

# U.S.-born black women at higher risk of preeclampsia; race alone does not explain disparity

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A novel analysis of medical records for a racially diverse group of more than 6,000 women has added to evidence that some combination of biological, social and cultural factors—and not race alone—is likely responsible for higher rates of preeclampsia among Black women born

in the United States compared with Black women who immigrated to the country.

The data on [preeclampsia](#), a serious form of high blood pressure that can lead to deadly outcomes for mother and fetus, were gathered over a 28-year period as part of the Boston Birth Cohort study originally designed to investigate the genetic and environmental factors associated with premature births.

The study was published Dec. 20 in the *Journal of the American Medical Association*. The new analysis, led by researchers at Johns Hopkins Medicine, specifically examined differences in hypertension and other [cardiovascular disease risk factors](#) and prevalence of preeclampsia among Hispanic, Black and white women. Results showed that all three groups of women who gave birth and were born in the U.S. had a higher cardiovascular disease risk profile than foreign-born counterparts after accounting for differences in weight, smoking, alcohol use, stress and diabetes.

For Black women, birth status outside the U.S. and shorter duration of residence (those who lived in America for less than 10 years) were associated with 26% lower odds of preeclampsia. Birthplace status and duration of U.S. residence was not significantly associated with the odds of preeclampsia among Hispanic and white mothers who were born outside the U.S.

Overall, the researchers said, the findings suggest that place of birth, or "nativity," related disparities in preeclampsia among Black women are "not fully explained" by nativity differences in sociodemographic or cardiovascular disease factors.

"Immigrants come here to seek a better life, but what we are seeing is unhealthy acculturation and assimilation," according to lead researcher

Garima Sharma, director of cardio-obstetrics at the Johns Hopkins University School of Medicine.

"Some women come here healthier and they get unhealthier over time probably by adopting habits of the dominant culture that increase poor health outcomes. While we didn't specifically look at the impact of structural racism on health in this study, it may also play a role here. Black women who were born outside the U.S. but immigrated to the country recently may be somewhat protected from the effects of discrimination because they tend to settle in immigrant-concentrated residential areas with increased social support," Sharma added.

Sharma emphasized that further research is needed to explore the interplay of biological and psychosocial and social determinants of health contributing to pregnancy-related disparities in preeclampsia. For years, it's been said that being a Black woman is a risk factor for preeclampsia, said Sharma, but "we need to move beyond putting all the implications on a particular race without accounting for why that is, because in this study, it's clear that Black women born outside the U.S. are less likely to have preeclampsia until they have been here for some time."

In the study, medical records and other information on a total of 6,069 women were analyzed. The average age of participants was 27.5 years, and subjects self-identified as Hispanic (2,400, with 76.8% born outside the U.S.), Black (2,699, with 40.5% born outside the U.S.) or white (997, with 22.2% born outside the U.S.). All women had single-child deliveries at the Boston Medical Center from October 1998 to February 2016. The overall prevalence of preeclampsia among all women was 9.5%. Black women had the highest age-adjusted prevalence of preeclampsia (12.4%) compared with Hispanic (8.2%) and white women (7.1%).

U.S.-born Black women, specifically, were also younger, had fewer years of formal education and were more often single compared with Black women who immigrated to the country. Sharma said that although not explored in this study, the stress of systemic racism, living in racially segregated neighborhoods and experiences of discrimination are likely contributors to the poor health of Black women and may therefore contribute to disparities in cardiovascular risk factors and preeclampsia. She added that lack of access to health care services and poor quality of care are also factors, particularly among women at lower socioeconomic levels.

Preeclampsia is one of the leading causes of maternal deaths worldwide, with Black women three to four times more likely to die from pregnancy-related causes than white women, according to the U.S. Centers for Disease Control and Prevention. Preeclampsia affects approximately 1 in 25 pregnancies in the U.S, and those who experience it have an increased risk of developing chronic hypertension and cardiovascular disease later in life.

The analysis also found:

- When categorized by how long they've lived in the U.S., Black immigrants who had lived in the U.S. for less than 10 years had an 8.1% risk of preeclampsia compared with 8.8% risk for those who had lived in the U.S. for more than 10 years.
- White women born in the U.S. had lower preeclampsia rates (7.1%) compared with their foreign-born counterparts; 9.9% for 10-plus years of residence versus 8.7% for less than 10 years of residency.
- Among Black and [white women](#), the prevalence of chronic and gestational diabetes did not differ significantly by duration of U.S. residency. However, among immigrated Hispanic [women](#), those born outside the U.S. with at least 10 years of residency

had a higher prevalence of chronic diabetes (4.7% vs 1.5%) and gestational diabetes (12.2% vs 4.6%) compared with those with less than 10 years of U.S. residency.

Researchers involved in the study are Ellen Boakye, Allison Hays, Yaa Adoma Kwabong, Michelle Ogunwole, Roger Blumenthal and Michael Blaha of the Johns Hopkins University School of Medicine; Xiumei Hong, Andreea Creanga and Xiaobin Wang of Johns Hopkins Bloomberg School of Public Health; Olufunmilayo Obisesan of MedStar Union Memorial Hospital; Khurram Nasir of DeBakey Heart & Vascular Center and Center for Outcomes Research; and Pamela Douglas of Duke University School of Medicine.

**More information:** Ellen Boakye et al, Nativity-Related Disparities in Preeclampsia and Cardiovascular Disease Risk Among a Racially Diverse Cohort of US Women, *JAMA Network Open* (2021). [DOI: 10.1001/jamanetworkopen.2021.39564](https://doi.org/10.1001/jamanetworkopen.2021.39564)

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