

To reduce preeclampsia risk, study says take action before and between pregnancies

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Preeclampsia—a complication that occurs in about 1 in every 25 pregnancies in the United States—is characterized by high blood pressure and signs of damage to an organ system, most often the liver or

kidneys. It usually begins after 20 weeks of pregnancy in women whose blood pressure had previously been normal. In a new study, a multidisciplinary team of Johns Hopkins Medicine researchers has found that the periods before pregnancy and in between pregnancies are key times to address preeclampsia risk factors like obesity, diabetes and hypertension.

The team, led by S. Michelle Ogunwole, M.D., a fellow in the Division of General Internal Medicine, and Wendy Bennett, M.D., M.P.H., associate professor of medicine, both at the Johns Hopkins University School of Medicine, published their findings Aug. 16, 2021, in the *Journal of the American Heart Association*.

"Preconception health care is really important as it's a window of opportunity to think about your future health," says Ogunwole. "We encourage patients to work on chronic disease issues before their pregnancies and between their pregnancies."

Ogunwole says a woman who develops preeclampsia during her first pregnancy is more at risk of the condition repeating during a second or any successive pregnancies.

"As an internist concerned about maternal outcomes, I am interested in what [health care providers](#) can do to help women reduce their risk of preeclampsia, including being a big proponent of preconception counseling," says Ogunwole.

In their study, Ogunwole and her colleagues statistically compared two sets of women who were participating in the Boston Birth Cohort, an ongoing collaboration between the Johns Hopkins Bloomberg School of Public Health and Boston University led by the former's Xiaobin Wang, M.D., Sc.D., M.P.H., Zanvyl Krieger Professor in Children's Health.

Since 1998, the cohort has looked at a broad array of early life factors and their effects on pregnancy, infancy and child health outcomes.

The researchers wanted to understand the differences between women who developed preeclampsia and those who did not, and how a first case of the condition affects subsequent pregnancies. The team, says Ogunwole, studied 618 women to gain "rich maternal health data among racially and ethnically diverse pregnant women."

"We wanted to make sure that we're asking questions in a population that looks like the populations we serve," she says. "I'm interested in the life course of women and pregnancy complications that can shape the trajectory of their [future health](#)."

Ogunwole's team found that obesity, diabetes, [high blood pressure](#), gestational diabetes and preterm birth were common factors in women who had preeclampsia during both first and second pregnancies, or developed the condition during gestation with a second or later child.

"We know that improving weight will improve other conditions, so we advise that women create healthier lifestyles before and between pregnancies," says Ogunwole. "Whether you have another [pregnancy](#) again or not, you can still improve your overall health."

Ogunwole says future research will hopefully include larger studies to confirm the findings of the current research. She also plans to study the structural barriers that may keep women from engaging in healthy lifestyles and develop strategies to improve long-term health outcomes for women.

More information: S. Michelle Ogunwole et al, Preeclampsia Across Pregnancies and Associated Risk Factors: Findings From a High-Risk US Birth Cohort, *Journal of the American Heart Association* (2021).

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