



The Effect of Lavender Aromatherapy for Quality Sleeping in Postpartum Mothers

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ABSTRACT

The postpartum period is an important period for mothers after giving birth, where many physiological and psychological changes occur that can affect the quality of life, one of which is sleep quality. Lack of quality sleep can have a negative impact on physical recovery, mental health, and the relationship between mother and baby. This study aims to determine the effect of lavender aromatherapy on the quality of sleep of postpartum mothers at PMB Lismarini Palembang. This study employed a quasi-experimental pretest-posttest one-group design. Aromatherapy is given by direct inhalation by dripping 5 drops of lavender essential oil onto a handkerchief and then inhaling it directly for 10 minutes for 7 days. The study population consisted of 30 postpartum mothers in the PMB Lismarini Palembang area who experienced sleep disorders, selected using a total sampling technique. Data analysis was performed using univariate and bivariate methods. Sleep quality assessment using the Pittsburgh Sleep Quality Index (PSQI) with criteria ≤ 5 for good and > 5 for bad. The research results show that the average sleep quality of postpartum mothers before giving lavender aromatherapy was 6.2 or included in the poor sleep quality category, and the average sleep quality after giving lavender aromatherapy was 4.7 or included in the good sleep quality category. It was concluded that a significant effect was found ($p = 0.004$), indicating that lavender aromatherapy improved postpartum mothers' sleep quality. Research with larger samples and more complex research designs, such as clinical trials with stricter control groups, is needed.

Keywords: Aromatherapy, Mother Postpartum, Quality Sleep, Lavender.

ABSTRAK

Masa nifas merupakan masa penting bagi ibu setelah melahirkan, dimana banyak terjadi perubahan fisiologis dan psikologis yang dapat mempengaruhi kualitas hidup salah satunya adalah kualitas tidur. Kurangnya kualitas tidur dapat berdampak buruk pada pemulihan fisik, kesehatan mental, serta hubungan ibu dan bayi. Penelitian ini bertujuan untuk mengetahui pengaruh aromaterapi lavender terhadap kualitas tidur ibu nifas di PMB Lismarini Palembang. Penelitian ini menggunakan metode quasi-experimental pretest-posttest one-group design. Aromaterapi diberikan dengan cara dihirup langsung dengan cara meneteskan 5 tetes minyak atsiri lavender pada sapu tangan kemudian dihirup langsung selama 10 menit selama 7 hari. Populasi penelitian adalah ibu nifas di wilayah PMB Lismarini Palembang yang mengalami gangguan tidur sebanyak 30 orang, dipilih dengan teknik total sampling. Analisis data dilakukan dengan metode univariat dan bivariat. Penilaian kualitas tidur menggunakan Pittsburgh Sleep Quality Index (PSQI) dengan kriteria ≤ 5 untuk baik dan > 5 untuk buruk. Hasil penelitian diperoleh rata-rata kualitas tidur ibu nifas sebelum diberikan aromaterapi lavender adalah 6,2 atau termasuk dalam kategori kualitas tidur buruk dan rata-rata kualitas tidur setelah diberikan aromaterapi lavender adalah 4,7 atau termasuk dalam kategori kualitas tidur baik. Disimpulkan bahwa ditemukan pengaruh yang signifikan ($p = 0,004$) yang menunjukkan bahwa aromaterapi lavender dapat meningkatkan kualitas tidur ibu nifas. Perlu dilakukan penelitian dengan sampel yang lebih besar dan desain penelitian yang lebih kompleks seperti uji klinis dengan kelompok kontrol yang lebih ketat.

Kata kunci: Aromaterapi, Ibu Nifas, Kualitas Tidur, Lavender.

INTRODUCTION

Quality sleep in postpartum mothers is an important indicator of how well a new mother is able to rest during the postpartum period, which typically lasts for 6 to 8 weeks after childbirth. Factors influencing sleep quality during this time include sleep duration, sleep efficiency, time required to fall asleep, and the depth of sleep (Mahalaksmi et al., 2024). The postpartum period is a critical phase for mothers after childbirth, lasting approximately 6–8 weeks. During this time, mothers undergo various physiological and psychological changes that can affect their quality of life, including sleep quality (Hetia, Ridwan, & Herlina, 2017). Sleep disturbances in postpartum mothers are often caused by hormonal changes, physical exhaustion, new responsibilities related to caring for the baby, and psychological stress. Poor sleep quality can hinder physical recovery, negatively impact mental health, and affect the mother's relationship with her baby (Ropika & Meilati, 2021).

Sleep disturbances after childbirth can increase a mother's stress levels and make her more emotionally sensitive and vulnerable to mood changes. Disrupted sleep patterns, combined with frequent awakenings to care for the baby, can contribute to the development of postpartum depression and significant mood changes. During this period, mothers are also at risk of experiencing. According to Aliyyati et al. (2024), although the exact cause of postpartum blues is not yet fully understood, several studies suggest that factors such as age, educational level, and family support play a role in the development of this condition. Symptoms of postpartum blues include feelings of sadness or depression, frequent crying, irritability, anxiety, confusion, agitation, headaches, emotional instability, self-blame, feelings of inadequacy, sleep disturbances, and changes in appetite (Ayudia et al., 2022). Prolonged sleep disturbances can trigger stress, which may worsen postpartum blues and even affect breast milk production (Rahmawati & Machfudloh, 2023).

Non-pharmacological approaches to improving sleep quality are becoming increasingly popular, one of which is aromatherapy. This method involves the use of essential oils derived from plants to promote physical and mental well-being (Ambarwati, 2017). Lavender essential oil is well-known for its relaxing and calming effects and is believed to enhance sleep quality (Hetia, Ridwan, & Herlina, 2017). Several studies have shown that the scent of lavender can reduce anxiety and improve both the duration and quality of sleep, including in postpartum mothers (Pitaloka, Ilmiah & Alfitri, 2024).

Research conducted by Laila et al. (2024) shows that the use of lavender aromatherapy is effective in improving sleep quality in postpartum mothers. This effect is attributed to the aroma and active compounds in lavender, which have calming properties that help mothers feel more relaxed. In particular, lavender contains linalool, a compound known for its soothing effects, which works by influencing the raphe nucleus in the brain.

Although the benefits of lavender aromatherapy have been widely studied in the general population, research specifically evaluating its effectiveness in postpartum mothers is still limited. Therefore, this study aims to examine the effect of lavender aromatherapy on the sleep quality of postpartum mothers, with the hope of providing a natural and effective solution for addressing sleep disturbances during the postpartum period. Furthermore, the results of this study are expected to serve as a reference for healthcare professionals in designing holistic and appropriate interventions tailored to the needs of postpartum mothers.

RESEARCH METHODS

This research employed a quasi-experimental method with a one-group pretest–posttest design. Before the administration of lavender aromatherapy, sleep quality was measured (pretest) to categorise participants as having good or poor sleep quality. Following the intervention, which involved the use of lavender aromatherapy, sleep quality was measured again (posttest).

The aromatherapy was administered via direct inhalation by placing five drops of lavender essential oil onto a handkerchief, which was then inhaled for 10 minutes daily over a period of seven days. Primary data were used in this study. Data analysis was conducted using non-parametric statistical methods, specifically the Wilcoxon signed-rank test. Sleep quality was measured using the Pittsburgh Sleep Quality Index (PSQI) questionnaire, which evaluates sleep quality based on seven components. A lower total score indicates better sleep quality, with a score of ≤ 5 categorised as good sleep quality and a score > 5 as poor sleep quality.

The population of this study consisted of all postpartum mothers experiencing sleep disturbances in the PMB Lismarini Palembang area, totalling 30 individuals. The entire population was included as the sample using a total sampling technique. Initial screening was conducted using the PSQI questionnaire through interviews to determine baseline sleep quality. Participants provided informed consent after receiving a detailed explanation of the research procedures. This study used both univariate and bivariate data analysis. The Wilcoxon signed-rank test was employed as the primary statistical test. Ethical approval was obtained for this study, with the reference number 038/KEP/XII/2024.

RESULTS

Table 1. Distribution Frequency Quality Sleep Before And After Giving Lavender Aromatherapy

Quality Sleep	Pretest		Posttest	
	f	%	f	%
Good (≤ 5)	12	40	24	80
Bad (> 5)	18	60	6	20
Amount	30	100	30	100

Table 1 explains about quality of sleep respondents before and after aromatherapy treatment with lavender. Before giving aromatherapy, lavender obtained results. Most respondents experienced poor sleep quality, which was 60%. Meanwhile, after giving lavender aromatherapy, most respondents experienced good sleep quality, which was 80%. On study this influence of giving lavender aromatherapy on sleep quality was tested using *the Wilcoxon Test* with a 95% confidence level ($\alpha = 0.05$) where the p value $< \alpha$ means the alternative hypothesis is accepted.

Table 2. Influence of Aromatherapy Lavender to Quality Sleep on Postpartum Mother at PMB Lismarini.

Quality Sleep	Mean	Difference Mean	SD	T	p-value
Pretest	4.7		1.112		
Posttest	6.2	1.5	0.989	2.014	0.004

Table 2 explains the results of *the Wilcoxon test* on the effect of lavender aromatherapy on quality Sleep on Mother postpartum in PMB Lismarini Palembang. Results Which obtained, namely flat – flat quality Sleep Mother postpartum before giving aromatherapy lavender namely 6.2 or including category quality Sleep Which bad And flat – flat quality Sleep after giving aromatherapy lavender that is 4.7 or including category quality Sleep Which good. This means that there is an average decrease in sleep quality of 1.5. Significant value found $p : 0.004 < 0.05$ It means There is influence giving aromatherapy lavender on the quality of postpartum mothers' sleep at PMB Lismarini Palembang.

DISCUSSION

Based on the research results listed in tables 1 and 2, information was obtained accompanied by evidence that there was an improvement in sleep quality in postpartum mothers before and after administration of lavender aromatherapy. The results of the Wilcoxon test found $p : 0.004 < 0.05$, meaning There is influence giving aromatherapy lavender to quality Sleep Mother postpartum at PMB Lismarini Palembang.

Results study This in line with study Laila et al. (2024) entitled "Provision of Lavender Aromatherapy on Sleep Quality in Postpartum Mothers at the Kesugihan Health Center" shows that lavender aromatherapy is proven to be effective in improving the sleep quality of postpartum mothers because lavender itself has a calming aroma and substances that make mothers feel more relaxed.

The results of this study are also supported by research by De Laura et al. (2016) which found that that giving lavender aromatherapy significant increase quality sleep in postpartum mothers. Research This show significant difference between quality Sleep before and after intervention lavender aromatherapy , with p value < 0.05

Quality Sleep Mother postpartum can getting worse consequence change hormone postpartum , which affects cycle sleep and cause difficulty sleep . In addition , fatigue physique

after give birth to as well as disturbance Sleep consequence nurse baby who often woke up at night day participate contribute to lack of time rest . Psychological factors like stress , anxiety , and risk of postpartum blues and depression postpartum also has an impact negative on quality Sleep mother . Lack of support social from partner or family can increase burden emotional , while factor environment like noise and discomfort place Sleep participate to worsen condition sleep . Combination factor biological , psychological , and social This show the need appropriate intervention For help Mother postpartum get more sleep quality (Goyal et al., 2007; Okun et al., 2011; Okun, Obetz, & Feliciano, 2021; Okun, & Lac, 2023; Signal et al, 2017; Teti et al., 2016; Tikotzky, 2016).

Lavender aromatherapy has been shown to be effective in improving postpartum mothers' sleep quality through a mechanism of action involving the central nervous system and the production of neurotransmitters that play a role in the sleep cycle. Lavender essential oil contains active compounds such as linalool and linalyl acetate which have a calming effect and can provide positive physiological impacts on the body (Yaremchuk et al., 2015) .

When lavender aromatherapy is inhaled, its active compounds enter the body through the respiratory system and stimulate the limbic system in the brain, which is responsible for emotions and stress responses. This stimulation causes an increase in the production of the neurotransmitter serotonin, which plays a role in regulating mood and sleep cycles. Serotonin is then converted into melatonin, a hormone that regulates circadian rhythms and helps the body feel sleepy. In addition, linalool in lavender can increase alpha brain wave activity, which is associated with a state of relaxation and calm. This causes feelings of relaxation and decreases the activity of the sympathetic nervous system so that heart rate and blood pressure decrease. With reduced physiological activity associated with stress, the body is more easily able to enter a deeper and better sleep phase.

With a calming mechanism of action and supported by various scientific studies, lavender aromatherapy can be one of the effective non-pharmacological methods to help postpartum mothers get better quality sleep. This is very important because adequate and quality sleep plays a role in the physical and emotional recovery of mothers after childbirth, as well as supporting the process of breastfeeding and optimal baby care.

Postpartum mothers often experience sleep pattern disturbances due to the obligation of caring for the baby and hormonal changes. Using lavender aromatherapy consistently helps create a more regular sleep pattern by speeding up the time to fall asleep (*sleep latency*) and extending the duration of sleep. Studies show that lavender scent can increase the non-REM sleep phase, especially the deep sleep phase, which is an important phase for recovery physique and mental recovery. Quality Sleep This is good help postpartum mother feel more fresh And fit although duration Sleep they are relatively short. Lavender aromatherapy is a non-pharmacological method that is safe to use for postpartum mothers. Unlike sleeping pills, aromatherapy does not cause side effects such as dependence or excessive daytime sleepiness.

This study has several limitations, including the short intervention duration of only 7 days, making it difficult to determine the long-term effects of lavender aromatherapy on postpartum mothers' sleep quality. Additionally, the limited sample size of 30 participants may affect the generalizability of the study results. External factors such as infant care routines, family support, and sleeping environment conditions were not fully controlled, which could influence postpartum sleep quality. Sleep quality assessment was still subjective, making it susceptible to individual perception bias. Furthermore, this study did not consider the placebo effect and did not compare lavender aromatherapy with other types of aromatherapy that might have similar benefits. Therefore, further research with a larger sample size, longer duration, and objective measurement methods is needed to confirm the effectiveness of lavender aromatherapy on postpartum sleep quality.

CONCLUSION

Following the completion of the study involving 30 postpartum mothers experiencing sleep quality issues, it can be concluded that there was a change in sleep quality before and after the administration of lavender aromatherapy. The findings indicate that lavender aromatherapy has an effect on improving sleep quality in postpartum mothers at PMB Lismarini Palembang. Further research on the use of lavender aromatherapy for improving postpartum sleep quality should be

conducted using more rigorous experimental designs, such as Randomised Controlled Trials (RCTs), to enhance the validity of the results. Additionally, it is important to explore the long-term effects of aromatherapy and to compare different methods of administration, such as using a diffuser or direct inhalation.

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