Neighborhood Stress and Prenatal Anxiety and Depression

Michaela Greenlee, Megan Hansel, Emily S. Barrett and Zorimar Rivera-Núñez
Rutgers, The State University of New Jersey

Public health research has been focusing increasingly on the environmental and social factors that may influence adverse maternal health outcomes, rather than only the individual-level factors (e.g., personal behaviors and genetic or biological make-up). Neighborhood characteristics have been associated with residents' quality of mental health. Mental wellbeing is critical during pregnancy, as mental health disorders relate to complications, including preterm birth and infant mortality. We hypothesized that pregnant women living in neighborhoods experiencing greater social disorder and violent events will report higher levels of anxiety and depression. 326 pregnant women were recruited through the Understanding Pregnancy Signals and Infant Development cohort in Rochester, New York. Neighborhood stress was measured using the City Stress Inventory Questionnaire, while anxiety and depression were measured using the Penn State Worry Questionnaire and the Edinburgh Postnatal Depression Scale, respectively. Using Statistical Analysis System (SAS) v9.4 software, we utilized linear regression models adjusted for maternal age, race, ethnicity, marital status, education, BMI, smoking, parity, gravidity and fetal sex. Participants in the higher neighborhood disorder quantiles reported a higher number of depressive symptoms (β = 2.13; CI95% = 0.21, 4.05) compared to those in the lowest disorder quantile. Additionally, participants reporting neighborhood violence quantile scores reported a higher number of depressive symptoms (β = 1.80; CI95% = 0.16, 3.43) compared to women reporting no neighborhood violence. There was no statistically significant association between neighborhood disorder or violence and anxiety. Our results suggest that neighborhood stressors can adversely impact depressive symptoms during pregnancy. Public health interventions targeted towards alleviating neighborhood stressors may improve prenatal mental health which, in turn, may produce more favorable birth outcomes. Supported by R25ES020721.