

Neighborhoods with greater structural disadvantage linked to extremes in newborn birthweight, study finds

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A baby born too big or too small is at risk of adverse outcomes from birth throughout their lifetime, including problems with neurological

development and behavior, diabetes, high blood pressure and obesity. Pregnancy is a window for intervention, with the goal of having a healthy, normal birthweight baby to decrease these serious health risks.

In a prospective cohort of first-time parents from across the United States, researchers found that people who lived in neighborhoods with a high rate of structural disadvantage were more likely to have a baby who had a birthweight that was either too big or too small.

[This study](#) was recently published in the journal *Obstetrics & Gynecology* and led by a research team at The Ohio State University Wexner Medical Center and College of Medicine.

"At a time when public health programs aimed at improving health in pregnancy are under a critical funding threat, including WIC, SNAP and Medicaid, these findings highlight the importance of broad structural interventions to address prenatal care access, nutrition and [food security](#), and income to improve [pregnancy outcomes](#) and future child health," said the study's lead investigator Kartik Venkatesh, MD, Ph.D., a maternal-fetal medicine physician, epidemiologist and director of the Diabetes in Pregnancy Program at Ohio State Wexner Medical Center.

The research team used a novel and innovative measure, the Area Deprivation Index (ADI), to determine the socioeconomic disadvantage of the area where a person lives. The ADI can be geocoded from residential addresses and can give insight into the relationship between neighborhood income, education, employment and housing quality, and [health outcomes](#).

The study included 8,983 individuals in their first pregnancy and looked at the impact of living in a neighborhood with greater socioeconomic disadvantage early in pregnancy, as measured by the ADI, on infant birthweight. These results adjusted for presence of other factors,

including age, obesity, diabetes, and hypertension, as well as other [social factors](#), like race and ethnicity, Medicaid insurance, and education.

"These findings suggest that adverse community factors a person experiences early in [pregnancy](#), such as housing insecurity, lack of transportation, lack of access to quality health care and systemic racism, have a lasting impact on the child at birth and could set the stage for lifelong child development," said the study's co-investigator William Grobman, MD, a maternal-fetal medicine physician and professor of obstetrics and gynecology.

More information: Kartik K. Venkatesh et al, Neighborhood Socioeconomic Disadvantage and Abnormal Birth Weight, *Obstetrics & Gynecology* (2023). [DOI: 10.1097/AOG.0000000000005384](https://doi.org/10.1097/AOG.0000000000005384)

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