

# Maternal obesity predicts heart disease risk better than pregnancy complications, finds study

October 10 2023

---



Credit: CC0 Public Domain

Pregnancy complications such as preeclampsia and gestational diabetes have recently been associated with a higher risk of developing heart disease later in life. But a new Northwestern Medicine study has found

obesity before or during pregnancy is the actual root cause of future cardiovascular disease.

Prior to this study, scientists were unsure which factor—[obesity](#) or [pregnancy complications](#)—played a larger role in cardiovascular disease risk years after pregnancy. This large, multi-center and diverse study is the first to disentangle that question, ultimately determining that pre-pregnancy obesity is the true driver of both poor pregnancy outcomes and future cardiovascular disease risk.

It is one of the only studies to follow its participants—about half of whom were overweight or had obesity—from the beginning of their first pregnancy through several years postpartum.

"We demonstrate, for the first time, that adverse pregnancy outcomes are primarily indicators—and not the root cause—of future heart health," said corresponding author Dr. Sadiya Khan, the Magerstadt Professor of Cardiovascular Epidemiology at Northwestern University Feinberg School of Medicine and a Northwestern Medicine physician. "This means that pregnancy just reveals the risk for [heart disease](#) that is already there."

The findings published in the journal *Circulation Research*.

The study used data from the [nuMoM2b Heart Health Study](#) to prospectively follow 4,216 first-time pregnant individuals from the early stages of their pregnancy to an average of 3.7 years postpartum.

At the early-pregnancy first study visit, the average maternal age was 27 years old, and 53% had a normal body mass index (BMI), 25% were overweight and 22% had obesity. Compared to those with a normal BMI in early pregnancy, individuals with overweight or obese BMI had a higher risk of developing hypertensive disorders of pregnancy.

## 'Pregnancy is a natural stress test for the heart'

In the study, the scientists wanted to better understand the associations among maternal obesity, hypertensive disorders of pregnancy and other adverse pregnancy outcomes, and cardiovascular health several years after delivery.

"Our hypothesis was that it may be that the pregnancy complications are unmasking these things since, as we know, pregnancy is a natural stress test for the heart," Khan said. "These findings are important because if pre-pregnancy obesity is the culprit or cause of risk, we should be targeting this with interventions."

"We don't want to just wait until people have these cardiovascular events; we want to stop them from happening," Khan said.

## Obesity intervention before pregnancy is key

A major throughline of Khan's research is the idea of the "Zero trimester," or pre-pregnancy health. By improving health during this critical time in an individual's life, they can improve outcomes for not only their pregnancy and baby but for their personal long-term health, Khan said.

However, it can be difficult to target people before becoming pregnant, Khan said. So, early in the pregnancy may be an opportune time to counsel on heart-healthy habits like diet and exercise when people are more likely to be interacting with clinicians during prenatal visits.

"We definitely do not want to recommend [weight loss](#) during pregnancy but do want to recommend counseling and monitoring for appropriate gestational weight gain," Khan said. "It is one of the few times in life

that you are seeing the doctor frequently while you're healthy."

Pregnant individuals can safely limit their weight gain throughout pregnancy by eating healthy and exercising moderately or even vigorously, studies have shown.

## More about the study

Pregnant individuals in the study were seen at eight clinical centers across the U.S., including Northwestern University. Individuals were 18 years or older and did not have any history of pre-pregnancy hypertension or diabetes.

Approximately 15% of all participants experienced a complication related to high blood pressure; 11% had a baby with a low birthweight; 8% had a preterm birth; and 4% had [gestational diabetes](#). In the years following pregnancy, those with complications related to high blood pressure were 97% more likely to have high blood pressure, and 31% were more likely to have high cholesterol.

For some complications, the researchers found body weight did not factor into risks. For example, people who were overweight or had obesity did not have increased risks for having a [preterm birth](#) or a baby with a low birthweight.

However, among all participants, those experiencing preterm births had increased risks for having [high blood pressure](#), high blood sugar or high cholesterol after [pregnancy](#). Having a baby born with a low birthweight wasn't found to increase risks.

**More information:** Body Mass Index, Adverse Pregnancy Outcomes, and Cardiovascular Disease Risk, *Circulation Research* (2023). [DOI: 10.1161/CIRCRESAHA.123.322762](https://doi.org/10.1161/CIRCRESAHA.123.322762)

Provided by Northwestern University

Citation: Maternal obesity predicts heart disease risk better than pregnancy complications, finds study (2023, October 10) retrieved 27 April 2024 from

<https://medicalxpress.com/news/2023-10-maternal-obesity-heart-disease-pregnancy.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.