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The effect of postpartum sleep disorder and anxsiety on the sleep pattern of newborns: improvements through behavioral intervention led by nurses, case report

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ABSTRACT

Postpartum sleep disorder and anxiety are among the frequently encountered clinical problems. The newborn's adaptation process to the outside world and the mother's adaptation to her maternal role directly affect the newborn's sleep pattern. It has been reported that postpartum sleep disorders and anxiety in mothers may negatively affect the newborn's sleep patterns and pose a risk to newborn health. Although various interventions for sleep disorders and anxiety in the postpartum period have been described in the literature, studies addressing the effect of behavioral interventions led by nurses on the newborn's sleep pattern are limited. This article evaluates the effect of postpartum sleep disturbance and anxiety on newborn sleep disturbance; the beneficial effect of a nursing-led behavioral intervention on maternal and newborn sleep patterns is demonstrated through a case presentation.

Keywords: Postpartum sleep disorder, postpartum anxiety, newborn sleep patterns, breastfeeding, nursing care plan

INTRODUCTION

Sleep disorders frequently occur due to hormonal, physiological, and environmental changes during pregnancy and the postpartum period (Mindell, Cook, & Nikolovski, 2015). Sleep disorders in the postpartum period are often accompanied by symptoms of depression and anxiety, which negatively affect the mother's mental and physical well-being (Emamian et al., 2019). The increased responsibilities of mothers in the postpartum period and their efforts to adapt to a changing lifestyle make this a stressful time (Zivoder et al., 2019).

Epidemiological data show that one in five women develop depression and/or anxiety before, during, or after childbirth (Woody et al., 2017). Increased depression and anxiety symptoms have been reported to be associated with lower sleep quality in the sixth month postpartum (Okun et al., 2018). There is a bidirectional relationship between sleep disorders and mental disorders; sleep problems can lead to depression and anxiety, and these mental states can deepen sleep disorders (Sun et al., 2018; American Psychiatric Association, 2022).

The fact that the newborn's feeding process is largely the responsibility of the mother makes the relationship between maternal sleep problems and breastfeeding significant. Although there are studies examining the relationship between breastfeeding and maternal sleep problems, the results obtained are inconsistent (Rosenbaum et al., 2022; Herring et al., 2019; Ruan et al., 2022). However, it has been shown that mental health issues and sleep disorders in mothers are associated with newborn sleep problems, but the direction and mechanism of this relationship have not been clearly established (Halal et al., 2021; Toffol et al., 2019).

Postpartum sleep disorders, perinatal depression, and anxiety are critically important for maternal and newborn health. If left untreated, these conditions can lead to serious morbidity and mortality risks for both the mother and the baby (Gueron-Sela et al., 2021). In recent years, interventions involving lifestyle changes for women in the postpartum period have been reported to offer promising results in preventing postpartum complications (Xu & Long, 2020; Chen et al., 2023; Osman et al., 2025).

It is crucial that these interventions are delivered through reliable, accessible, and sustainable resources (Medeiros et al., 2023; Dol et al., 2021). Nurses play a key role in developing self- care practices that address physical and mental health needs in the postpartum period (Huang et al., 2022). The effectiveness of nurse-led interventions in reducing postpartum complications is supported by the literature (Liang et al., 2025). In this context, it is thought that preventing or reducing postpartum sleep disorders and anxiety will have positive effects on newborn sleep health.

This case presentation aims to demonstrate the effectiveness of a behavioral intervention implemented under nursing leadership by addressing the impact of postpartum sleep disorders and anxiety on newborn sleep disorders.

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CASE

The case is H.D., a 30-year-old woman, 175 cm tall, weighing 78 kg, with a postgraduate degree, who is not actively working. She has no known chronic or metabolic diseases. H.D., who does not have a consanguineous marriage, has an obstetric history of G:2, P:1, A:1. She gained 28 kg during pregnancy.

H.D. consulted a lactation consultant and a private home-based infant nursing service during the prepartum period; she stated that she wanted to receive support regarding breastfeeding and infant care and to continue counseling services during the postpartum period. Her concerns regarding the breastfeeding process focused on sufficient milk production, her ability to feed her baby, and her unwillingness to use formula.

The delivery took place on 15.01.2025 via cesarean section at a private hospital in the center of Şanlıurfa, following the detection of meconium in the amniotic fluid at 40 weeks of gestation. Baby Y.D. was born as a healthy male infant weighing 4100 g, measuring 57 cm, with an APGAR score of 9/10. Skin-to-skin contact between mother and baby was established within the first hour after birth, and brief kangaroo care was provided.

During the first breastfeeding session, the baby's sucking reflex was observed to be weak, and he exhibited restlessness and crying behavior at the breast. Due to postoperative pain and stitches, the most suitable breastfeeding position was provided to the mother with the assistance of a consultant. Although colostrum flow was present, the mother wanted to stop breastfeeding because of the baby's crying. During kangaroo care, the baby was observed to calm down. Exercises were performed to support the sucking reflex, and after approximately two hours, the baby was breastfed for 10 minutes with support from the mother's breast. A total of 15 ml of formula support was given on the first day.

Post-discharge counseling services continued at home, and the baby began actively breastfeeding from both breasts. However, during a checkup on 17.01.2025, Y.D. was diagnosed with neonatal sepsis due to elevated CRP levels and was admitted to the neonatal intensive care unit. This situation caused a significant increase in the mother's anxiety level. The treatment process ended with a decrease in CRP, and the baby was returned to the mother.

During the home monitoring process, the nurse observed: impaired mother-infant bonding, the mother's anxiety due to inexperience in infant care, overprotective parenting behaviors, disruption in the mother's sleep pattern, and frequent awakenings of the infant due to decreased lactation. It was observed that the infant's restlessness increased the mother's anxiety.

Case-Focused Nursing Care

It was observed that H.D. experienced parenting anxiety due to lack of knowledge during the prepartum period, struggled to cope with unexpected clinical developments after delivery, and developed sleep disorders and anxiety symptoms during the postpartum period. This situation was assessed to have negatively affected the newborn's sleep pattern.

Behavioral interventions led by nursing were implemented to reduce the newborn's sleep problems and prevent the mother's postpartum complications. Nursing care was provided in accordance with NANDA nursing diagnoses as presented in **Table**, prioritized, planned, and sustained.

Table. Nursing interventions for the case

Nursing diagnosis	Objective	Nursing interventions	Outcome/evaluation
Sleep pattern disturbance (nighttime awakenings due to the infant's feeding needs)	To establish breastfeeding-sleep balance and create a regular sleep pattern	A daytime feeding and sleep routine was established. The mother was given rest during the day with family support. Sleep hygiene education was provided. Daytime milk pumping was planned, and the father was included in nighttime feedings.	The mother's nighttime sleep duration and sleep quality increased, and she reported feeling more rested upon waking.
Anxiety (related to lack of information and the newborn's intensive care admission)	Reducing anxiety levels	The mother was informed about the process in collaboration with the physician. Walking, yoga, and breathing exercises were implemented. Education was provided on breastfeeding, the stress-lactation relationship, and the mother-baby bond. Pain management was provided, and family support was organized.	The mother stated that her concerns about her baby had decreased and that she felt better mentally.
Fatigue (related to sleep disturbanceand anxiety)	To alleviate fatigue symptoms	Oxytocin massage was applied. Daily life activities were organized. Dietitiansupportwas provided for nutrition. Social support was strengthened.	Daily activity tolerance increased, and the motherreportedfeeling more energetic.
Infection risk (related to episiotomy and nipple cracks)	Preventing/detecting infection early	Episiotomy and nipple were monitored regularly. Temperature was monitored. Wound and nipple care training was provided. Treatments were administered according to the physician's orders .	No signs of infection were detected in the episiotomy area. Improvement was observed in nipple redness.
Changes in family dynamics (related to the newborn's arrival home)	Ensuring family harmony and preventing crises	The family was informed about the new lifestyle. Responsibilities were shared. The primary needs of the mother and baby were identified.	A harmonious division of labor was established within the family, and the care process became sustainable.
Risk of bonding disruption (related to the newborn's intensive care history)	Strengthening the mother-baby bond	Kangaroo care was supported. Practices that support sensory bonding were implemented. A safe environment was provided for the mother to express her feelings. Active participation in baby care was encouraged	Emotional closeness and interaction between mother and baby increased.
Disruption in the newborn's sleep pattern (related to the mother's postpartum psychosocial problems)	Establishing the newborn's sleep routine	The mother's sleep pattern was structured. Regular breastfeeding was supported. The father participated in night feedings. Kangaroo care, massage, and white noise were applied.	The mother's milk supply increased, the baby's sleep intervals lengthened, and the time to fall asleep shortened.

DISCUSSION

In this case, it was observed that the mother's postpartum sleep disorder and anxiety led to decreased milk production, which in turn negatively affected the newborn's sleep pattern. The findings support the reciprocal interaction between maternal mental health, breastfeeding, and the newborn's sleep pattern.

The literature reports that interventions focusing directly on infant sleep patterns in the first six months postpartum have limited success, whereas interventions targeting maternal mental health yield more effective results (Baattaiah et al., 2023; Felder et al., 2023). It has been shown that mothers experiencing depression and anxiety in the postpartum period are less likely to breastfeed; reduced breastfeeding negatively affects not only sleep patterns but also the newborn's physical and cognitive development (Dias & Figueiredo, 2021).

It has been reported that nighttime frequent awakenings and difficulty falling asleep are more common in infants of mothers with mental health issues, and these findings are consistent with the presented case (Davies et al., 2022; Orton & Bilgin, 2024). Furthermore, it is emphasized that insomnia experienced during the postpartum period can lead to serious psychiatric consequences in mothers, such as depression, anxiety, postpartum psychosis, and suicidal thoughts (Okun et al., 2018; Lewis et al., 2018).

In this context, early diagnosis and prevention of psychological complications in the postpartum period are critically important for maternal and newborn health. Comprehensive and behavioral interventions led by nurses have been shown to be effective in improving both the mother's mental well-being and the newborn's sleep and feeding patterns. The literature supports the nurse's active and decisive role in the prevention and management of postpartum complications (Liang et al., 2025).

CONCLUSION

This case demonstrates that sleep disturbance and anxiety developing in the mother during the postpartum period negatively affect the newborn's sleep pattern by reducing milk secretion. There is a strong and reciprocal relationship between maternal mental health, breastfeeding, and the newborn's sleep pattern.

Behavioral and holistic interventions implemented under nursing leadership have been shown to improve the mother's sleep and anxiety levels, increase milk secretion, and consequently lead to a significant improvement in the newborn's sleep pattern. Psychosocial support for the mother, increased family involvement, and the use of non-pharmacological methods have been key elements in enhancing the effectiveness of the intervention.

This case demonstrates that focusing solely on the newborn's sleep pattern during the postpartum period is insufficient; nursing care centered on the mother's mental well-being provides more effective and sustainable outcomes for both maternal and newborn health. Nurses taking a leading role in the postpartum care process is critically important for preventing complications that may develop early on and supporting maternal-infant health.

ETHICAL DECLARATIONS

Informed Consent

Written informed consent was obtained from the patient(s) included in this report. Signed consent forms are retained by the authors and are available upon request.

Peer Review Process

This report underwent external peer review.

Conflict of Interest

The author declare no conflicts of interest.

Financial Disclosure

This case report did not receive any financial support.

Author Contributions

The author is solely responsible for the conception, data collection, analysis, and writing of this manuscript.

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