Pregnancy Anxiety and Preterm Birth: The Moderating Role of Sleep

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Abstract

Background: Preterm birth (PTB) is a prevalent public health concern. Pregnancy anxiety, poor sleep quality, and short sleep duration have been associated with an increased risk of PTB.

Objective: Theoretically, sleep variables could moderate the strength of the relationship between pregnancy anxiety and PTB; investigating this question was the primary aim of this study.

Methods: The sample consisted of 290 pregnant women who were assessed at 2 time points in pregnancy: Time 1 (<22 weeks gestational age [GA]; M_{GA} = 15.04, SD = 3.55) and Time 2 (32 weeks GA; M_{GA} = 32.44, SD = 0.99). Pregnancy anxiety was assessed with the Pregnancy-Related Anxiety Scale, sleep quality was assessed by the Pittsburgh Sleep Quality Index, and sleep duration was assessed via actigraphy. Data on gestational age at birth were obtained from the electronic medical record.

Results: After adjustment for relevant covariates, higher levels of pregnancy anxiety were associated with shorter gestational length and an increased risk of PTB. There were no direct associations between sleep quality or sleep duration and gestational length or PTB. Pregnancy anxiety interacted with sleep duration such that pregnancy anxiety was significantly associated with shorter gestational length and PTB only when women had relatively shorter sleep duration (approximately <8.3 hr).

Conclusions: This study reveals new evidence of an interaction between pregnancy anxiety and sleep duration in the prediction of the timing of delivery. The findings point to avenues to better understand and potentially ameliorate risk for PTB.

Keywords: preterm birth, pregnancy anxiety and sleep, APrON Study