

## Abstract

# Maternal Perceptions of Sick/Preterm Infant Sleep and Settling Patterns in the First 9 Months <sup>†</sup>

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**Abstract:** Infants born sick or preterm and admitted to the neonatal intensive care unit (NICU) face challenges to their sleep and the establishment of breastfeeding. The reported sleep patterns of NICU graduates are conflicting, and there is evidence of bi-directional relationships between infant feeding and sleep challenges and poor maternal mental health. A prospective observational longitudinal cohort study was conducted on mothers of sick/preterm infants with  $\geq 5$  days admission to the NICU. Participants were recruited at discharge, with follow up at 2 and 6 weeks, and 3, 6, and 9 months. Infant sleep, settle and cry patterns, maternal bother with infant behaviours, and maternal confidence were measured using the Sleep and Settle Questionnaire (SSQ). Feeding information was obtained, and breastfeeding confidence was measured using the Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF). Our sample consisted of 94 mothers of 101 sick/preterm infants. The range of infant birth gestations was 23–42/40 weeks, with  $n = 37$  (36.6%) born  $< 33/40$  weeks,  $n = 26$  (25.7%) born at 33 to 36<sup>+6</sup>/40 weeks, and  $n = 38$  (37.6%) born  $\geq 37$  weeks. The NICU length of stay was 5–173 days. Linear mixed modelling was used to examine associations between maternal bother and infant feeding and sleep variables. Night waking frequency ( $p < 0.001$ ), durations of crying (day, evening, night; all  $p \leq 0.001$ ), and durations of settling (evening,  $p = 0.010$ ) were positively associated with increased maternal bother scores. Maternal confidence was negatively associated with maternal bother ( $p < 0.001$ ). The median BSES-SF score at discharge was 59/70, with 49.5% of mothers no longer breastfeeding by 6 months. Maternal bother did not differ according to feeding method ( $p = 0.44$ ), or birth gestation subgroup (i.e., born  $< 33$  weeks, 33 to 36<sup>+6</sup> weeks, or term sick) ( $p = 0.44$ ). Whether NICU infants were term sick or preterm was not associated with maternal concern with infant sleep and settling patterns in the 9 months after hospital discharge. Mothers of sick/preterm infants reported greater bother with increased night waking and longer durations of crying and evening settling. The findings from this study can inform individualised anticipatory guidance and support for this vulnerable population.

**Keywords:** infant sleep; sleep behaviours; preterm infants; neonatal intensive care; breastfeeding; self-efficacy



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