

Preterm birth may help predict heart disease risk in women

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Credit: American Heart Association

A preterm birth may serve as an early warning of a woman's future risk of a heart attack or stroke, according to a new study.

The findings, published Wednesday in the American Heart Association journal *Hypertension*, found that women who gave birth before 37 weeks of [pregnancy](#) may be more likely to see their [blood pressure](#) rise

throughout their childbearing years. That trajectory resulted in a strong risk of coronary artery calcification, a predictor of heart attacks and stroke.

Janet Catov, lead author of the University of Pittsburgh-led study, called the findings a "surprising" new development in the understanding of preterm deliveries. Full-term pregnancies usually last about 40 weeks.

"Until recently, we knew preterm delivery had really serious consequences for the baby, but we thought it wasn't linked to long-term risk in the mom. Our study demonstrates that that may not be the case," said Catov, an associate professor at the University of Pittsburgh's School of Medicine and a researcher at Magee-Womens Research Institute.

She said the study was motivated by updates made by the AHA in 2011 to its guidelines for preventing cardiovascular disease in women. The updates added pregnancy complications such as preeclampsia and gestational diabetes as risk factors.

Researchers looked at data from 1,049 mothers in Chicago, Minneapolis, Oakland, California, and Birmingham, Alabama, across 25 years of follow-up. About half of the women in the study were white, and the other half were black.

"It turns out African-American women have a particularly high risk for these patterns we describe – higher risk for preterm birth, higher risk for increasing blood patterns, and higher risk for calcium in the heart," Catov said.

Dr. JoAnn Manson, chief of the Division of Preventive Medicine at Brigham and Women's Hospital in Boston, said "pregnancy itself can be considered a stress test for a woman's vascular health ... and this paper

makes an important contribution by confirming that preterm birth is another pregnancy complication linked to maternal cardiovascular risk."

Manson, who was not involved in the study, said the results underscore the importance of doctors asking women about their pregnancy history, checking for it in their charts, and monitoring their blood pressure on a regular basis.

Women who have had a preterm delivery, preeclampsia or gestational diabetes should be proactive about their cardiovascular health, according to a recent joint advisory from the American College of Obstetricians and Gynecologists and the AHA that urged better collaboration between cardiologists and OB-GYNs.

"[Women] might want to consider self-monitoring their blood pressure in addition to the clinic measurements," Manson said. "They can reduce their risk of hypertension by being physically active, maintaining a healthy weight and a having a heart-healthy diet, especially a diet high in fruits, vegetables and whole grains and low in processed foods, red meat and salt."

About one in every 10 babies born in the U.S. was delivered preterm in 2017, according to the Centers for Disease Control and Prevention. Preterm [birth](#) rates decreased from 2007 to 2014, due partly to the decline in the number of teen births, but has since risen during the past three years, federal data show.

Along with age and ethnicity, many other factors are associated with [preterm delivery](#), such as having twins, smoking, previous [preterm birth](#), stress, and medical problems with the uterus, cervix or placenta.

Manson said she would like to see future research on how nutrition, lifestyle and genetic factors influence the relationship between preterm

deliveries and cardiovascular disease. Catov said more in-depth studies are needed to determine which subgroups of women are affected, and how soon after pregnancy women should be screened for high blood pressure.

"The important takeaway from this study is that [women](#) should tell their doctors their pregnancy history," Catov said. "Preterm births or hypertension in pregnancy could be a flag similar to risk factors like smoking or obesity."

More information: Janet M. Catov et al. Blood Pressure Patterns and Subsequent Coronary Artery Calcification in Women Who Delivered Preterm Births, *Hypertension* (2018). [DOI: 10.1161/HYPERTENSIONAHA.117.10693](#)

Provided by American Heart Association

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