

The administration of coriander essential oil and the intensity of nausea and vomiting in first trimester pregnant women at PMB Rismala Siagian Sei Halim Hasak Hamlet II year 2023

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ABSTRACT

Background: Pregnancy is a natural process that involves physiological changes during pregnancy, resulting in changes in the mother's organ systems including the endocrine and gastrointestinal systems, leading to nausea and vomiting, which are common sources of discomfort in pregnant women. Research Objective: To determine the effect of coriander essential oil aromatherapy on the intensity of nausea and vomiting in first-trimester pregnant women at PMB Rismala Siagian in Sei Halim Hasak Hamlet II Village in 2023. Method: Quantitative with a one-group pretest-posttest design. The study population consisted of 30 first-trimester pregnant women experiencing nausea and vomiting at PMB Rismala Siagian in Sei Halim Hasak Hamlet II Village. Sampling was done using total sampling. Data collection used questionnaires and observation sheets. Data analysis used the Wilcoxon test. Results: The hypothesis was accepted because the data analysis resulted in a p-value of 0.000 or $p < 0.05$. Conclusion: There is an effect of coriander essential oil aromatherapy on reducing the intensity of nausea and vomiting in first-trimester pregnant women.

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INTRODUCTION

Pregnancy is a natural process that occurs when there are physiological changes, not pathological, during normal pregnancy or complications during pregnancy or childbirth. Pregnancy will cause physiological changes in all organ systems in pregnant women, which will experience temporary body changes caused by hormonal activity. Human chorionic gonadotropin (HCG) can cause nausea and vomiting (Emesis gravidarum), which is a common source of discomfort for pregnant women and can be caused by hormonal changes in women, especially an increase in progesterone and estrogen hormones, resulting in the production of HCG (2020).

According to the World Health Organization (WHO), hyperemesis gravidarum occurs worldwide, including in the United States, with an incidence of 0.5-2%, Sweden 0.3%, California

0.5%, Canada 0.8%, China 10.8%, Norway 0.9%, Pakistan 2.2% and Turkey 1.9%. Currently, the incidence of hyperemesis gravidarum in Indonesia is 1-3% of all pregnancies. (Wijaya et al., 2023)

In 2018, the Indonesia Demographic and Health Survey (IDHS) found that 228 out of every 100,000 pregnant women experienced emesis gravidarum, and in 2019, the number of pregnant women was 359 out of every 100,000 (IDHS, 2019).

According to information from the North Sumatra Provincial Health Office in 2019, the number of pregnant women was 65 per 100,000 mothers, in the North Padang Lawas area with a frequency of emesis gravidarum reaching 97.7% (North Padang Lawas Health Office, 2019). In addition, in 2018 there were 10 cases of emesis gravidarum, in 2019 there were 17 cases, in 2020 there were 20 cases, and in 2021 there were 32 cases (70%) (Gunung Tua Wellbeing Center, 2020).

One way to reduce the severity of nausea and vomiting in the first trimester of pregnancy is by administering aromatherapy with coriander oil. Coriander contains various phytochemicals consisting of medicinal balsam, polyphenols, unsaturated fats, tocopherols, sterols, carotenoids, etc. Coriander medicinal ointment contains more than 200 constituents, with 18 main parts representing 97% of the entire oil content. Natural coriander balsam consists of 60-80% terpene liquid (linalool), 30% terpenes, ketones, esters, and fragrant acids, and has major organic components, namely specific antimicrobial, anticancer, mitigation, top, neuroprotective, hepatoprotective, and lung defense movement. The yield of coriander seed essential oil ranges from 0.18 to 1.40.

Three out of five first-trimester pregnant women, according to an initial survey by PMB Rismala Siagian, experience nausea and vomiting. In a brief interview conducted during visits, the mother reported that she had never used coriander oil aromatherapy to relieve nausea and vomiting, but she used menthol oil for this purpose. The aim of this study is to determine the Effect of Coriander Essential Oil Aromatherapy on Nausea and Vomiting in First Trimester Pregnant Women at PMB Rismala Siagian in Sei Halim Hasak Village, Dusun II, 2023

RESEARCH METHOD

The data used in this study is primary data, which is data directly collected by the researcher. The data analysis method used in this study involves comparing the pretest and posttest results using a paired sample t-test. This statistical test is appropriate since it assesses whether there is a significant difference between the means of two related groups (pretest and posttest) in a single group design.

The pretest is conducted to establish the baseline condition of the first-trimester pregnant respondents before any treatment is administered. During and after the treatment phase, data on nausea and vomiting intensity are collected using standardized scales or questionnaires administered at regular intervals. This allows for comparison with the pretest data to assess the effectiveness of the treatment.

Inclusion criteria for selecting respondents include first-trimester pregnant women who are not experiencing severe medical conditions that could influence the study outcomes. Exclusion criteria encompass individuals with allergies to coriander essential oil or other health conditions that might impact their response to the treatment. The treatment involves aromatherapy using coriander essential oil. Participants inhale the aroma for 15 minutes per session. This treatment is administered twice a week over a period of four consecutive weeks. The method of implementation ensures standardized delivery and consistency in treatment administration.

RESULTS AND DISCUSSIONS

Based on the research results at PMB Rismala Siagian in Sei Alim Hasak Village, Dusun II in 2023, it is known that information about the quality of respondents in terms of age, training, efforts, and equality from 30 respondents was considered. The Wilcoxon test was used in bivariate data

analysis to test the effect of coriander oil aromatherapy on the severity of nausea and vomiting in first-trimester pregnant women, with the following analysis results:

Table 1. The effect of coriander essential oil aromatherapy on the intensity of nausea and vomiting in first-trimester pregnant women

Nausea and Vomiting Intensity	The Administration of Coriander Essential Oil Aromatherapy		Change in Ranking	Z-score	p value
	Pre	Post			
	F	F			
- light	0	15	Negative Ranking	27	
- moderate	13	13	Positive Ranking	0	-4,973
- severe	17	2	Ties	3	0,000*

Based on the table above, the administration of coriander essential oil aromatherapy affects the intensity of nausea and vomiting in pregnant women. The study found that 17 pregnant women (56.7%) experienced severe nausea and vomiting before the administration of coriander essential oil aromatherapy, while 15 pregnant women (50.0%) experienced light nausea and vomiting after the administration of coriander essential oil aromatherapy. The number of pregnant women experiencing severe intensity decreased to 2 (6.7%).

The decrease in nausea and vomiting intensity in first-trimester pregnant women when given coriander oil-based treatment can be assessed with the Wilcoxon test at a significance level of 95% ($\alpha = 0.05$). The examination results obtained a p-value of 0.000, overall $p < 0.05$, speculation acknowledged, indicating that there is a significant influence of coriander essential oil aromatherapy on nausea and vomiting in first-trimester pregnant women at PMB Rismala Siagian in Sei Halim Hasak Village, Dusun II in 2023. This finding suggests that PMB Rismala Siagian in Sei Halim Hasak Village, Dusun II in 2023 provides aromatherapy using coriander oil to pregnant women in the first trimester.

Based on the research results, it was found that the administration of coriander essential oil aromatherapy has an effect on the severity of nausea and vomiting in pregnant women. The research results indicate that before the administration of coriander oil aromatherapy, the severity of nausea and vomiting in pregnant women experiencing nausea and vomiting was 17 individuals (56.7%), and after the coriander oil-based treatment, the severity of nausea and vomiting decreased to light, with 15 individuals (50.0%), while those experiencing severe nausea and vomiting decreased to 2 individuals (6.7%).

By using the Wilcoxon test at a critical level of 95% ($\alpha = 0.05$), it can be observed that there is a decrease in the severity of nausea and vomiting in first-trimester pregnant women when given coriander oil-based treatment. The examination results yielded a p-value of 0.000, thus $p < 0.05$, indicating the speculation is acknowledged, which indeed implies a significant influence of coriander essential oil aromatherapy treatment on nausea and vomiting in first-trimester pregnant women at PMB Rismala Siagian in Sei Halim Hasak Village, Dusun II in 2023. These results demonstrate that the administration of coriander essential oil aromatherapy is effective in reducing the incidence of nausea and vomiting in first-trimester pregnant women at PMB Rismala Siagian in Sei Halim Hasak Village, Dusun II in 2023.

In the first trimester, treatment with coriander oil has been successful in reducing nausea and vomiting in pregnant women. Due to its content of aromatherapy and essential oils with pharmacological effects, coriander oil aromatherapy reduces nausea and vomiting in pregnant women after seven days. Essential oils are used in aromatherapy, a form of treatment that helps individuals with physical and mental illnesses improve. The molecules of essential oils enter the nasal passages and stimulate the limbic system of the brain when inhaled. The adrenal glands, pituitary gland, and hypothalamus, which control heart rate, blood pressure, stress, memory,

hormone balance, and breathing, are directly connected to factors that influence emotions and memory.

Based on the research results and conversations, it is assumed that coriander oil-based treatment contains natural balsam to work on physical and deep health. Compared to other plant types, coriander has many benefits, especially for pregnant women experiencing nausea and vomiting. The advantage of coriander oil is that it contains volatile oils (medicinal ointments) that stimulate and inhibit vomiting reflexes, while gingerol can improve blood flow and nerve function. As a result, tension can be reduced, the head can feel refreshed, and nausea and vomiting can be reduced. The fragrant aroma of coriander is produced by its rejuvenating balsam, while its application creates a warming sensation that warms the body and induces sweating (Nikita, 2011).

CONCLUSION

There is a remarkable influence of coriander essential oil aromatherapy on nausea and vomiting in first-trimester pregnant women at PMB Rismala Siagian in Sei Halim Hasak Village, Dusun II in 2023, with a p-value of 0.000 ($p < 0.05$). These results indicate that the use of coriander essential oil aromatherapy at PMB Rismala Siagian in Sei Halim Hasak Village, Dusun II in 2023 is able to reduce the severity of nausea and vomiting in first-trimester pregnant women.

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