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## Insomnia and Risk of Stroke

People who find it difficult to fall asleep or stay asleep may be at higher risk of having a stroke, according to a study of over 31,000 people published in the journal *Neurology*.<sup>1</sup>

Researchers from the Virginia Commonwealth University, School of Medicine, Richmond in Virginia set out to examine the association between insomnia and incident stroke. For this, they sourced data of 31,126 individuals with an average age of 61 years from the Health and Retirement Study between 2002 and 2020. Fifty-seven percent were female. None of the selected participants had ever suffered a stroke. Symptoms of insomnia like difficulty falling asleep, waking up often during the night, waking up too early and nonrestorative sleep (i.e., not feeling rested in the morning) were self-reported through a questionnaire. The scores ranged from 0 to 8; higher scores indicated more severe insomnia.

Over a follow-up period of 9 years, 2,101 cases of stroke occurred. After adjusting for other risk factors for stroke such as smoking, alcohol and sedentary life, the risk of stroke was increased 16% in people with 1 to 4 symptoms of insomnia compared to those who did not have insomnia with hazard ratio (HR) of 1.16.

A total of 19,149 participants reported 1 to 4 symptoms; of these, 1,300 had a stroke. There were 6,282 people without any symptoms of insomnia; among these, 365 had a stroke. Those who had 5 to 8 symptoms of

insomnia were at a 51% increased risk of stroke with a HR of 1.51. Out of the 5,695 subjects with 5 to 8 symptoms, 436 developed a stroke.

Subjects younger than 50 years were nearly 4 times more likely to experience a stroke (HR 3.84) compared to those older than 50 years (HR 1.38) when participants with 5 to 8 symptoms were compared with those without any symptoms of insomnia. Of the 458 subjects younger than 50 years having 5 to 8 symptoms, 27 had a stroke. And, out of the 654 people aged  $\geq 50$  years with the same number of symptoms, 33 had a stroke.

This study demonstrates the link between insomnia and risk of stroke; however, it does not establish causality. Greater the number of insomnia symptoms, higher was the risk indicating a dose-response relationship. Individuals younger than 50 years were particularly at risk. This risk was mediated by comorbid diseases such as hypertension, heart disease, diabetes and depression. Physicians should be aware of this association and assess their patients for insomnia. Management of insomnia with medications or psychotherapy may help prevent stroke.

### REFERENCE

1. Sawadogo W, Adera T, Alattar M, Perera R, Burch JB. Association between insomnia symptoms and trajectory with the risk of stroke in the health and retirement study. *Neurology*. 2023 Jun 7;10.1212/WNL.000000000207449.

