



PREVALENCE OF POOR SLEEP QUALITY IN MOTHERS OF NICU ADMITTED BABIES: A CROSS-SECTIONAL STUDY

Paediatrics

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ABSTRACT

Sleep is essential for optimal well being, including short and longterm health outcomes. Adequate sleep and rest are essential for post-partum women so they can meet the demanding needs of their newborns. Mothers with a newborn in the NICU describe this as an extremely stressful experience. **Aim** of the study: To assess prevalence of poor sleep quality in mothers of NICU admitted babies. This was A cross-sectional hospital based study of 61 mothers of NICU admitted babies. Results : out of 61, 29 were mothers of preterm babies and 32 were mothers of term babies. Approximately 36% of total study population reported sleep disturbance in that 11.4% study participants are mothers of preterm babies and 24.5% study participants are mothers of term babies, mothers of term NICU admitted babies had more sleep disturbance than mother of preterm NICU admitted babies. **Conclusion:** poor sleep quality is common in perinatal and postnatal women. Given the negative impact of poor sleep quality on health outcomes and well-being, regular screening for poor sleep quality would be beneficial to improve sleep quality in this population.

KEYWORDS

Sleep disturbance, Depressive symptoms, nutritional risk, NICU

INTRODUCTION

Sleep is a fundamental human need and provides for physical and psychological restoration. Sleep is essential for optimal wellbeing, including short and longterm health outcomes. Short sleep durations are associated with cardiovascular disease, hypertension, higher cortisol levels, compromised immune function, depression, and lower health-related quality of life¹. Adequate sleep, for a healthy adult, is defined as falling asleep within 5 to 10 minutes after the light is off, nighttime total sleep time of no less than 7 hours/day, staying asleep for at least 90% of the time in bed, and feeling refreshed after awakening.

Women's sleep during the postpartum period is more fragmented, shorter, and less efficient than before pregnancy. Although most women anticipate sleep disturbance in the postpartum period, the impact of poor sleep during this vulnerable time is associated with compromised infant attachment, daytime sleepiness and daytime impairment^{2,3}.

A life change may be the birth of a child or transition to the role of motherhood, where as chronic stress may relate to demographic variables, such as financial burden, relationship strain, or social discrimination.^{4,5} Researchers have shown that mothers with a newborn in the NICU describe this as an extremely stressful experience and there is a positive linear association between high stress perception and severe depressive symptoms and poor sleep quality in mothers with NICU babies.⁶

Limited literature exists for mothers of NICU babies, is known about their rates of postpartum sleep disturbances, while their infant remains in the NICU. This study aimed to assess quality of sleep as measured with the General Sleep Disturbance scale (GSDS).

Objectives of the study:

To assess quality of sleep in mothers of NICU admitted babies as measured with the General Sleep Disturbance scale (GSDS).

MATERIALS AND METHODS:

Source Of Data:

The study was conducted in Mothers of NICU admitted babies at Vanivilas Hospital, BMCRI, Bangalore.

Method Of Collection Of Data:

Study Design: A Cross-section Study

Study Period: March 2023- May 2023

Place Of Study: Department of Paediatrics, Vanivilas children Hospital attached to BMCRI, Bangalore.

Sample Size : 61

Inclusion Criteria :

- All singleton mother of babies admitted in NICU for a week or more. Mother's willing to give informed consent.

Exclusion Criteria:

- Mother not willing to give informed consent.
- Mothers were excluded if they had a multiple pregnancy.
- Mothers with known case of psychiatry disease, sleep disorder or if the infant had a birth defect.

Methodology:

After obtaining approval and clearance from the institutional ethics committee, Mothers of NICU babies admitted in Vanivilas Hospital fulfill the inclusion criteria will be enrolled for study after obtaining informed consent.

The purpose of study and details were informed to Mother in their own understandable language. A detailed demographic profile of the Mother and complete details of the baby will be entered in study proforma. The sociodemographic questionnaire was completed at enrollment and contained questions about mothers' characteristics such as age, level of education and number of children. At enrollment, mothers also self-reported their presence in the NICU in hours per day for the previous 7-day period. In addition, participants will complete the General Sleep Disturbance Scale (GSDS).

Assessment Tools

General Sleep Disturbance Scale.

RESULTS:

In this study, greater sleep disturbances were correlated with greater NICU stress,

Table : Distribution of the study population based on gestational age

	n	%
Preterm	29	47.5
Term	32	52.4
Total	61	100.0

Table 2 GSDS- SLEEP DISTURBANCE in mothers of NICU admitted babies

	n	%
Absent	39	63.9
Present	22	36.1
Total	61	100

distribution of study population
based on gestational age

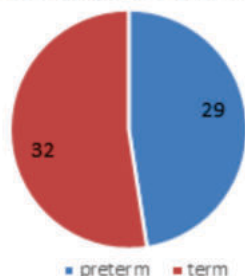


Figure 1 shows Distribution of study participants based on gestational age of their babies Out of 61, 29 mothers had preterm babies and rest were term babies

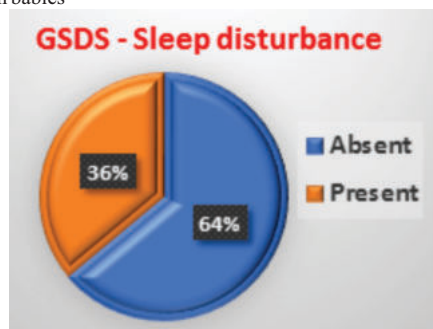


Figure 1: GSDS-sleep disturbance of mothers of NICU admitted babies, out of 61 study participants, 36 % of mothers of NICU admitted babies are significantly associated with sleep disturbance

Table 3 GSDS sleep disturbance in mothers of term and preterm babies

	n	%
Preterm	7	11.4
Term	15	24.5

Out 36 % of mother with sleep disturbance 11.4 % and 24.5 % of sleep disturbances seen in mothers of preterm and term NICU admitted babies respectively. In our study the sleep disturbance is more significant in mothers of term NICU admitted babies than preterm NICU admitted babies

DISCUSSION

Research reporting relationships between maternal sleep and well-being during the hospitalization of a critically ill infant is limited. The purpose of the study was to assess the prevalence of sleep disturbances in mothers of NICU admitted babies and to compare sleep disturbance, in mothers of preterm and term NICU admitted babies. In the present study 36% mother of NICU admitted babies are significantly associated with sleep disturbance similar to Yang Y et al⁹ from China have showed prevalence of poor sleep quality was 54.2% in perinatal period and postnatal women. Our findings align with associations between sleep disturbances, reported in Al Maghaireh et al⁷ research of mothers with an infant in the NICU, using the PROMIS and PSQI scales

Lee et al⁸ showed that Twenty second-week postpartum, first-time mothers who had a low-birth-weight infant hospitalized in the neonatal intensive care unit, reported clinically significant sleep disturbance and fatigue severity. Mothers also experienced moderate depressive symptoms. But In our study mothers of term NICU admitted babies had more sleep disturbance (24.5%) than mother of preterm admitted babies (11.4%).

Thus, our study adds to the current knowledge about the quality of sleep of mothers as measured with the GSDS. Health care professionals therefore need to assess the mental health (especially stress and depressive symptoms) of mothers in order to implement interventions promoting their psychological well-being as well as optimal sleep quality.

This study also has some limitations

- 1) The study should have control group in order to compare sleep

disturbance, among mother whose newborn is not admitted to NICU

- 2) Sample size was less to compare variables

CONCLUSION

Promoting sleep during the early postpartum period remains an important part of improving childbearing women's quality of life. However, studies focusing on mothers with a hospitalized infant are not as common as studies of mothers with a healthy newborn, specific information about promoting sleep in mothers is often neglected in the standard of care. Lack of sufficient sleep may not only increase daytime fatigue but also inhibit the cognitive functioning necessary for new parents to understand their infant's health problems and participate in caretaking during their infant's hospitalization and subsequent hospital discharge.

Poor sleep quality is common in perinatal and postnatal women. Given the negative impact of poor sleep quality on health outcomes and well-being, regular screening for poor sleep quality would be beneficial to improve sleep quality in this population.

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