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# REDUCING NAUSEA IN EARLY PREGNANCY WITH LAVENDER AROMATHERAPY: A CASE STUDY APPROACH

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**ABSTRACT**
Emesis gravidarum (EG) is a common complaint of first-trimester pregnancy. EG shows nausea accompanied by vomiting, which usually occurs in the morning. EG can cause decreased appetite, vomiting, up to weight loss, risk of dehydration, and electrolyte imbalance. The psychology of pregnant women with EG will also be disturbed because of nausea and vomiting experienced. That's why EG events must be taken seriously. Limitations of the use of drugs during pregnancy must be considered. Alternative therapies such as lavender aromatherapy can be an alternative non-pharmacological therapy for pregnant women in the first trimester. Lavender aromatherapy can produce a strong refreshing Fragrance, affecting the hypothalamus's nerves to reduce nausea and vomiting. Research objective: to determine the application of lavender aromatherapy to reduce nausea intensity in first-trimester pregnant women in the Simpang Periuk Health Center Working Area, Lubuklinggau City, in 2024. Research Methods: This research is descriptive research with a case study approach. This study was conducted from April 18 to April 23, 2024. The subjects of this study were 2 pregnant women in the first-trimester with nausea category of mild to moderate nausea and vomiting, with measurement of the nausea scale before and after the intervention, using the Pregnancy Unique Quantification Of Emesis assessment. (PUQE). Both subjects were given 3-5 drops of lavender aromatherapy, using a diffuser, inhaled for 5-30 minutes for three days in the intervention. Results: after giving lavender aromatherapy therapy, both subjects showed a decrease in the PUQE score, from moderate to mild nausea and vomiting. Conclusion: Interventation lavender aromatherapy effectively reduces nausea in first-trimester pregnant women, with several influencing factors including; pregnancy history, parity, occupation, and age.

Keywords: emesis gravidarum; first-trimester; lavender

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## INTRODUCTION

Emesis gravidarum (EG), or morning sickness, is a common complaint among pregnant women in the first trimester, with symptoms of nausea accompanied by vomiting, typically occurring in the morning (Fitria et al., 2021). Globally, nausea and vomiting during pregnancy affect nearly 75% of pregnant women (HERRELL, 2014), with a 0.8-2.3% risk of progressing to hyperemesis gravidarum (HEG) (Jennings & Mahdy, 2021)The prevalence of EG worldwide varies, ranging from 70-85%, with population and racial factors indicating a higher risk among non-White and Asian populations (Aminu et al., 2020). In the United States, there were over 285,000 visits per year in 2014, making it the second leading cause of hospitalization in early pregnancy (Fejzo, 2020). In Indonesia, the Indonesian Demographic and Health Survey (SDKI) reported that nausea and vomiting affected 50-80% of pregnant women, with 5% of cases progressing to HEG (Fitria et al., 2021). Based on the 2018 Basic Health Research (RISKESDAS), complications experienced by pregnant women included nausea and vomiting in 20% of cases, or about 16,129 cases, with South Sumatra Province contributing 16.97% or 2,582 cases (RISKESDAS, 2018; RISKESDAS PROVINSI SUMSEL, 2018).

At Simpang Periuk Health Center, attendance rate was 99.6% in 2019, dropping to 86.8% in 2020, though this data does not include nausea and vomiting complaints during the first trimester. A preliminary study conducted on January 11, 2024, using the Pregnancy Unique Quantification of Emesis (PUQE) scale, found that 77.27% (17 out of 22) of first-trimester pregnant women reported experiencing EG, with mild nausea in 70.58% (12 people), moderate in 33.52% (4 people), and severe in 5.88% (1 person). EG can lead to decreased appetite, vomiting, weight loss, dehydration risk, electrolyte imbalance, and high urinary ketones in 1-2% of pregnancies (Fitria et al., 2021). EG also impacts quality of life, daily activities, sleep, fatigue, anxiety, malnutrition, irritability, social functioning, marital relationships, and mother-child interactions, thus necessitating serious attention (Golmakani et al., 2017).

Treatment for pregnancy nausea includes anti-nausea medications, complementary, and alternative therapies, though most anti-nausea medications are classified as Category C with limited safety information (Fattah et al., 2019). Due to these medication limitations, alternative therapies such as aromatherapy, physiotherapy, acupressure, and massage offer a solution to reduce medication use during pregnancy for women with EG complaints (Kia et al., 2014). Studies have shown that lavender aromatherapy effectively manages nausea and vomiting in pregnant women. Research by Rahayu & Sugita (2018) showed effectiveness in reducing nausea and vomiting among pregnant women in Trucuk Klaten (Rahayu & Sugita, 2018). Similarly, a study by Rosalinna (2019) demonstrated that using essential oil in a diffuser for three days reduced nausea and vomiting frequency in 15 first-trimester pregnant women at Jambu Kulon Health Center (Rosalinna, 2019). According to Haniyah & Adriani (2024), lavender aromatherapy, when used in a diffuser with 3-5 drops of essential oil and inhaled for 5-30 minutes, 3-5 times a day for three days, effectively reduced EG (Haniyah & Adriani, 2021). This effect is attributed to lavender's strong, refreshing aroma that impacts the hypothalamus, calming nausea and vomiting (Husna, et al., 2021). Lavender essential oil has anti-spasmodic and carminative effects on smooth muscles in the gastrointestinal tract (Zuraida, 2018). Additionally, the linalool component serves as a sedative, promoting calmness and relaxation, thereby reducing nausea and vomiting during early pregnancy (Rossalina, 2019). Based on this information, the objective of this study is to explore the effectiveness of lavender aromatherapy in reducing nausea during early pregnancy using a case study approach.

## METHOD

This research uses a descriptive method with a case study approach to illustrate the nursing care conditions for first-trimester pregnant womens experiencing emesis gravidarum, particularly acute nausea complaints, within the working area of Puskesmas Simpang Periuk, Lubuklinggau City, 18-24 April 2024. The study aims to provide an objective overview of patient conditions and treatment, as well as to analyze the nursing interventions implemented. The subjects consist of two first-trimester pregnant womens who received the application of lavender aromatherapy intervention, with criteria; Inclusion Criteria: 1)First-trimester pregnant women (0-12 weeks); 2)First-trimester pregnant women willing to participate as respondents; 3)Pregnant women with nausea complaints; 4)First-trimester pregnant women within the working area of Puskesmas Simpang Periuk. Exclusion Criteria: 1)Pregnant women with olfactory disorders; 2)Pregnant women with communication limitations; 3)Pregnant women with a history of hypertension; 4)Pregnant women with a history of miscarriage; 5)Pregnant women with a lavender scent allergy; 6)Pregnant women with skin allergies to lavender.

## RESULT

Table 1.
Nausea Evaluation of Subject I

| NO | Day / Date | Time | SKOR PUQE | | |
|---|---|---|---|---|---|
| | | | PUQE Score Before Lavender Aromatherapy | PUQE Score After Lavender Aromatherapy | Notes |
| 1 | Monday, 18-04-2024 | 16:00 WIB | 11 | 9 | Decreased |
| 2 | Saturday, 19-04-2024 | 14:00 WIB | 9 | 8 | Decreased |
| 3 | Sunday, 20-04-2024 | 10:00 WIB | 8 | 6 | Decreased |

Table 2.
Nausea Evaluation of Subject II

| NO | Day / Date | Time | SKOR PUQE | | |
|---|---|---|---|---|---|
| | | | PUQE Score Before Lavender Aromatherapy | PUQE Score After Lavender Aromatherapy | Notes |
| 1 | Friday, 22-04-2024 | 15:00 WIB | 12 | 10 | Decreased |
| 2 | Saturday, 23-04-2024 | 16:00 WIB | 10 | 8 | Decreased |
| 3 | Sunday, 24-04-2024 | 11:00 WIB | 8 | 6 | Decreased |

The researcher assessed Subjects I and II through direct interviews with the clients and their families, observation, and physical examination. Based on Table 1, Subject I, identified as Mrs. R, is a 32-year-old woman residing on Jalan Makmur, Tabah Pingin, who follows Islam. She presented with nausea and vomiting during her first trimester, experiencing discomfort (nausea) for 2-3 hours, vomiting 5-6 times per day, and dry heaving 3-4 times per day. Her PUQE score was 11, blood pressure 110/80 mmHg, respiratory rate 22 breaths/minute, temperature 36.6°C, pulse 82 bpm, weight 60 kg, and she was fully conscious. She was diagnosed with emesis gravidarum and assessed on April 18, 2024. Based on Table 2, Subject II, identified as Mrs. A, is a 24-year-old woman from Jl. Makmur, Tabah Pingin, also following Islam. She reported feeling weak, with nausea and vomiting during her first trimester, experiencing discomfort (nausea) for 2-3 hours, vomiting more than 7 times per day, and dry heaving 5-6 times per day. Her PUQE score was 12, she was fully conscious, with blood pressure 100/80 mmHg, respiratory rate 22 breaths/minute, temperature 36.8°C, pulse 82 bpm, and weight 50 kg. She was diagnosed with emesis gravidarum and assessed on April 22, 2024.

After conducting a 3-day nursing intervention, the researcher concluded that the issues were fully addressed. The final evaluation findings are as follows: For Subject I, the initial assessment on April 18, 2024, placed her nausea in the moderate category, with discomfort (nausea) lasting 2-3 hours, vomiting 5-6 times per day, and dry heaving 3-4 times per day, with a PUQE score of 11. After lavender aromatherapy over 3 days, an evaluation on April 21, 2024, showed a reduction in nausea to the mild category, with the PUQE score decreasing to 6. Her nausea discomfort dropped to 1 hour, with vomiting 1-2 times per day and dry heaving 1-2 times per day.For Subject II, the initial assessment on April 21, 2024, placed her nausea in the moderate category, with discomfort lasting 2-3 hours, vomiting more than 7 times per day, and dry heaving 5-6 times per day, with a PUQE score of 12. After lavender

aromatherapy over 3 days, an evaluation on April 23, 2024, showed a reduction to mild nausea, with the PUQE score decreasing to 6. Her nausea discomfort dropped to 1 hour, with vomiting 1-2 times per day and dry heaving 1-2 times per day. Both subjects experienced a decrease in PUQE scores, with Subject I's PUQE score dropping from 11 to 6 and Subject II's score from 12 to 6.

## DISCUSSION

Both subjects are pregnant women in their first trimester (0-12 weeks) experiencing nausea, a common complaint among women with pregnancies of this age. Symptoms include nausea and vomiting, often in the morning, due to hormonal changes, especially increased HCG (Fitria et al., 2021). Subject II, Mrs. A, has a PUQE score of 12, which is higher than Subject I's score of 11. This difference may be due to Subject II (Mrs. A) being a primigravida, a predisposing factor for nausea (Ratnawati, 2017). According to Walyani (2015), primigravida pregnancies carry a 60-80% risk of experiencing emesis gravidarum. For Subject I (Mrs. R), in her second pregnancy, the risk for emesis gravidarum in multigravida pregnancies is 40-60% (Walyani, 2015). Subject II's nausea complaint may stem from psychological factors related to her previous pregnancy experience, affecting her daily activities as a trader.Subject I is 32 years old, and Subject II is 24 years old. Although their ages differ, both report moderate nausea and vomiting, as supported by (Atika, 2016), who found a correlation between maternal age and hyperemesis gravidarum. The two subjects have different occupations and income levels—Subject I is a trader, and Subject II is a housewife—but both exhibit similar levels of nausea. This finding contrasts with a study by (Butu et al., 2019), which found that occupation and income influence nausea and vomiting complaints.

Family nursing interventions consist of various actions planned by nurses to address identified health issues (Harmoko, 2012). The intervention focused on managing nausea due to the family's inability to provide care for members with emesis gravidarum, using lavender aromatherapy. A study by Rosalinna (2019) showed that applying essential oils with a diffuser for three days reduced nausea and vomiting in 15 first-trimester pregnant women. This is supported by Haniyah & Adriani (2021), who found that lavender aromatherapy is effective when administered with a diffuser using 3-5 drops of lavender essential oil, inhaled for 5-30 minutes gradually, 3-5 times a day for three days (Haniyah & Adriani, 2021).The severity of nausea in both subjects was assessed using the Pregnancy Unique Quantification of Emesis (PUQE) scale, which categorizes nausea and vomiting into mild, moderate, and severe levels. The PUQE form contains three questions reflecting the client's nausea and vomiting within 24 hours (Birkeland et al., 2015)(Latifah, et al., 2017). Both subjects, I and II, experienced different levels of PUQE score reductions. Subject I's initial PUQE score of 11 dropped to 6, while Subject II's initial score of 12 also dropped to 6. This variation may be influenced by Subject I's occupation as a trader, working to support her husband, and her age of over 32, both factors potentially increasing emesis gravidarum risk (Atika et al., 2016). Conversely, Subject II, aged 24 and unemployed, has a primigravida risk factor for emesis gravidarum.

Other studies indicate that occupation, income, and parity influence nausea in 100 pregnant women hospitalized at RSUP Dr. Moh. Hoesin Palembang (Atika, 2016). The lack of significant differences between the two subjects in this study is due to the small sample size of only two respondents. The reduction in nausea and vomiting complaints in both subjects, along with objective data showing decreased PUQE scores, is likely due to the strong and refreshing scent of lavender, which affects the hypothalamus nerves, reducing nausea and vomiting in both subjects (Husna, et al., 2021). Lavender essential oil has antispasmodic and carminative effects on the smooth muscles in the gastrointestinal tract (Zuraida & Sari, 2018).

Additionally, linalool, a sedative and calming component, induces feelings of tranquility and relaxation, reducing nausea and vomiting levels in Subjects I and II during the early stages of pregnancy (Rossalina, 2019).

## CONCLUSION

Lavender aromatherapy intervention effectively reduces nausea in first-trimester pregnant women. The results indicate that several factors influence the severity and improvement of nausea, including pregnancy history, parity, occupation, and age. This suggests that while lavender aromatherapy can be a beneficial and accessible remedy for managing nausea in early pregnancy, the treatment's effectiveness may vary depending on individual characteristics. Further studies with larger sample sizes could help clarify how these factors interact with aromatherapy to influence outcomes in managing pregnancy-related nausea.

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