

The effect of maternal sleep-disordered breathing on the infant's neurodevelopment

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Objective

We sought to examine the effect of maternal sleep-disordered breathing (SDB) on infant general movements (GMs) and neurodevelopment.

Study Design

Pregnant women with uncomplicated full-term pregnancies and their offspring were prospectively recruited from a community and hospital low-risk obstetric surveillance. All participants completed a sleep questionnaire on second trimester and underwent ambulatory sleep evaluation (WatchPAT; Itamar Medical, Caesarea, Israel). They were categorized as SDB (apnea hypopnea index >5) and controls. Infant GMs were assessed in the first 48 hours and at 8-11 and 14-16 weeks of age. At 12 months of age the Infant Developmental Inventory and the Brief Infant Sleep Questionnaire were administered.

Results

In all, 74 women and their full-term infants were studied. Eighteen (24%) women had SDB. Mean birthweight was 3347.1 ± 423.9 g. Median Apgar score at 5 minutes was 10 (range, 8–10). In adjusted comparisons, no differences were found between infants born to mothers with SDB and controls in GM scores in all 3 evaluations. Low social developmental score was detected at 12 months in 64% of infants born to SDB mothers compared to 25% of infants born to controls (adjusted $P = .036$; odds ratio, 16.7). Infant snoring was reported by 41.7% of mothers with SDB compared to 7.5% of controls ($P = .004$).

Conclusion

Our preliminary results suggest that maternal SDB during pregnancy has no adverse effect on neonatal and infant neuromotor development but may affect social development at 1 year.