

Faster accumulation of cardiovascular risk factors linked to increased dementia risk

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Cardiovascular disease risk factors, like high blood pressure, diabetes, obesity and smoking, are believed to play key roles in the likelihood of developing cognitive decline, dementia, and Alzheimer's disease. A new study suggests that people who accumulate these risk factors over time,

at a faster pace, have an increased risk of developing Alzheimer's disease dementia or vascular dementia, compared to people whose risk factors remain stable throughout life. The research is published in the April 20, 2022, online issue of *Neurology*.

"Our study suggests that having an accelerated risk of cardiovascular disease, quickly accumulating more risk factors like [high blood pressure](#) and obesity, is predictive of [dementia](#) risk and associated with the emergence of memory decline," said study author Bryn Farnsworth von Cederwald, Ph.D., of Umeå University in Sweden. "As a result, earlier interventions with people who have accelerated cardiovascular risks could be an effective way to help prevent further memory decline in the future."

The study looked at 1,244 people with an average age of 55 who were considered healthy in terms of cardiovascular health and memory skills at the start of the study. Participants were given memory tests, health examinations, and completed lifestyle questionnaires every five years for up to 25 years.

Of all participants, 78 people, or 6%, developed Alzheimer's disease dementia during the study and 39 people, or 3%, developed dementia from vascular disease.

Cardiovascular disease risk was determined by using the Framingham Risk Score which predicts the 10-year risk of a cardiovascular event. It looks at factors including a person's age, sex, body mass index (BMI), blood pressure and whether they smoke or have diabetes. Participants started the study with an average 10-year risk between 17% and 23%.

Researchers determined who had an accelerated cardiovascular disease risk by comparing participants to the average progression of cardiovascular disease risk.

Researchers found that cardiovascular disease risk remained stable in 22% of participants, increased moderately over time in 60%, and rose at an accelerated pace in 18% of people.

People in the study with stable cardiovascular disease risk had an average 20% risk of a cardiovascular event over 10 years throughout the study, while those with a moderate increased risk went from 17% to 38% over the course of the study and those with an accelerated risk went from a 23% to 62% increased risk by the end of the study.

Researchers determined that when compared to people with a stable cardiovascular disease risk, people with an accelerated cardiovascular disease risk had a three to six times greater chance of developing Alzheimer's disease dementia and a three to four times greater risk of developing [vascular dementia](#). They also had up to a 1.4 times greater risk of memory decline in middle age.

"Several risk factors were elevated in people with an accelerated risk, indicating that such acceleration may come from an accumulation of damage from a combination of risk factors over time," said Farnsworth von Cederwald. "Therefore, it is important to determine and address all risk factors in each person, such as reducing high [blood pressure](#), stopping smoking and lowering BMI, rather than just address individual [risk factors](#) in an effort to prevent or slow dementia."

A limitation of the study was the inability to determine whether the decline leading to dementia is initiated by an accelerated cardiovascular disease risk. Farnsworth von Cederwald said it cannot be ruled out that other factors may also contribute, so more research is needed.

Provided by American Academy of Neurology

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