

# High blood pressure during pregnancy linked to later cognitive problems

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High blood pressure disorders during pregnancy are associated with an increased risk of thinking problems later in life, according to a study published in the March 1, 2023, online issue of *Neurology*. Researchers

found that those with these disorders had a higher risk of cognitive problems in later life than those who did not have high blood pressure during pregnancy.

They also found that those with preeclampsia, which is [high blood pressure](#) that develops halfway through [pregnancy](#) and usually involves the kidneys and other organs, may have an even greater risk of cognitive decline later in life, compared to those with gestational high blood pressure, a condition with high blood pressure in pregnancy but without affecting the kidneys or other organs.

"While high blood pressure during pregnancy, including preeclampsia, is recognized as a risk factor for [heart disease](#) and stroke, our study suggests that it may also be a risk factor for [cognitive decline](#) in later life," said study author Michelle M. Mielke, Ph.D., of Wake Forest University School of Medicine in Winston-Salem, North Carolina, and a member of the American Academy of Neurology.

The study involved 2,239 [female participants](#) with an average age of 73. Researchers looked at medical records for information about previous pregnancies.

Of the participants, 1,854 people or 83% had at least one pregnancy, and 385 people or 17% never had a pregnancy or had a pregnancy of less than 20 weeks. Of those with pregnancies longer than 20 weeks, 100 had gestational high blood pressure, 147 had preeclampsia or eclampsia and 1,607 had normal blood pressure. Preeclampsia is when there is excess protein in the urine during pregnancy. Eclampsia is when high blood pressure during pregnancy causes one or more seizures, sometimes followed by a coma.

For the study, participants took nine memory and thinking tests every 15 months over an average of five years. The tests measured thinking and

memory skills including global cognition, processing speed, executive function, language and visual perception.

Overall, researchers found that those with high blood pressure during pregnancy had a greater decline than those without high blood pressure during pregnancy and those who had not given birth on tests of global cognition, attention, executive function and language.

After adjusting for age and education, the average composite score of all memory and thinking tests of participants with any type of high blood pressure disorder had a decline of 0.3 points compared to those who did not have high blood pressure during pregnancy with a decline of 0.05 points. When looking at different types of high blood pressure disorders, those with preeclampsia had a decline of 0.04 points compared to those with other blood pressure disorders and those with no blood pressure disorders, which both had a decline of 0.05.

After adjusting for age and education, those with high blood pressure in pregnancy declined 0.4 [standard deviation](#) over five years on tests of executive function and attention, compared to those who had normal blood pressure for all pregnancies and declined only 0.1 standard deviation. These results were more pronounced for those who had preeclampsia, with a 0.5 standard deviation decrease on tests of executive function and attention compared to a 0.1 decrease for those who had normal blood pressure for all pregnancies.

"More research is needed to confirm our findings. However, these results suggest that managing and monitoring blood pressure during and after pregnancy is an important factor for brain health later in life," Mielke said.

Provided by American Academy of Neurology

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