

Intervention		N	Mean Ranks	Sum of Ranks
Nausea Vomiting Pretest Score	Negative Ranks	23a	12.00	276.00
Posttest Nausea Vomiting Score	Positive Ranks	0b	.00	.00
	Ties	7c		
	Total	30		

Based on the results of the analysis in table 3. The results of the negative rank have a value of 23 with an average of 12.00 which indicates that there are 23 respondents who experienced a decrease in nausea and vomiting after giving cardamom essential oil aromatherapy intervention. The positive rank results show a value of 0 which indicates there is no increase in nausea and vomiting after giving cardamom essential oil aromatherapy intervention and the ties results show a value of 7 which indicates that there are 7 respondents who experience persistent nausea and vomiting. The results of the Wilcoxon test analysis:

Table 4 The Effectiveness of Cardamom Essential Oil Aromatherapy in Overcoming the Intensity of Nausea and Vomiting for Pregnant Women in First Trimester

Nausea Vomiting Intensity	P-Value
Nausea and vomiting before intervention	.000
Nausea and vomiting after intervention	

Based on the results of table 4 analysis using the Wilcoxon test, it can be seen that there is a difference between the intensity of nausea and vomiting of respondents before and after the cardamom essential oil aromatherapy intervention has a p value = 0.000, so it can also be seen that there is a significant difference between before and after Cardamom essential oil aromatherapy intervention was carried out in overcoming the intensity of nausea and vomiting in pregnant women with in first trimester..

How to use this cardamom aromatherapy by dripping onto a tissue and directly inhaled slowly and deeply. This is in accordance with what Tiran, D (2016) stated that essential oils can be given to cotton balls, gauze, tissue. One drop can be added and can be inhaled directly as needed.

Giving aromatherapy can cause various kinds of effects for those who use it, such as calmness, freshness, and can also be used to help pregnant women overcome nausea. Aromatherapy is one solution to overcome nausea and vomiting in first trimester pregnant without causing side effects (Rahayu and Sugita, 2018). The use of plant essential oils in aromatherapy is not considered a foreign object in the body, so it does not aggravate the work of the body's organs (Santi, 2013).

This study shows an improvement in the intensity of emesis gravidarum after the intervention of cardamom essential oil aromatherapy, so it can be used as a safe therapy for pregnant women to treat nausea and vomiting during pregnancy so as not to be affected by complications due to persistent

nausea and vomiting and provide a pleasant taste. more comfortable due to nausea and vomiting during pregnancy.

The results of the study are in line with research conducted by (Manek, 2019) who conducted a study entitled "The Effect of Giving Acupressure SP-3 With Cardamom Aromatherapy on Emetogenic Status and Emesis Gravidarum Pregnant women.first trimester obtained statistical test results of pvalue <0.005. So it can be said that the combination of acupressure and cardamom aromatherapy has an influence on the emetogenic status and emesis gravidarum of pregnant women with first trimester.

Other research such as research conducted by(Hunt et al., 2013) showed that the change in the level of nausea was significant for the mixture of essential oils of ginger, spearmint, peppermint and cardamom (p-value <0.001) and ginger (p-value = 0.002) but for alcohol (p-value <0.76). The results showed that postoperative nausea was significantly reduced after inhaling a mixture of cardamom, ginger, spearmint and peppermint essential oils.

Other supporting research is conducted by(Zandi et al., 2015) The results showed that(*pvalue < 0.001*) which means that the frequency of nausea and vomiting decreased significantly in the cardamom powder group. These results indicate that cardamom powder can reduce the severity of nausea and vomiting after the intervention given .

The results of this study are supported by the theory from Ozgoli, Giiti Naz where therapy for dealing with nausea and vomiting in pregnant women can use cardamom aromatherapy (Ozgoli, Giti Naz, 2018) and supported by the theory (Battaglia, 2019:2) that Cardamom is known to increase blood circulation in the body, especially to the lungs because cineol is warm like eucalyptus.. It has a strong, warm and spicy aroma so that cardamom can be used as an alternative for pregnant women to reduce the incidence of emesis gavidarum/nausea and vomiting in

order to prevent excessive stomach acid from increasing.

**Conclusions and Suggestion.** There is a difference between the intensity of nausea and vomiting of respondents before and after the cardamom essential oil aromatherapy intervention with p value = 0.000, so it can also be seen that there is a significant difference between before and after the cardamom essential oil aromatherapy intervention in overcoming the intensity of the pain. nausea and vomiting in first trimester pregnant women.

The results of the negative rank have a value of 23 with an average of 12.00 which indicates that there are 23 respondents who experienced a decrease in nausea and vomiting after the intervention.aromatherapy essential oil cardamom. The positive rank results show a value of 0 which shows no increase in nausea and vomiting after the intervention of cardamom essential oil aromatherapy and the ties results show a value of 7 which indicates that there are 7 respondents who experience persistent nausea and vomiting. It can be concluded that cardamom essential oil aromatherapy is effective in overcoming the intensity of nausea and vomiting in pregnant women first trimester. It is that the results of this study can be used as an alternative to complementary therapy in terms of providing care to pregnant women in the first trimester who experience nausea and vomiting with its management, namely by giving cardamom essential oil herbal aromatherapy.

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