

Research

Holistic Care for Sleep Quality and Mental Health of Postnatal Mothers

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Abstract: The postpartum period is an important and vulnerable time for the health of mothers after childbirth. Data shows that the prevalence of sleep disorders and the risk of postpartum depression globally is 14%, in Asia 26-85%, and in Indonesia 50-70%. At the Gatak Community Health Center, integrated holistic interventions for sleep quality and mental health are limited. This study aims to examine the effect of holistic care on PSQI and EPDS in postpartum mothers through interventions consisting of relaxation techniques, education, and psychosocial support. Methods: A quasi-experimental one-group pretest-posttest design and purposive sampling were used on 15 postpartum mothers with the criteria of age 18-40 years, 1-6 weeks postpartum, good communication skills, and signing an informed consent form. Results: Paired t-test analysis ($p < 0.05$) showed a significant effect of holistic care on the sleep quality and mental health of postpartum mothers through a comparison of pretest-posttest means. Conclusion: Holistic care is effective in reducing cortisol, improving sleep hygiene and social support, and can be implemented in primary care settings in Indonesia. Recommendations: Integrate PSQI/EPDS into maternal and child health guidelines, conduct training for midwives, and conduct further research using RCTs.

Keywords: Community Health Center; EPDS; Holistic; Postpartum; PSQI.

1. Introduction

The postpartum period is a critical time for mothers after childbirth, involving significant physiological and psychological changes. One serious problem is sleeping disturbance, which can increase the risk of postpartum depression, anxiety, and stress (Musyarrofah, L, 2021). Globally, the prevalence of postpartum depression reaches 14%, with rates in Asia between 26-85%, and in Indonesia around 50-70% (Rahmawati, D., 2025). At the Gatak Community Health Center in Sukoharjo, pregnant women are screened to anticipate postpartum depression. Sleep disorders not only slow down physical recovery but also reduce the mother's ability to care for and build emotional bonds with her baby and family. However, health interventions focused on improving sleep quality and the mental health of postpartum mothers are still limited and do not receive optimal attention, leaving mothers vulnerable to short- and long-term complications that require comprehensive care.

The government has developed policies in various reproductive and maternal health programs to strengthen maternal and child services. However, attention to holistic aspects that integrate sleep quality and mental health of postpartum mothers has not been a top priority at the facility and community levels. Limited trained health personnel and low budgets for mental health during the postpartum period exacerbate this condition (Lustiani, I., et al., 2024). Based on this, the development of comprehensive and sustainable policies that

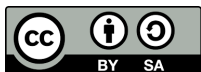
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encourage multisectoral and holistic care is urgently needed to improve the quality of life of postpartum mothers while preventing negative impacts related to mental health and sleep.

Public awareness of the importance of postpartum recovery is increasing, but there is still a lot of stigma and misconceptions related to maternal mental health. Many mothers find it difficult to access information and services related to sleep quality management and mental health. The role of family and social environment is crucial to the success of recovery. The lack of education and support from health workers and the community makes postpartum mothers vulnerable to social isolation and difficulty managing postpartum stress (Lustiani, I., et al., 2024). Therefore, the community needs an approach that is easy to understand and friendly to improve understanding and support for mothers' mental health and sleep quality.

Research using a holistic care approach involving collaboration among health workers is essential to support the recovery of postpartum mothers. The quality of sleep and mental health can be evaluated using valid and reliable instruments such as the Pittsburgh Sleep Quality Index (PSQI) and the Edinburgh Postnatal Depression Scale (EPDS) (Juariah, S. & Diyanti, L., 2022). Intensive training for healthcare workers and the empowerment of families and communities is key to ensuring that holistic care can be sustained and implemented in various healthcare services. Other supporting factors that guarantee success are the availability of resources, institutional commitment, and regulatory support. Therefore, research on whether holistic care can improve the sleep quality and mental health of postpartum mothers in the Gatak Community Health Center working area needs to be conducted.

2. Preliminaries Review

The postpartum period is a critical time involving significant physiological and psychological changes for the mother after childbirth. Sleep quality disturbances during this period are strongly associated with increased risk of postpartum depression, anxiety, and stress, which negatively affect physical recovery and the mother's ability to care for her infant (Musyarrafah, 2021). Although various reproductive and maternal health programs have been developed by the government, attention to care that integrates improvements in sleep quality and mental health holistically remains suboptimal, especially in primary care settings such as Community Health Centers (Puskesmas). Previous studies have shown that the use of validated instruments such as the Pittsburgh Sleep Quality Index (PSQI) and the Edinburgh Postnatal Depression Scale (EPDS) is effective for screening and monitoring sleep quality and postpartum depression (Buysse et al., 1989; Cox et al., 1987). However, the implementation of holistic care that involves collaboration among healthcare providers, families, and the community in the local context is still limited and needs to be developed systematically.

This study presents an innovation by integrating a multisectoral holistic care approach that not only focuses on clinical aspects but also empowers families and communities to reduce stigma and increase social support factors that are important for maternal mental recovery during the postpartum period (Dennis & Hodnett, 2007). Using standardized instruments, this research aims to test the effectiveness of a holistic care model to improve sleep quality and mental health of postpartum mothers in the Gatak community health center catchment area. This approach is expected to serve as a sustainable model that can address current limitations in resources and policy support while strengthening the comprehensive delivery of maternal health services.

Recent research indicates that sleep quality plays an important role in maternal health during the postpartum period. Mothers who experience sleep disturbances tend to have a higher risk of fatigue, stress, anxiety, and even postpartum depression. These conditions can impede recovery after childbirth and affect a mother's ability to care for her baby. Findings Khan-Afridi et al. (2025) also show that poor sleep quality is associated with various physical and psychological health problems during the postpartum period. In addition, psychological interventions such as mindfulness have been shown to help reduce depressive symptoms and improve mothers' mental well-being after childbirth (Wu et al., 2024).

Beyond sleep factors, psychosocial support and nonpharmacological interventions also contribute to postpartum maternal mental health. Zeng et al. (2024) explain that health education, relaxation techniques, and psychological support are effective in reducing perinatal depression and anxiety symptoms. Meanwhile, Patterson et al. (2025) emphasize that addressing mental health issues is most effective when using a holistic approach that simultaneously considers biological, psychological, social, and environmental aspects. Therefore, implementing holistic care that involves healthcare providers, family, and the

community is a promising strategy to improve quality of life and maternal well-being during the postpartum period.

Risk Factor Postpartum Well-being

The postpartum period is an important time marked by various physical, hormonal, and psychological changes that can affect a mother's well-being. One of the most common problems experienced by postpartum mothers is poor sleep quality, which can lead to fatigue, impaired daily functioning, anxiety, and postpartum depression. Musyarrofah (2021) reported that sleep disturbances during the postpartum period are associated with increased psychological stress and reduced maternal adaptive capacity. Consistent with this, Khan-Afridi et al. (2025) found that poor sleep quality is significantly associated with multiple negative outcomes for postpartum maternal health, including the emergence of depressive symptoms and decreased maternal functioning. In addition, Wu et al. (2024) showed that psychological interventions can effectively reduce postpartum depressive symptoms and improve mothers' psychological well-being.

Assessment of sleep quality and mental health is commonly conducted using validated instruments such as the Pittsburgh Sleep Quality Index (PSQI) and the Edinburgh Postnatal Depression Scale (EPDS). Both instruments have been widely used to identify mothers at risk for sleep disturbances and postpartum depression so that healthcare providers can offer early interventions. Although previous studies have confirmed the relationship between sleep quality and maternal mental health, most research has focused on identifying risk factors or evaluating a single type of intervention. Studies examining comprehensive approaches that concurrently address sleep quality and mental health in postpartum mothers remain limited, particularly in primary healthcare settings in Indonesia.

Holistic care

Holistic care is an approach that integrates physical, psychological, social, and spiritual aspects of health. In postpartum care, holistic interventions may include relaxation techniques, health education, emotional support, family involvement, and community participation. These interventions aim to support maternal recovery, strengthen coping abilities, and improve overall well-being during the postpartum period.

Besides psychological and social factors, biological factors also contribute to the development of depression. Frank et al. (2020) found that genetic vulnerability and systemic inflammation are associated with increased depressive symptoms, particularly somatic symptoms. Those findings indicate that biological mechanisms can contribute to symptom emergence and therefore should be considered in mental health studies.

Previous studies have demonstrated the effectiveness of holistic and nonpharmacological interventions in improving maternal mental health. Zeng et al. (2024) reported that psychological support, relaxation techniques, and health education significantly reduce symptoms of depression and anxiety in women during pregnancy and the postpartum period. Patterson et al. (2025) also emphasized that approaches that address biological, psychological, social, and environmental factors are more effective for preventing and managing depression than approaches that focus solely on clinical therapy. In Indonesia, Lustiani et al. (2024) highlighted the importance of comprehensive postpartum services; however, implementation of holistic care in primary health services remains limited.

Although evidence supporting holistic care is growing, studies evaluating its effectiveness using standard measures of sleep quality (PSQI) and mental health (EPDS) are still rare. Research examining holistic care interventions in community health center settings is also limited. Therefore, this study aims to evaluate the effectiveness of a holistic care model in improving sleep quality and mental health among postpartum mothers in the catchment area of Puskesmas Gatak.

3. Materials and Method

Data and place

This study used a quasi-experimental design with a one-group pretest-posttest approach to examine the effect of holistic care on the sleep quality and mental health of postpartum mothers. It was conducted at the Gatak Community Health Center, located at Jl Kranon Blimbing Gatak, Gatak District, Sukoharjo Regency, Central Java, as a health service center for postpartum mothers that allowed for the collection of samples according to the criteria. The research period ran from November 10, 2025, to January 30, 2026, in accordance with the permit from the Sukoharjo District Health Office, covering the pretest data collection period before the intervention and the posttest period after the intervention.

Population and sample

The population consisted of all postpartum mothers in the Gatak Community Health Center working area during the period, with a sample of 15 people selected using purposive sampling based on inclusion criteria (aged 18-40 years, postpartum period of 1-6 weeks, able to communicate well, willing to participate in holistic care and research instruments) and exclusion criteria (severe medical disorders/postpartum complications, history of mental disorders currently being treated, unable to fully participate, such as moving location). The independent variable was holistic care (relaxation techniques, health education, psychosocial support), while the dependent variable was sleep quality measured using the PSQI with a good score ≤ 5 and poor score ≥ 5 based on seven components such as duration, efficiency, sleep disturbance, and mental health measured using the EPDS with a higher score indicating more severe postpartum depression symptoms.

4. Results and Discussion

Results of data analysis obtained from quantitative analytical research on the effect of holistic care on sleep quality and mental health of postpartum mothers. The results of the study are presented objectively and structurally.

Table 1. Characteristics of Research Respondents

Characteristics	Category	Frequency (n)	Percentage (%)
Age	18-40 years old	15	100
Parity	Primipara	5	33,33
	Multipara	5	33,33
	Grand multipara	5	33,33
Delivery	Normal	14	93,3
	Caesarean Sectio	1	6,7
Education	Junior High School	3	20
	Senior High School	11	73,3
	College	1	6,7
Occupation	Housewife	13	86,7
	Private employee	2	13,3

The table of respondent characteristics shows that the research respondents consisted of 15 postpartum mothers aged 19-44 years, covering the entire sample (100%). The parity distribution was equal, with 5 respondents (33.33%) each for primiparas, multiparas, and grand multiparas. Most respondents (14 people or 93.3%) underwent normal delivery, while only 1 person (6.7%) underwent a caesarean section. In terms of education, the majority had a high school background (11 people or 73.3%), followed by junior high school (3 people or 20%) and college (1 person or 6.7%), indicating an adequate level of understanding for the PSQI and EPDS instruments. In terms of occupation, 13 respondents (86.7%) were housewives, with 2 (13.3%) being private employees. This homogeneous characteristic supports the validity of pre-posttest measurements in testing the effect of parenting on sleep quality and mental health.

Table 2. The Effect of Holistic Care on Sleep Quality (PSQI) and Mental Health (EPDS).

Variable	Mean <i>Pre-Test</i>	Mean <i>Post-Test</i>	Different Mean	t-calculated	p-value
PSQI	10,67	5,60	5,07	10,496	0,000
EPDS	8,40	4,60	3,80	6,658	0,000

The bivariate analysis table shows a significant effect of holistic care on sleep quality and risk of depression in postpartum mothers through a comparison of pretest-posttest means. The average pretest PSQI score of 10.67 (poor sleep category) decreased to 5.60 (good limit) on the posttest, with a mean difference of 5.07; a t-test of 10.496 and a p-value of 0.000 (<0.05) indicated a very significant improvement in sleep quality after the intervention. Similarly, the average pretest EPDS score of 8.40 (moderate risk of depression) decreased to 4.60 on the posttest, with a mean difference of 3.80; a t-test of 6.658 and a p-value of 0.000 (<0.05) confirmed a statistically significant reduction in the risk of postpartum depression. These results prove the effectiveness of holistic care (relaxation, education, psychosocial

support) in improving sleep quality and mental health of postpartum mothers at the Gatak Community Health Center.

The findings of this study strongly support the hypothesis that holistic care intervention has a positive and significant effect on improving sleep quality and mental health of postpartum mothers. The statistical results showing a p-value of 0.000 for both dependent variables provide strong empirical evidence of the effectiveness of this integrated care model. This discussion will elaborate on the mechanisms behind the success of the intervention, compare the findings with the latest scientific literature, and highlight the implications of these findings in the context of midwifery services.

Holistic Care Mechanisms in Improving Sleep Quality

The substantial decrease in PSQI scores from 10.67 to 5.60 is a significant clinical achievement, given that poor sleep quality during the postpartum period is a major predictor of long-term maternal morbidity. Holistic care successfully addressed this sleep problem due to its multifaceted approach, which focused not only on sleep management but also on underlying psychological factors. Interventions that included relaxation techniques, such as structured breathing or brief meditation, directly targeted the mother's autonomic nervous system, reducing cortisol levels and facilitating the transition to a state of rest. This mechanism is particularly important because postpartum sleep disturbances are often exacerbated by anxiety and hypervigilance associated with the new role of motherhood.

This success is consistent with findings from recent systematic reviews and meta-analyses highlighting the efficacy of non-pharmacological interventions for improving postpartum sleep. The study by Khan-Afridi et al., 2025, confirms that structured sleep interventions are an integral component of holistic care, significantly associated with improved sleep quality and reduced sleep fragmentation. Furthermore, the psychoeducational component of holistic care provides mothers with practical knowledge about sleep hygiene and realistic coping strategies for infant sleep interruptions. By understanding that sleep disturbances are a normal part of the postpartum period and having tools to manage the accompanying stress, postpartum mothers can reduce anxiety that exacerbates insomnia.

A holistic approach also recognizes that sleep is an experience influenced by the social environment. The psychosocial support provided in this intervention, which involves husbands and families, helps mothers negotiate the division of nighttime tasks and create an environment more conducive to rest. When mothers feel supported and not alone in facing the demands of caring for a baby, the mental and physical burdens they feel are reduced, which directly facilitates their ability to achieve more restorative sleep. Therefore, a significant decrease in PSQI scores is a manifestation of the rebalancing of physical, psychological, and social aspects in the lives of postpartum mothers.

The Effect of Holistic Care on the Mental Health of Postpartum Mothers

The decrease in EPDS scores from 8.40 to 4.60 shows that holistic care is effective as a prevention and early intervention strategy for postpartum depression symptoms. This finding has profound humanitarian implications, as each point decrease on the EPDS scale represents a reduction in emotional distress and an increase in the mother's capacity to enjoy her new role. Holistic care works on mental health through two main channels: directly through emotional support and indirectly through improved sleep quality.

Directly, structured psychosocial support sessions provide a safe space for mothers to process complex emotions, guilt, and anxiety that often accompany the postpartum period. This approach, often referred to as mind-body intervention, has been proven effective in reducing symptoms of depression and anxiety in the perinatal population. Scopus-indexed journals in the studies by Zeng et al., 2025; Wu et al., 2024, show that mindfulness-based therapy and similar psychological interventions significantly reduce EPDS scores, supporting the idea that focusing on self-awareness and emotional regulation is key. Holistic care, with its spiritual and psychological components, helps mothers build the emotional resilience needed to navigate the challenges of the postpartum period.

Indirectly, the improvement in sleep quality discussed earlier plays a crucial role in improving mental health. The reciprocal relationship between sleep and mood is one of the most consistent findings in perinatal psychology. Fragmented and poor-quality sleep is a strong risk factor for the development of depression. By restoring healthier sleep patterns, holistic care effectively eliminates one of the biggest triggers of stress, allowing mothers to have greater mental energy reserves to cope with daily demands. This significant decrease in EPDS scores indicates that holistic care serves as a powerful preventive intervention, preventing mild depressive symptoms from developing into more severe clinical conditions.

A substantial improvement in sleep quality in this study likely contributed to the reduction in depressive symptoms among participants. Several previous studies have shown a strong relationship between sleep disturbance and postpartum depression. Tikotzky et al. (2021) explained that poor sleep quality can increase vulnerability to depressive symptoms through disrupted emotion regulation, heightened stress responses, and reduced psychological resilience. Consistent with this, Lewis et al. (2018) found that postpartum mothers with better sleep quality tended to exhibit lower levels of depressive symptoms. These findings support the results of the present study, where improvements in PSQI scores were followed by decreases in EPDS scores after the provision of holistic care interventions.

The mean EPDS score decrease from 8.40 to 4.60 indicates that holistic care also had a positive impact on postpartum maternal mental health. This finding is important given that postpartum mothers are a vulnerable group for emotional disturbances due to biological changes, fatigue, role transition to motherhood, and various psychosocial stresses that arise after childbirth. Wang et al. (2021) reported that postpartum depression remains one of the most common mental health problems worldwide and emphasized the importance of early supportive interventions to reduce depressive symptoms and enhance maternal well-being. The education, emotional support, and psychosocial support components included in holistic care are thought to help mothers develop better coping strategies and improve adaptation to the various challenges of the postpartum period.

These results are further supported by Slomian et al. (2019), who stated that postpartum depression can negatively affect a mother's quality of life, mother-infant relationship, breastfeeding success, and the child's long-term development. Therefore, the reduction in depressive symptoms observed in this study not only benefits mothers but also has the potential to improve infant health and development. From a clinical perspective, these findings underscore the importance of early detection and management of psychological problems during the postpartum period as an integral part of maternal health services.

Moreover, the effectiveness of holistic care demonstrated in this study highlights the importance of a comprehensive, person-centered approach in supporting postpartum recovery. Holistic care views recovery after childbirth as encompassing not only physical healing but also emotional, psychological, and social adaptation. Tomfohr-Madsen et al. (2022) emphasized that sleep quality and mental health are closely interrelated aspects of postpartum well-being and therefore should be addressed together in maternal health services. The integrated interventions applied in this study appear to have successfully targeted both aspects, resulting in significant improvements in postpartum mothers' conditions.

Overall, the study's findings indicate that holistic care is an effective strategy for improving sleep quality and mental health in postpartum mothers. Through a combination of relaxation techniques, health education, and psychosocial support, holistic care can provide comprehensive assistance for the multiple factors affecting maternal well-being. These findings support the importance of integrating holistic care into routine postpartum services, particularly at primary healthcare facilities, to optimize maternal recovery and prevent long-term psychological complications.

Comparison

The findings of this study enrich obstetrics by providing contextual evidence from Indonesia regarding the effectiveness of holistic care, which has previously been largely supported by research from developed countries. Academically, these results are in line with the framework proposed by Patterson et al., 2025, which advocates a public psychology and holistic approach to the prevention and treatment of depression, especially in underserved communities. This study shows that a care model that integrates physical, psychological, and social aspects is the most ethical and effective model.

These results are not merely statistical figures, but a reflection of the improved quality of life of postpartum mothers. The PSQI score dropped from 10.67 to 5.60, meaning that these mothers got adequate rest to recover and interact positively with their babies. Similarly, the decrease in EPDS scores from 8.40 to 4.60 means a reduction in emotional burden, the disappearance of feelings of guilt, and the return of joy in parenting. This is evidence that interventions designed with empathy and understanding of the complexity of mothers' experiences can bring about transformative change.

5. Conclusion

This study has successfully proven statistically and clinically that Holistic Care has a very significant effect on improving sleep quality and mental health in postpartum mothers in the Gatak Community Health Center Working Area. This structured and integrated intervention is able to address two interrelated maternal health issues. Data analysis shows that the average Pittsburgh Sleep Quality Index (PSQI) score decreased dramatically from the poor category to near normal limits, indicating a substantial improvement in the subjective sleep patterns of mothers. This was followed by a significant decrease in the average Edinburgh Postnatal Depression Scale (EPDS) score, indicating a reduction in the risk and symptoms of mild depression in the group of postpartum mothers who received the intervention. The success of this intervention confirms that a care model focused solely on physical aspects is no longer adequate to meet the complex needs of postpartum mothers. Holistic care, which encompasses physical, psychological, social, and spiritual dimensions, is the most effective framework for achieving optimal maternal well-being.

Based on findings that show the impact of holistic care, researchers can suggest that this study can be directed towards practical and policy implications in the context of maternal and child health. The Ministry of Health and local governments should prioritize the integration of Holistic Care into the Maternal and Child Health Service Guidelines (KIA) at the primary level, especially during the postpartum period. This integration should include adequate time allocation for health workers to provide sleep education, relaxation techniques, and psychosocial support, beyond routine physical examinations. In addition, regulatory support is needed to standardize the use of screening instruments such as PSQI and EPDS as a mandatory part of postpartum visits, so that early risk identification can be carried out systematically. Health departments and health education institutions should prioritize comprehensive training for midwives and community health center nurses in the implementation of Holistic Care. For further research, it is recommended to conduct a Randomized Controlled Trial (RCT) involving a control group and a larger sample size to provide a higher level of evidence.

Author Contributions: The corresponding author listed on this manuscript is the principal investigator and is responsible as the primary contact for communications with the journal and external stakeholders. The study was conducted collaboratively: all team members had specific roles and made substantial contributions. Specifically, team roles included proposal development and study design (members 1,2); development, adaptation, and validation of measurement instruments (members 2,3); field data collection (members 1,3,4,5); data analysis and interpretation of results (members 2,3); and manuscript preparation and final reporting (members 1). The principal investigator facilitated team coordination, integrated the findings, and acted as the official representative during submission and correspondence with the journal. All authors approved the final version of the manuscript and share responsibility for its content.

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Conflicts of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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