

Mother's stress during pregnancy can impact children's sleep in childhood

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Stress at the beginning of human life seems to be strongly associated with poor sleep from childhood to adulthood, with a high probability that the earliest determinants of child sleep disturbance can be found in

utero. Several studies associate maternal symptoms of mental disorders during pregnancy, and in particular depressive and anxiety symptoms, with poorer sleep in children up to three years.

However, although most of the studies carried out to date indicate that childhood sleep is affected by a stressful prenatal environment, some important gaps remain, namely the lack of simultaneous assessment between the associations of prenatal [stress](#) with different aspects of children's sleep (e.g., duration and quality) and at different periods of development or the failure to address any potential interaction between [genetic predisposition](#) and [environmental effects](#) in the association between prenatal stress and childhood sleep.

Desana Kocevaska and colleagues investigated the prenatal environment by quantifying stressors for mothers during pregnancy across multiple domains, including negative life events (e.g., death in the family), contextual stressors (e.g., poor housing conditions, [financial difficulties](#)), parental stressors (e.g., parental psychopathology, [substance abuse](#)) and interpersonal stressors (e.g., family relationship difficulties).

In addition, they studied both qualitative aspects of sleep (insomnia-like problems) and sleep duration, in children between 2 months and 6 years of age, reported by the caregiver and verified whether the genetic predisposition for [poor sleep](#) modifies the effect of prenatal stress on sleep across childhood.

In their article "A Longitudinal Study of Stress During Pregnancy, Children's Sleep and Polygenic Risk for Poor Sleep in the General Pediatric Population", published in July in the journal [Research on Child and Adolescent Psychopathology](#), the authors indicate that they obtained information from children and their caregivers from The Generation R Study, a population-based prospective cohort from fetal life onwards, which enrolled 9,778 pregnant mothers from Rotterdam, The

Netherlands.

Using this cohort, they studied the impact of prenatal psychosocial stress on 4,930 children's sleep at ages 2 months, 18 months, 2, 3, and 6 years. The polygenic risk (joint effects of multiple genetic variants across the genome) scores for insomnia were also determined in a subsample of 2,063 children.

The results showed higher total prenatal stress associated with more sleep problems across all time points between 2 months and 6 years. However, the association with shorter sleep duration was more pronounced up to 2 years of age, appearing to attenuate with age.

According to the researchers from the Netherlands Institute for Neuroscience, the Erasmus University Medical Center, and the Vrije Universiteit Amsterdam, this appears to be the first study to show that a stressful prenatal environment interacts with the polygenic risk for poor sleep to shape children's sleep.

"Interestingly, our results indicate that prenatal stress, and negative life events in particular, interact with the genetic liability for insomnia to exacerbate sleep problems at age 6 years, but not at earlier ages," says Kocevskaja.

More information: Desana Kocevskaja et al, A Longitudinal Study of Stress During Pregnancy, Children's Sleep and Polygenic Risk for Poor Sleep in the General Pediatric Population, *Research on Child and Adolescent Psychopathology* (2023). [DOI: 10.1007/s10802-023-01097-2](https://doi.org/10.1007/s10802-023-01097-2)

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