



ECHO

Environmental influences
on Child Health Outcomes

A program supported by the NIH

Study Summary

How did stress from the COVID-19 pandemic affect pregnant individuals and birth outcomes?

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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?

The effects of depression and stress during pregnancy and their relationship to poor birth outcomes, such as preterm birth, are well documented. This study evaluated how maternal stress during the pandemic may have contributed to newborn health outcomes.

What were the study results?

Babies born to ECHO participants who were pregnant during the pandemic had similar birth weights but were born slightly earlier compared to babies born to ECHO participants who were pregnant between 2016-2019, prior to the pandemic. The study also found levels of stress were similar for ECHO participants who were pregnant between March 2020 and May 2021 compared to those who were pregnant between 2016 and 2019. However, more participants who gave birth from March to September 2020 reported being distressed about changes to their prenatal care and delivery compared with those who delivered after September 2020.

Footnote: Results reported here are for a single study. Other or future studies may provide new information or different results. You should always consult with a qualified healthcare provider for diagnosis and for answers to your personal questions.

What was the study's impact?

While other studies have noted increased levels of depression and anxiety among pregnant individuals during the COVID-19 pandemic, these trends were not observed in pregnant ECHO participants. These results suggest that many pregnant people in the United States may have already been experiencing stress before the pandemic that didn't significantly increase following the start of the pandemic.

Who was involved?

This study included a total of 2,983 ECHO participants from 30 U.S. states and territories who delivered a baby between January 1, 2016 and May 31, 2021.

What happened during the study?

In this study, researchers evaluated medical records and maternal reports on birth weight, gestational age at delivery, and birth weight percentiles adjusted for gestational age at delivery among participants. Researchers also used data from pregnant participants across all time periods that measured depression and perceived stress. Participants who were pregnant during the pandemic reported on stress during the pandemic using a [questionnaire](#) developed during the pandemic for use with ECHO participants.

What happens next?

The study ended in May 2021 while the pandemic continued to create stressful and confusing conditions for pregnant people and their families. Similar analyses with data from additional pandemic periods could shed light on how the pandemic continues to affect pregnancy and infant health outcomes.

Where can I learn more?

Access the full journal article, titled “Perinatal Outcomes during versus Prior to the COVID-19 Pandemic and the Role of Maternal Depression and Perceived Stress: A Report from the ECHO Program,” in [The American Journal of Perinatology](#).

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