

The Effect of Efflurage Massage on Sleep Quality in Postpartum Women at Bayu Asih Hospital, Purwakarta Regency

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KEYWORDS	ABSTRACT
Chronic Diseases, Diet, Massage Efflurage, Postpartum Mother, Sleep Quality,	The moment of the birth of a child is both the most stressful and exciting time because of the arrival of a baby. However, mothers who have just given birth often suffer from postpartum fatigue, especially in the early days, which results in disrupted sleep. Consequently, these mothers can easily become stressed and may experience postpartum blues or depressive disorders. This study aims to determine The Effect of Efflurage Massage on Sleep Quality in Postpartum Women at Bayu Asih Hospital, Purwakarta Regency in 2024. The research used a one-group pretest and posttest experimental design with a sample of 34 postpartum mothers. The study was conducted from July to August 2024. The dependent variable in this study was sleep quality among breastfeeding mothers. Data analysis included univariate and bivariate methods, using the Shapiro-Wilk normality test and the Wilcoxon test for bivariate analysis. The results show that out of 34 postpartum mothers surveyed, the chi-square test yielded a p-value of 0.000 (< 0.05) for diet and 0.018 (< 0.05) for chronic disease, indicating that both diet and chronic diseases influence sleep quality. Regarding efflurage massage, a p-value of 0.000 (< 0.05) was obtained, allowing the conclusion that Efflurage Massage has a significant effect on sleep quality. Therefore, there is an effect of efflurage massage on sleep quality in postpartum mothers at Bayu Asih Hospital, Purwakarta Regency in 2024.

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INTRODUCTION

Adaptation during the postpartum period causes changes that can be uncomfortable, such as anxiety related to breastfeeding and sleep disorders (Duran & Vural, 2023). Breastfeeding can interfere with the mother's need for rest during this period. This is because mothers often wake up due to babies crying, babies not sleeping well, and the breastfeeding process itself. Consequently, the mother's need for rest is often unmet (Windayani, Astuti, and Sofiyanti, 2020).

The need for rest in breastfeeding postpartum mothers is essential to recover after pregnancy and childbirth. Sulistyawati (2019) stated that breastfeeding mothers require at least 8 hours of rest per day, which can be met through nighttime or daytime rest. If breastfeeding mothers do not get adequate rest, it will negatively impact their health and the breastfeeding process.

Sleep disorders have become a significant health problem, affecting more than 50% of adults worldwide (Chien & Chen, 2015). According to the National Sleep Foundation in the United States, 20% of the total population experiences severe daytime sleepiness caused by various factors, including poor sleep quality. Busy daily activities often lead people to sacrifice sleep hours, changing sleep patterns and resulting in poor sleep quality. Insomnia, a common sleep disorder, is closely associated with sleep quality. Poor sleep quality can lead to symptoms ranging from anxiety to depression (U.S. Department of Health and Human Service, 2017).

In the study by Rosidawati (2020), statistical tests showed that 55.3% of postpartum mothers on days 1–3 experienced sleep disturbances. Chi-square bivariate tests demonstrated significant relationships between fatigue ($p = 0.000$), frequency of breastfeeding ($p = 0.014$), and infant health status ($p = 0.040$) with maternal sleep quality. Logistic regression analysis was conducted as the bivariate analysis yielded p -values < 0.25 . An odds ratio (OR) of 2.996 indicated that mothers experiencing fatigue are nearly three times more likely to suffer from sleep disorders compared to those without fatigue. The fatigue factor, controlled for breastfeeding frequency, was the most dominant variable related to postpartum maternal sleep disorders.

All new mothers suffer from postpartum fatigue on average, especially in the early days, often resulting in insufficient sleep alongside the responsibilities of caring for their baby. The first three days after childbirth usually make it difficult for mothers to rest due to perineal pain, bladder discomfort, and baby-related issues that can affect the mother's memory and psychomotor functions. Typically, sleep patterns normalize within two to three weeks postpartum (Marmi, 2014).

One study showed that before the intervention, the sleep quality score in the intervention group was worse than the control group (5.05 ± 2.02 ; 4.18 ± 2.17), indicating poorer sleep patterns in the intervention group, but the difference was not statistically significant ($p = 0.054$). After the intervention, PSQI scores were lower in the intervention group compared to the control group (2.33 ± 1.36 ; 5.38 ± 3.11), demonstrating improved sleep patterns in the intervention group ($p = 0.000$). The intervention group's PSQI scores decreased significantly more than those of the control group, which actually increased (-2.75 ± 2.27 ; 1.2 ± 4.01). This indicates a significant difference in sleep quality improvement between the two groups ($p = 0.000$), leading to the conclusion that back massage has a positive effect on sleep quality in postpartum mothers (Anggraeni et al., 2023).

Another study explains that one effort to reduce fatigue and sleep deprivation without medication is *massage therapy effleurage*. Another benefit of massage therapy is stress reduction, demonstrated by decreased levels of stress hormones (cortisol, adrenaline, and noradrenaline), which contributes to more restful sleep. Massage, in this context, refers to manipulation of soft tissue structures that calms and reduces psychological stress by increasing endogenous morphine hormones such as endorphins, enkephalins, and dynorphins, while lowering stress hormones including cortisol, norepinephrine, and dopamine (Kusumastuti, 2021).

A preliminary study conducted by researchers at Bhayangkara Hospital in June–July 2024 found that among 30 postpartum mothers, only 5 had very good sleep quality, 10 had good sleep quality, and 15 had poor sleep quality. Poor sleep quality in postpartum mothers can cause stomach discomfort, reduce functionality in daily activities, and increase excessive anxiety.

Previous research has explored non-pharmacological interventions to address postpartum sleep issues, with massage therapy emerging as a promising approach. For instance, Anggraeni et al. (2023) found that back massage significantly improved sleep quality, as shown by reduced PSQI scores in postpartum mothers. Similarly, Kusumastuti (2021) highlighted how *effleurage* massage lowers stress hormones like cortisol, promoting relaxation and better sleep. However, most studies have focused on general massage techniques rather than specific methods like *effleurage*, leaving a gap in understanding its precise effects. Additionally, limited research has examined the interplay among massage, diet, and chronic diseases in influencing sleep outcomes, indicating a need for more comprehensive investigation.

The research gap lies in the lack of studies examining the combined impact of *effleurage* massage and other variables, such as diet and chronic diseases, on sleep quality in postpartum women. While existing literature acknowledges the benefits of massage, few studies have quantified its effectiveness in specific cultural or healthcare settings such as hospitals in

Purwakarta Regency. Furthermore, previous research often overlooks the potential moderating roles of dietary habits and pre-existing health conditions. Addressing these gaps would provide a more nuanced understanding of how *effleurage* massage can be optimized for diverse populations, ensuring broader applicability and effectiveness.

The urgency of this research stems from the high prevalence of sleep disturbances among postpartum women and their detrimental effects on maternal and infant health. Poor sleep quality can lead to postpartum blues, reduced milk production, and impaired bonding with the newborn. In resource-limited settings like Purwakarta—where access to advanced medical interventions may be constrained—affordable and non-invasive solutions like *effleurage* massage are especially valuable. By validating its efficacy, this study could offer a practical, scalable intervention to improve sleep quality, thereby enhancing the overall well-being of postpartum mothers and their families.

This study introduces novelty by focusing on *effleurage* massage as a standalone intervention and examining its interaction with dietary and chronic disease factors. Unlike prior research that often combines multiple therapies, this approach isolates the effects of *effleurage* to determine its specific contributions. Additionally, the study is conducted in a regional hospital setting, providing context-specific insights to inform localized healthcare practices. The inclusion of dietary and chronic disease variables further distinguishes this research, offering a holistic view of factors influencing sleep quality in postpartum women.

The purpose of this study is to evaluate *The Effect of Effleurage Massage on Sleep Quality in Postpartum Women at Bayu Asih Hospital, Purwakarta Regency*. By employing a quasi-experimental design, the research aims to provide empirical evidence on the intervention's efficacy, filling gaps in existing literature. The study also seeks to explore how diet and chronic diseases moderate the relationship between massage and sleep outcomes, offering a comprehensive understanding of interactions between these variables. Ultimately, findings will contribute to evidence-based recommendations for non-pharmacological sleep interventions in postpartum care.

This research contributes to the body of knowledge by validating *effleurage* massage as a viable intervention for improving sleep quality in postpartum women. The findings will be particularly relevant for healthcare providers in similar settings, offering a low-cost, accessible solution to a widespread problem. Additionally, the study's focus on dietary and chronic disease factors provides actionable insights for personalized care plans. By bridging the gap between theory and practice, this research has the potential to influence clinical guidelines and enhance postpartum care protocols.

The primary objective of this study is to determine whether *effleurage* massage significantly improves sleep quality in postpartum women, as measured by pre- and post-intervention assessments. Secondary objectives include examining the influence of diet and chronic diseases on sleep outcomes and identifying potential moderating effects. The study also aims to provide a framework for integrating *effleurage* massage into routine postpartum care, ensuring sustainable implementation. These objectives align with global efforts to promote maternal health and well-being through non-invasive, evidence-based interventions.

The benefits of this research extend beyond academic circles, offering practical advantages for healthcare providers, policymakers, and postpartum mothers. For clinicians, the findings will support adopting *effleurage* massage as standard practice, improving patient outcomes. Policymakers can use results to advocate integrating such interventions into maternal health programs, especially in underserved areas. Most importantly, postpartum mothers stand to gain improved sleep quality, reduced stress, and enhanced overall health, fostering a positive environment for both themselves and their newborns. By addressing a critical yet often overlooked aspect of postpartum care, this study holds the potential for meaningful impact on maternal and infant health.

RESEARCH METHOD

This study used a quantitative quasi-experimental method with a one-group pretest-posttest design, conducted before and after *effleurage* massage. The population consisted of all postpartum mothers who underwent postpartum examinations in July 2024 at Bayu Asih Hospital, Purwakarta Regency, totaling 36 mothers. The sample included all postpartum mothers who met the inclusion and exclusion criteria. Consecutive sampling was applied, whereby every eligible subject during the study period was included until the required sample size was reached.

RESULTS AND DISCUSSION

Based on the collection of questionnaire data and direct observation, data processing and analysis that has been carried out by the author on "The Effect of Efflurage Massage on Sleep Quality in Postpartum Women at Bayu Asih Hospital, Purwakarta Regency in 2024". The results of the research are presented in the form of a table with the aim that readers can easily understand the results of the percentages that have been obtained.

Table 1: Characteristics of Postpartum Mothers' Dietary Protein Consumption

Dietary Protein Consumption	Number of Respondents (n=34)	Percentage (%)
Most consumed protein foods	23	67.6%
Rarely consumed protein foods	11	32.4%

Based on the results, it can be seen that the characteristics of the diet in postpartum mothers consumed the most protein foods as many as 23 respondents (67.6%) and the least rarely consumed protein foods as many as 11 respondents (32.4%).

Table 2: Characteristics of Postpartum Mothers' Chronic Disease History

Chronic Disease History	Number of Respondents (n=34)	Percentage (%)
No history of chronic disease	29	85.3%
With history of chronic disease	5	14.7%

Based on the results, it can be found that the characteristics of postpartum mothers have no history of chronic disease as many as 29 respondents (85.3) and at least 5 respondents have a history of chronic disease (14.7%).

Table 3: Sleep Quality Before Effleurage Massage Intervention

Sleep Quality	Number of Respondents (n=34)	Percentage (%)
Poor sleep quality	34	100%
Good sleep quality	32	94.1%
Poor sleep quality	2	5.9%

Based on the results, it can be seen that before the effleurage massage, the number of poor maternal sleep quality was 34 respondents (100%) and after the effleurage massage the quality of maternal sleep was good as many as 32 respondents (94.1%) and the quality of poor sleep was 2 respondents (5.9%).

Table 4: Chi-Square Test Results for Diet and Chronic Disease Influence on Sleep Quality

Variable	p-value	Interpretation
Diet	0.000 (<0.05)	Significant influence on sleep quality
Chronic disease	0.018 (<0.05)	Significant influence on sleep quality

The results of the chi square test on the diet pvalue $0.000 < 0.05$ and chronic disease pvalue $0.018 < 0.05$, then H_a was accepted, which means that there is an Influence of Diet and Chronic Diseases on Sleep Quality in Postpartum Mothers at Bayu Asih Hospital, Purwakarta Regency in 2024.

Table 5: Wilcoxon Test Results for Effleurage Massage Effect on Sleep Quality

Parameter	Value	Interpretation
Mean improvement in sleep quality	0.239	Increase in sleep quality score
p-value	0.000 (<0.05)	Significant difference pre- vs. post-massage

Based on the results of the wilcoxon test in this study, it is explained that the average sleep quality before effleurage massage, the mother's sleep quality increased by 0.239 and the results of the P-Value statistical test were 0.000 which was less than the critical limit of the study of 0.05 so that the hypothesis decision was accepted, which means that there is a difference between the groups before and after Efflurage Massage on the quality of sleep in postpartum mothers at Bayu Asih Hospital, Purwakarta Regency in 2024.

Discussion

According to Imasrani et al (2016), diet is one of the determinants of mother's success in breastfeeding. So that breastfeeding mothers need to eat foods with balanced nutrition. Balanced nutrition will produce good and quality nutrition. Consuming heavy foods before bed can make it difficult to sleep, especially foods that contain caffeine, nicotine, and alcohol.

This is in line with the research of Rianty (2022), The results of the study found that most types of food consumed by postpartum mothers were inappropriate as many as 26 respondents (65.0%), most of the frequency of eating by postpartum mothers was irregular as many as 30 respondents (75.0%), and most of the amount of food for postpartum mothers was insufficient by 35 respondents (87.5%).

Based on the results of the study in table 5.2, the characteristics of postpartum mothers had no history of chronic disease as many as 29 respondents (85.3) and at least 5 respondents (14.7%) had a history of chronic disease.

Chronic diseases such as diabetes, kidney pain, arthritis, or sudden illnesses often cause difficulty sleeping. Every individual learns from the experience of pain. Previous pain experiences do not necessarily mean that the individual will accept pain more easily in the future. The history of low back pain in postpartum mothers will affect the incidence of low back pain in postpartum mothers now (Awlya, 2020).

According to Rahayuningsih (2021), Massage Effleurage is a massage technique that is carried out to help speed up the pain recovery process by using hand touch to cause a relaxing effect so that mothers can sleep well. Effleurage is a smooth rubbing manipulation with relatively light to strong pressure, this rubbing uses the entire surface of one hand or the surface of both hands, perfect touch and the direction of the rubbing is always towards the heart or in

the direction of the flow of the blood vessels back, then it has an effect on blood circulation or helps the flow of blood vessels back to the heart due to the pressure and thrust of the rub.

This is in line with the research of Ratih (2019), who stated that there was a significant difference in the administration of back effleurage massage and hypnobreastfeeding in the intervention group and the control group given back effleurage massage for 7 days against cortisol p value 0.047 and breast milk production p value 0.005.

CONCLUSION

This study demonstrates that *effleurage* massage significantly improved sleep quality in postpartum women at Bayu Asih Hospital, Purwakarta Regency, with 94.1% of participants reporting better sleep after the intervention. Statistical analysis confirmed the effectiveness of the massage (Wilcoxon test, $p = 0.000$), while chi-square tests ($p < 0.05$) indicated that diet and chronic diseases also influenced sleep outcomes. These findings support previous research that positions massage therapy as a valuable non-pharmacological approach to managing postpartum sleep disturbances and highlight the need for a holistic maternal care model addressing physiological and lifestyle factors. Future research should involve larger, more diverse samples and employ randomized controlled trials to strengthen evidence and reduce bias. Additionally, studying the long-term impacts of *effleurage* massage on postpartum depression and breastfeeding outcomes, exploring cultural and regional variations in massage and diet, and incorporating qualitative methods to capture mothers' experiences would provide more comprehensive insights for tailoring effective interventions.

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