

Is the Social Vulnerability Index Related to Outcomes in Pregnancies Complicated by Type 2 Diabetes?

Claudia Linczer Kabele¹, Christina Scifres²

¹ Indiana University School of Medicine; ² Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine, Indiana University School of Medicine

Background: Type 2 diabetes (T2D) is associated with increased risk for adverse maternal and fetal outcomes. Using the Social Vulnerability Index (SVI), a measure developed by the CDC, studies show that women in areas of higher social vulnerability face challenges achieving recommended glycemic targets. We investigated whether pregnancies complicated by T2D and higher social vulnerability have increased adverse perinatal outcomes.

Methods: We performed a retrospective cohort study looking at pregnancies complicated by T2D who delivered at Eskenazi and IU Health from January 2018 to December 2020. Demographic, medical history, and pregnancy outcome data were abstracted. We used the Census Geocoder Tool to match each patient's address with the respective census tract and SVI value. SVIs were divided into tertiles (< 0.492, 0.492 - 0.7792, > 0.7792). We compared demographic and perinatal outcomes using chi-square test and ANOVA as indicated across SVI tertiles.

Results: The SVI was calculated for 349/371 (94%) participants. Those in the highest tertile of SVI were less likely to initiate prenatal care in the first trimester compared to those in the lowest tertiles (79 vs 70 vs 59%, $p=0.005$). HbA1c values were similar across SVI groups. The proportion of those with T2D who received prenatal care at Eskenazi Health increased across SVI tertiles (21 vs 34 vs 58%, $p<0.001$). Unexpectedly, birth weight, preterm birth, hypertensive disorders, and neonatal morbidity did not differ among groups.

Conclusions: The SVI identifies individuals at increased risk for initiation of prenatal care after the first trimester. Rates of adverse outcomes were high among all individuals with T2D and did not vary significantly by SVI tertile. To better understand the impact of public health support provided by Eskenazi on perinatal outcomes among those with T2D and a high SVI, data abstraction from 2021 to 2024 is ongoing.