



Study Summary

Effect of Prenatal PFAS Exposure on Birthweight

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Who sponsored this study?

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

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

What were the study results?

PFAS were found in almost all participants in the study. Researchers also found that in this study, participants with higher levels of PFAS exposure were more likely to have babies born with lower birthweight. These results did not find that stress played a role in the relationship between PFAS exposure and birthweight.

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 this study's impact?

The results of this study suggest that PFAS exposure during pregnancy is associated with lower birthweight in infants. However, outside of research studies, pregnant people are not usually tested for PFAS and are often unaware of their potential harms despite PFAS exposure from the environment being common. Therefore, it is important to address efforts to reduce and prevent further exposure to PFAS. Researchers need to better understand where people are most likely to be exposed to these chemicals given the wide range of exposure sources, from PFAS contamination in water to PFAS used in certain consumer products.

Why was this study needed?

It is important to know what the effects of per- and polyfluoroalkyl substances (PFAS) exposures may be on child and maternal health. This study is the largest of its kind and includes participants from across the US to help inform future research related to potential effects of PFAS exposures.

Who was involved?

This study included eleven ECHO pregnancy cohorts with a total of 3,339 participants from several states.

What happened during the study?

The researchers measured the concentration of PFAS, chemicals used in a wide range of consumer products, in the blood of pregnant women. They also surveyed these women about their stress levels throughout pregnancy. These measurements occurred over the past 20 years. The researchers then compared the birthweight for babies resulting from these pregnancies and recorded any instances of preterm birth.

What happens next?

The next step for researchers is to examine potential sources of PFAS exposures, including exposures from drinking water and consumer products. Future studies within ECHO may also examine how body mass index and preexisting conditions, such as diabetes during pregnancy or high blood pressure, may interact with PFAS exposures and contribute to the effects of PFAS on infant birthweight. Future studies may also examine additional chemicals that could contribute to lower birthweight in infants.

Where can I learn more?

The US Environmental Protection Agency (EPA) created a [Roadmap](#) to protect people and communities from PFAS contamination.

Access the full journal article, titled “Birth Outcomes in Relation to Prenatal Exposure to Per- and Polyfluoroalkyl Substances and Stress in the Environmental influences on Child Health Outcomes (ECHO) Program” in [Environmental Health Perspectives](#).

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