Factors Associated with Hospitalized Preterm Infants' Sleep/Wake Patterns

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Purpose

Explore the association of preterm infants’ sleep/wake patterns (sleep efficiency, total sleep time, average duration of sleep/wake bouts, percentage of sleep time, and frequency of sleep/wake bouts) with their characteristics under current routine NICU caregiving and environmental conditions (i.e., constant light and noise levels) during hospitalization.

Methods

• In this prospective repeated-measures study, sleep/wake patterns were measured using actigraphy (Actiwatch-L) for 3 continuous days in infants (gestational age of 28-36.4 weeks) in a neonatal intensive care unit.
• Information about infants’ characteristics were collected from medical records.
• Potential factors associated with sleep/wake patterns were analyzed using the generalized estimating equation.

Results

• For our sample of 30 preterm infants, better sleep/wake patterns were associated with male gender, younger postmenstrual and chronological age, lower body weight, and less illness severity.

Conclusion and Implications

• Our results suggest that preterm infants have better sleep/wake patterns if they are male, are at a younger PMA and chronological age, weigh less, and have less severe disease.
• These findings can help clinicians recognize preterm infants’ sleep problems, signaling the need to provide individualized support to maintain these infants’ sleep integrity.