INTRODUCTION

- Racial/ethnic disparities in obstetric outcomes persist after adjusting for individual-level measures of socioeconomic status (SES).1
- The Area Deprivation Index (ADI) is a neighborhood-level index derived from census data to capture spatial SES deprivation.2

AIM

- To assess the joint relationship between race/ethnicity and neighborhood disadvantage on preterm, low birth weight, and hypertensive disorders in pregnancy among births at a single academic institution, situated in a Midwestern city with high economic-segregation.

METHOD

- We evaluated the relationship between race/ethnicity and adverse obstetric outcomes across neighborhood ADI, using a retrospective cohort study of births at a single academic institution from 2016-2018 (n=10,442).
- Birth record data (preterm, LBW, and ICD-9 codes (hypertensive-disorders) were geocoded and linked to census-block group ADI. Maternal race was categorized as White, Black and Afro-Latinx, Latinx, Asian/Pacific Islander, multiracial/other, and unknown.
- The relationship between race/ethnicity, neighborhood ADI and PTB, LBW, and hypertensive-disorder was evaluated using multivariate logistic regression models, controlling for maternal age, educational attainment (proxy for individual-level SES), year of delivery, and insurance status. We used results from this model to calculate the predicted probability of each outcome by ADI.

RESULTS

- In unadjusted models, compared with White women, Black women had 1.87 times greater odds of LBW baby (p<.001) and 1.19 times greater odds of any hypertensive disorder than White women; comparisons between other racial/ethnic groups and Whites were not significantly different (NS).
- In models interacting race/ethnicity and ADI, however, the gaps vary. For example, at the lowest deprivation levels, compared to White women, Black (3.68 OR, p<.001) and Asian women (1.86 OR, p<.05) were at greater risk for LBW, whereas at the highest levels of deprivation the differences were not significant, and Latinx women exhibited some advantage.
- Similar patterns are observed for PTB, with Black women experiencing greater risk (1.9 OR, p<.10) at the lowest ADI, yet no increased risk at the highest ADI.
- Hypertensive disorders remain higher for Black and White women at all levels of ADI, when compared to Asian and Latinx women.

CONCLUSIONS

- Racial/ethnic disparities in health are context dependent and should be examined in relation to neighborhood characteristics, perhaps allowing for better-tailored and targeted interventions.

REFERENCES

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