

Pregnancy in low-income, food-scarce neighborhoods may increase risk of adverse birth outcomes, study reveals

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Living in neighborhoods where residents have lower incomes and limited food access during pregnancy was associated with an increased risk of

babies born small for gestational age or with lower birthweight, according to a new study from the NIH Environmental Influences on Child Health Outcomes (ECHO) Program.

Previous studies have shown that maternal diet during pregnancy can impact the physical and mental health of a mother. However, less is known about how food insecurity affects health outcomes for newborns. In a new research article, ECHO researchers analyzed data to understand what connections might exist between where a pregnant person lives, their access to food, and birth outcomes.

This ECHO analysis, recently [published](#) in the *American Journal of Clinical Nutrition*, indicates a possible connection.

"Given the long-term effects of adverse birth outcomes on later cardiovascular disease risk and other conditions, more research is needed to evaluate whether interventions and policies that improve food access during pregnancy would be effective in improving birth outcomes and promoting [child health](#)," said Izzuddin M. Aris, Ph.D., of the Harvard Pilgrim Health Care Institute.

Using nationwide data from more than 22,000 ECHO Cohort participants, a team of ECHO researchers found that, during pregnancy, 24% of those participants lived in a low-income neighborhood where a third or more residents lived over one mile from a [grocery store](#) (or more than 10 miles in rural areas). They also found that about 14% of the participants lived in neighborhoods with high poverty rates and where more than 100 households had no access to a vehicle and lived more than half a mile from the nearest grocery store.

Residence in low-income, low-[food-access](#) and low-income, low-vehicle-access neighborhoods was associated with lower birth weight, higher odds of babies born small for gestational age, and lower odds of babies

born large for [gestational age](#). However, researchers did not find any associations of individual food insecurity with birth outcomes.

To conduct this study, researchers matched pregnant individuals' home addresses with information about nearby food availability from the [U.S. Food Access Research Atlas](#), which provided data on household income, the availability of a household vehicle, and where people can access food in different neighborhoods.

"In future studies, we want to look at health habits and chemical exposures to understand what else could be affecting [birth outcomes](#)," said Dr. Aris.

Dr. Aris led a team of ECHO Cohort researchers from across the country who collaborated on the data analysis and writing for this research article.

More information: Izzuddin M Aris et al, Birth outcomes in relation to neighborhood food access and individual food insecurity during pregnancy in the Environmental Influences on Child Health Outcomes (ECHO)-wide cohort study, *The American Journal of Clinical Nutrition* (2024). [DOI: 10.1016/j.ajcnut.2024.02.022](https://doi.org/10.1016/j.ajcnut.2024.02.022)

Provided by Environmental influences on Child Health Outcomes

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