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Breast-Feeding vs Other Feeding Methods May Not Affect Maternal Sleep CME/CE

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November 8, 2010 — Breast-feeding mothers do not get less or worse sleep than mothers using formula feeding, according to the results of a study published online November 8 in *Pediatrics*.

"Breastfed infants are reported to awaken more often and to sleep less," write Hawley E. Montgomery-Downs, PhD, from the Departments of Psychology and Pediatrics, School of Medicine, West Virginia University in Morgantown, and colleagues. "Because of its well-established benefits for both infants and mothers, any perceived disadvantage of breastfeeding should be evaluated carefully. Feeding method effects on maternal sleep are relatively unknown."

The goal of the study was to evaluate maternal sleep measured actigraphically, subjective sleep reports, and daytime functioning, and their association with feeding method status during postpartum weeks 2 through 12. Outcomes included objectively measured total sleep time, sleep efficiency, and sleep fragmentation; and subjectively reported numbers of nocturnal awakenings, total nocturnal wake time, and sleep quality. The fatigue visual analog scale, the Stanford Sleepiness Scale, or the Epworth Sleepiness Scale allowed determination of sleepiness and fatigue.

Women who were exclusively breast-feeding, exclusively formula feeding, or using both methods did not find differences in these outcomes, although the study had sufficient power to detect such differences.

Limitations of this study include lack of generalizability to depressed or anxious women, possible selection bias, and lack of validation of the Epworth Sleepiness Scale for use with postpartum women.

"Efforts to encourage women to breastfeed should include information about sleep," the study authors write. "Specifically, women should be told that choosing to formula feed does not equate with improved sleep. The risks of not breastfeeding should be weighed against the cumulative lack of evidence indicating any benefit of formula feeding on maternal sleep."

The National Institutes of Health supported this study. The study authors have disclosed no relevant financial relationships.

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Additional Resource

A special report from the American College of Obstetricians & Gynecologists entitled Breastfeeding: Maternal and Infant Aspects provides guidelines for breastfeeding for healthcare professionals.

Clinical Context

The American Academy of Pediatrics strongly recommends breast-feeding as promoting the best possible health and psychosocial outcomes for infants. However, there may be perceptions of the impact of breast-feeding on maternal sleep, with sleep deprivation being a concern for mothers who choose to breast-feed.

This is a longitudinal, field-based postpartum study of women who chose to exclusively breast-feed, exclusively formula feed, or combined the 2 methods, to compare objective and subjective sleep measures.

Study Highlights

- The participants were recruited prenatally through childbirth classes, community advertisements, and word of mouth.
- Included were women with singleton pregnancies.
- Excluded were women with major depressive or anxiety disorders, a score of 16 or higher on the Center for Epidemiologic Studies Depression scale, multiple fetuses, premature delivery, or women whose infants were admitted to the neonatal intensive care unit.
- Data were collected during 2 overlapping postnatal phases.
- The first phase consisted of a convenience sample of primiparous and multiparous women who participated between postpartum weeks 9 through 16.
- The second phase consisted of women who participated during postpartum weeks 2 through 13.
- Mothers were interviewed by a researcher by telephone and asked to recall their feeding methods during the first week after birth and when they weaned their child from breast-feeding.
- On the basis of self-reports, the women were categorized as exclusively breast-feeding, exclusively formula feeding, or performing a combination of the 2 methods.
- A research team member visited the home weekly to give the mothers actigraphs and a personal digital device for data collection.
- Objective sleep measures were recorded by a wrist actigraph, which has been validated for the recognition of adult sleep patterns.
- Periods of nocturnal sleep and daytime naps were identified with use of the personal digital device-based sleep diaries.
- With use of the sleep diary, nocturnal sleep periods were identified on the actigraphic signal.
- Objective sleep measures analyzed included total sleep time, sleep efficiency (proportion of sleep time between initial sleep onset and final awakening), and sleep fragmentation index (percentage of mobile epochs plus ratio of percent 1-minute immobile bouts to percent mobile).
- Subjective sleep measures were obtained by the personal digital device.
- These measures included questions about the number of nocturnal awakenings, total nocturnal wake time, and quality of sleep by use of a 0- to 100-point Likert scale.
- Daytime functioning was assessed by 3 validated scales: the fatigue analog scale, the Stanford Sleepiness Scale, and the Epworth Sleepiness Scale, all self-administered with use of the personal digital device.
- The fatigue analog scale was a 100-point scale measuring fatigue.
- The Stanford Sleepiness Scale measured how women felt in their current state.
- The Epworth Sleepiness Scale measured the likelihood of falling asleep.
- 24 mothers participated in the first phase and 70 in the second phase.
- Of these mothers, 14 mothers could not be contacted for follow-up.
- A total of 80 mothers were analyzed.
- Mean age was 28 years, mean educational duration was 16.7 years, 89% were married, 92% were white, 75% had a vaginal delivery, and 87% were primiparous.

- There was no significant difference in objective measures of total sleep time, sleep efficiency, and sleep fragmentation for the 3 groups at each postpartum week.
- The only difference was seen for week 10 when mothers using combined feeding methods had greater sleep efficiency vs mothers who used formula feeding.
- There was also no statistically significant association between subjective sleep measures, including fatigue and daytime functioning, among the 3 groups at each postpartum week.
- Scores on the fatigue analog scale, the Stanford Sleepiness Scale, and the Epworth Sleepiness Scale were similar across the 3 groups for each postpartum week.
- The authors concluded that the method of infant feeding was not associated with sleep deprivation by objective or subjective measures.
- They recommended that mothers not choose formula feeding vs breast-feeding to improve sleep.

Clinical Implications

- There are no differences in objective measures of sleep time, sleep efficiency, and sleep fragmentation among mothers who exclusively breast-feed, formula feed, or combine the 2 methods in the first postpartum weeks.
- There are no differences in subjective measures (including the number of nocturnal awakenings, quality of sleep, fatigue, and daytime functioning) among mothers who exclusively breast-feed, formula feed, or combine the 2 methods in the first postpartum weeks.