

Women who experience high blood pressure during pregnancy more likely to develop heart disease

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Pregnant woman. Credit: Free-Photos

Women who experience high blood pressure during pregnancy are more likely to develop heart disease and heart failure in later life, according to an international team of researchers.

Between 1-6% of all pregnancies in Western countries are affected by high blood pressure, which usually returns to normal after giving birth. This condition is known as gestational hypertension, or pregnancy-induced hypertension. It differs from pre-eclampsia in that traces of protein are not found in the urine. Clinicians increasingly recognize that women who have had gestational hypertension are more likely to develop cardiovascular disease in later life.

However, studies of different kinds of cardiovascular disease, such as heart disease and heart failure, have found mixed results. To examine these links further, an international team of researchers conducted a [systematic review](#) and meta-analysis of 21 studies involving a total of 3.6 million women, 128,000 of who previously had gestational hypertension. This type of study is a way of combining data from all existing relevant studies, allowing researchers to compare and

consolidate results from often-contradictory studies to reach more robust conclusions.

The results are published in the *Journal of the American Heart Association*.

The researchers found that women who experienced high blood pressure during their first pregnancy were at 45% higher risk of overall cardiovascular disease and 46% higher risk of coronary heart disease compared to women who did not have high blood pressure in pregnancy. Women with one or more pregnancies affected by high blood pressure were at 81% higher risk of cardiovascular disease, 83% higher risk of coronary heart disease and 77% higher risk of [heart failure](#).

"When we looked at all the available research, the answer was clear: women who develop high blood pressure during pregnancy—even when it doesn't develop into pre-eclampsia—are more likely to develop several different kinds of cardiovascular disease," said senior author Dr. Clare Oliver-Williams from the Cardiovascular Epidemiology Unit, Department of Public Health and Primary Care, University of Cambridge.

The study adds to growing evidence of the relationship between pregnancy and subsequent risk of cardiovascular events. Recurrent miscarriages, [preterm birth](#), fetal growth restriction and pre-eclampsia have all previously been linked with a greater risk of heart disease.

The researchers say it is not entirely clear why gestational hypertension is associated with heart disease in later life. However, they suggest it may be that high blood pressure in pregnancy causes lasting damage that contributes to cardiovascular disease. Alternatively, women who develop gestational hypertension may have a pre-existing

susceptibility to [cardiovascular disease](#) that is revealed due to the large demands that pregnancy places upon women's bodies.

Dr. Oliver-Williams added: "It's important that [women](#) know that it isn't their fault that they developed [high blood pressure](#) in pregnancy, and developing [heart disease](#) isn't a foregone conclusion. Women who have experienced gestational hypertension may have been dealt a tough hand, but it's how they play those cards that matters the most. Small positive changes can really help. They can be as simple as eating more fruit and vegetables, small bouts of regular exercise and finding time to unwind, if that's possible with kids around."

More information: Charmaine Chu Wen Lo et al, Future Cardiovascular Disease Risk for Women With Gestational Hypertension: A Systematic Review and Meta-Analysis, *Journal of the American Heart Association* (2020). [DOI: 10.1161/JAHA.119.013991](#)

Provided by University of Cambridge

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