



ECHO

Environmental influences
on Child Health Outcomes

A program supported by the NIH

Study Summary

Patterns of Substance Use during Pregnancy Predict Child Behavior Problems

Author(s): Sarah Maylott, et al.

Who sponsored this study?

This research was supported by the Environmental influences on Child Health Outcomes (ECHO) program, Office of The Director, National Institutes of Health.

Why was this study needed?

Many studies in the past have been interested in how substance exposures during pregnancy affect childhood behavior. Most of these studies, however, have only focused on a single substance or have only assessed children aged 5 years or younger. The purpose of this study was to find out if types of substances affect a child's behavior during middle childhood.

What were the study results?

Most children in the study were not exposed to any of the substances considered prior to birth, but those who were tended to be exposed to more than one. Children with substance exposures were more likely than their non-exposed peers to have certain behavior problems in middle childhood. Children exposed to tobacco and alcohol were more likely to display rule-breaking or aggressive behaviors, while children exposed to illegal drugs (cocaine, methamphetamine, heroin) were more likely to have higher rates of anxiety, depression, or withdrawn behaviors. However, not all children exposed to substances had behavioral problems, suggesting that some children may be more resilient than others.

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 was the study's impact?

Two patterns of substance use during pregnancy were associated with childhood behavior problems. This finding is important because it suggests that researchers can identify children at risk for certain behavioral challenges based on the substances their mothers used during pregnancy. With more research, clinicians may be able to anticipate childhood behavior problems during or shortly after pregnancy based on the kinds of substances the child was exposed to and develop personalized interventions for these children.

Who was involved?

Researchers used data from approximately 2,000 women from 10 ECHO research sites which reported on their substance use during pregnancy. When their children were 6 to 11 years old, a caregiver

reported on the child's behavior. The average age of participating mothers at the time of pregnancy was 28 years old.

What happened during the study?

Using data from 2000 to 2020, the researchers grouped women based on the types of substances they used during pregnancy, including 1) low substance use, 2) mainly tobacco use (with moderate likelihood of using alcohol and marijuana), and 3) illicit use. They then compared children's behaviors for each of these groups.

What happens next?

Similar large-scale studies are needed that look more closely at how the amount and timing of substance use during pregnancy affect the child's risk for problem behavior, as well as how the child's home environment contributes to that risk. Additionally, future studies are needed to identify factors that may increase resiliency in children with prenatal substance exposure.

Where can I learn more?

Access the full journal article, titled "Latent Class Analysis of Prenatal Substance Exposure and Child Behavioral Outcomes" in the [Journal of Pediatrics](#).

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.