

Risk of dementia rises significantly with severity and number of strokes

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Having an ischemic stroke increases dementia risk, and that risk escalates with the number and severity of strokes, according to preliminary research to be presented at the American Stroke Association's International Stroke Conference 2021.

Ischemic [stroke](#) is the most common stroke type, accounting for 87% of all strokes. It occurs when a vessel supplying blood to the brain is obstructed. Stroke is the leading preventable cause of disability in adults, and severity of stroke is a main determinant of poor functional outcome after stroke.

"Studies have shown that stroke is a strong predictor of dementia. What isn't clear is how stroke severity and having more than one stroke impact dementia risk," said study author Silvia Koton, Ph.D., MOccH, R.N., FAHA, head of the Herczeg Institute on Aging at Tel Aviv University and head of the Ph.D. program in the department of nursing, Sackler Faculty of Medicine at Tel Aviv University in Tel Aviv, Israel. "Our study uniquely characterizes the link between stroke and

dementia and sets the stage for prevention strategies aimed at reducing the risk of dementia after a stroke."

Researchers studied the [health information](#) of nearly 15,800 adults (aged 45-64 years) at baseline (enrolled from 1987-1989) from the Atherosclerosis Risk in Communities (ARIC) study, which is an ongoing, prospective study in four U.S. communities (Forsyth County, North Carolina; Jackson, Mississippi; the suburbs of Minneapolis, Minnesota; and Washington County, Maryland). Researchers used follow-up data from three decades of the ARIC database, which includes the enrollment period starting in 1987 and continuing throughout 2019 with data collected at both in-person visits several years apart and follow-up telephone calls conducted yearly until 2012 and twice each year through 2019.

Using all the available information in ARIC to study the link between stroke occurrence, stroke severity and dementia, the researchers found:

- The risk of dementia in individuals who had at least one ischemic stroke was 2 times higher than for those with no stroke.
- Dementia risk increased with the severity and number of ischemic strokes.
- Adults who had one stroke were almost 80% more likely than those with no stroke to have dementia.
- The dementia risk jumped to 8.5 times more likely for people who had three or more strokes during the study period, from 1987 to 2019.
- Among adults with severe stroke, the risk of dementia was almost five times higher than for those with minor stroke.

"The association of stroke occurrence and stroke severity with dementia risk was surprisingly strong, and the continued rise in risk of dementia after the first stroke and each subsequent stroke was a

remarkable finding," Koton said.

"Our findings emphasize the importance of preventing stroke to prevent dementia and to maintain high levels of physical and cognitive function and quality of life, especially at older ages," Koton said. "Stroke is largely preventable. Treatment and control of high blood pressure, diabetes and obesity, together with the adoption of a healthy lifestyle, which includes regular physical activity and no smoking, are crucial for the prevention of stroke and dementia."

Researchers only studied [ischemic stroke](#).

"Analyzing the impact of other stroke subtypes on [dementia](#) risk would be important," Koton added.

"Next, we plan to study the link between stroke and mild cognitive impairment as well as between stroke and changes in cognitive performance over time. Future studies will also include information on brain imaging that will help to evaluate possible effects of vascular brain lesions in addition to stroke."

Provided by American Heart Association

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