

Cardiovascular risks may be worse for women's cognition in middle age

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A new study suggests that even though men may be more likely to have cardiovascular conditions like heart disease and stroke and risk factors like diabetes, high blood pressure and smoking in middle age than

women, the negative impact of most of these conditions on thinking and memory skills may be stronger for women. The research is published in the January 5, 2022, online issue of *Neurology*.

"Our results show that midlife cardiovascular conditions and risk factors were associated with midlife [cognitive decline](#), but the association is stronger for women," said study author Michelle M. Mielke, Ph.D., of the Mayo Clinic in Rochester, Minn., and a member of the American Academy of Neurology. "Specifically, we found that certain cardiovascular conditions, such as diabetes, heart disease and dyslipidemia, which is abnormally high levels of fats in the blood, had stronger associations with cognitive decline in women compared to men."

The study looked at 1,857 people without dementia who were between the ages of 50 and 69 at the start of the study. People were given a clinical evaluation every 15 months for an average of three years. This included nine tests of memory, language, executive function and spatial skills combined to calculate a composite cognitive score.

Overall, 1,465, or 79%, of the participants had at least one cardiovascular condition or risk factor. More men than women had at least one risk factor: 83% for men compared to 75% for women.

Researchers found that most cardiovascular conditions were more strongly associated with cognitive function among women. For example, heart disease was associated with more than a two-fold greater decline in composite cognitive test scores for women compared to men.

Additionally, they found that diabetes, [heart disease](#) and abnormally high levels of fat in the blood were associated with language score decline only in women. However, [congestive heart failure](#) was associated with language score decline only in men.

"More research is needed to examine sex differences in the relationships between the cardiovascular risk factors and specific biomarkers of brain disease like [white matter hyperintensities](#), areas of dead tissue and overall white matter integrity in midlife," Mielke said. "That may help us better understand the sex-specific mechanisms, by which the [cardiovascular conditions](#) and risk factors contribute to cognitive impairment in both women and men."

A limitation of the study is that participants were all from one county in Minnesota, so the results may not be generalized to other populations.

The study does not prove that women who have cardiovascular [risk factors](#) will have cognitive decline in midlife, but it shows an association.

More information: Nan Huo et al, Sex Differences in the Association Between Midlife Cardiovascular Conditions or Risk Factors With Midlife Cognitive Decline, *Neurology* (2022). DOI: 10.1212/WNL.00000000000013174 , [n.neurology.org/lookup/doi/10.1212/WNL.00000000000013174](https://doi.org/10.1212/WNL.00000000000013174)

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