

Is stroke linked to depression before it occurs?

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While depression is a common problem for people who have had a stroke, some people may have symptoms of depression years before their stroke, according to a study published in the July 13, 2022, online issue of *Neurology*. Researchers found that, in people who developed a stroke, symptoms of depression preceded the onset of stroke and further

worsened after the stroke.

"Depression is among the most pressing problems in people who have had a [stroke](#) and it is so common it is referred to as post-stroke [depression](#)," said study author Maria Blöchl, Ph.D., of the University of Münster in Germany. "But our study found [depressive symptoms](#) not only markedly increase after stroke, it found people already had developed some depressive symptoms before the stroke even occurred."

For the study, researchers looked at 10,797 adults with an average age of 65 and without a history of stroke at the start of the study. Participants were followed for up to 12 years. During that time, 425 people had a stroke. They were matched with 4,249 people who did not have a stroke but were similar in their age, gender, racial or [ethnic identity](#), and other [health conditions](#).

Participants took a survey every two years asking whether they experienced symptoms of depression in the past week, including: feeling depressed; feeling lonely; feeling sad; everything was an effort; and restless sleep. The more symptoms participants had, the higher their [score](#).

Researchers found that six years before the time of the stroke, people who later had a stroke and those who did not had scores roughly the same, about 1.6 points. But at about two years before the stroke, scores of people who had a stroke started increasing, on average by 0.33 points. Following stroke, depressive symptoms increased an additional 0.23 points for this group, reaching a total of about 2.1 points and they stayed that high for 10 years after the stroke. In contrast, the scores of people who did not have a stroke remained roughly the same throughout the study.

When evaluating whether people could be considered clinically

depressed, scoring three points or higher on the scale, researchers found a slightly different pattern of results emerged. At the assessment before the stroke, 29% of people who were about to have a stroke met the criteria for having probable depression, compared to 24% of those who did not have a stroke. But at the time of the stroke, 34% of the people who had a stroke met the criteria for having probable depression, compared to 24% of those who did not have a stroke. Those numbers were about the same six years after the stroke. "This suggests that increasing symptoms of depression before stroke are mostly subtle changes and may not always be clinically detectable. But even slight increases in depressive symptoms, especially mood and fatigue-related symptoms, may be a signal a stroke that is about to occur," noted Blöchl.

"Depression is not only a post-stroke issue, but also a pre-stroke phenomenon," said Blöchl. "Whether these pre-stroke changes can be used to predict who will have a stroke is unclear. Exactly why depressive symptoms occur pre-stroke needs to be investigated in future research. Also, the study underscores why doctors need to monitor for symptoms of depression long term in people who have had strokes."

A limitation of the study was that researchers did not have enough data on treatments for depression. So, it is possible that some people received antidepressants that could have improved their symptoms of depression following stroke.

Provided by American Academy of Neurology

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