



# ECHO

Environmental influences  
on Child Health Outcomes

A program supported by the NIH

## Study Summary

### ***ECHO Study Finds Maternal Stress During and After Pregnancy May Be Linked to Child Sleep Problems***

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#### Who sponsored this study?

The Environmental influences on Child Health Outcomes (ECHO) Program, Office of the Director, National Institutes of Health supported this research.

#### Why was this study needed?

This study aimed to explore the associations between perceived maternal stress during and after pregnancy and child sleep problems and disturbances. Previous research has suggested prenatal stress could be associated with negative child sleep outcomes, but less is known about how postnatal stress may contribute to this association. This study aimed to address these gaps and provide insights into the potential public health implications of stress during and after pregnancy.

#### What were the study results?

The study found that maternal stress during pregnancy showed a small but significant association with child sleep problems and sleep disturbance. This effect was seen even when the researchers accounted for the influence of maternal stress after pregnancy.

#### What was the study's impact?

Maternal stress during and after pregnancy and child sleep problems are both very common, so even small effects may have important public health implications. Interventions that can help mothers manage stress during and after pregnancy could have positive effects on their children's sleep quality, setting them up for a healthier childhood and adulthood.

#### Who was involved?

This study used data from a diverse group of 1,965 mother-child pairs enrolled in ECHO Study Sites in 7 U.S. states and Puerto Rico. The study included mothers who reported their stress during and after pregnancy and their child's sleep at least once between the ages of 4 and 8, resulting in a racially and ethnically diverse sample, with up to 50% of these children being reported as Hispanic by their parents.

#### What happened during the study?

During the study, researchers measured maternal perceived stress using the Perceived Stress Scale (PSS) and used statistical analysis to investigate the relationship between maternal stress during pregnancy

and child sleep quality, adjusting for various factors such as the mother's age at delivery and level of education and the child's sex, gestational age at birth, and age when sleep was evaluated. The researchers also conducted an analysis to assess the degree to which stress after pregnancy affected the relationship between prenatal stress and child sleep quality.

Footnote: Results reported here are for a single study. Other or future studies may provide new information or different results. You should not make changes to your health without first consulting your healthcare professional.

### What happens next?

Additional studies can help researchers understand the relationship between prenatal stress and child sleep outcomes. Future studies could also investigate the biological mechanisms and social factors underlying the association between prenatal stress and sleep outcomes in childhood.

### Where can I learn more?

Access the full journal article, titled "Association Between Maternal Stress and Child Sleep Quality: A Nationwide Environmental Influences on Child Health Outcomes Program Prospective Cohort Study," in [Pediatric Research](#).

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