



Study Summary

Prenatal Exposure to Phenols and Parabens Higher Among Minority Populations, ECHO Study Finds

Authors: Michael S. Bloom, Adaeze Wosu Nzegwu, et al.

Who sponsored this study?

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

Why was this study needed?

Exposure to endocrine-disrupting chemicals (EDCs), such as environmental phenols (EPs) and parabens, is common during pregnancy through everyday products like plastics, food packaging, and personal care items. These chemicals can cross the placenta and, despite their short breakdown time in the body, EPs are often detected in human tissue. Prenatal exposure has been linked to risks such as pregnancy complications, developmental issues, and long-term health problems, particularly in underserved populations. Low-income and minority communities may face higher exposure to chemicals like EPs due to closer proximity to factories and waste facilities, as well as limited access to a broader range of consumer products and fresh foods. This study investigated racial and ethnic disparities in prenatal exposure to EPs and parabens across the U.S., addressing the limitations of earlier, smaller studies that did not fully explore these differences among pregnant women.

What were the study results?

Urinary levels of most EPs examined varied significantly by racial and ethnic identity, with non-Hispanic Black and Hispanic participants having higher levels of certain EPs than non-Hispanic White participants. Specifically, non-Hispanic Black and Hispanic participants had higher average levels of a chemical that comes from paradichlorobenzene in their urine compared to non-Hispanic White participants. Paradichlorobenzene is found in mothballs, fumigants, and air fresheners, and it is mainly inhaled. Non-Hispanic Black participants also had higher levels of specific parabens, which are preservatives used in processed foods and personal care products. These chemicals can be absorbed through eating or using such products.

What was the study's impact?

The study highlighted the disproportionately high levels of exposure to EPs among pregnant racial and ethnic minorities in the U.S.

Who was involved?

The study included 4,006 pregnant participants from 11 ECHO Cohort Study Sites across the U.S., representing various racial/ethnic identities, including Hispanic, non-Hispanic Black, non-Hispanic Other, and non-Hispanic White individuals.

What happened during the study?

The study analyzed 7,854 urine specimens collected during pregnancy. Researchers measured the levels of 10 different urinary EPs.

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?

Further studies could examine the sources of these exposure disparities.

Where can I learn more?

Access the full journal article, titled “Racial and ethnic differences in prenatal exposure to environmental phenols and parabens in the ECHO Cohort,” in the [*Journal of Exposure Science and Environmental Epidemiology*](#).

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