People who have trouble sleeping may be more likely to have a stroke, heart attack or other cerebrovascular or cardiovascular diseases, according to a study published in the November 6, 2019, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

"These results suggest that if we can target people who are having trouble sleeping with behavioral therapies, it's possible that we could reduce the number of cases of stroke, heart attack and other diseases later down the line," said study author Liming Li, MD, of Peking University in Beijing, China.

The study involved 487,200 people in China with an average age of 51. Participants had no history of stroke or heart disease at the beginning of the study.

Participants were asked if they had any of three symptoms of insomnia at least three days per week: trouble falling asleep or staying asleep; waking up too early in the morning; or trouble staying focused during the day due to poor sleep. A total of 11 percent of the people had difficulty falling asleep or staying asleep; 10 percent reported waking up too early; and 2 percent had trouble staying focused during the day due to poor sleep. The researchers did not determine if the people met the full definition of insomnia.

People who had all three symptoms of insomnia were 18 percent more likely to develop these diseases than people who did not have any symptoms. The researchers adjusted for other factors that could affect the risk of stroke or heart disease including alcohol use, smoking, and level of physical activity.

People who had trouble falling asleep or staying asleep were 9 percent more likely to develop stroke or heart disease than people who did not have this trouble. Of the 55,127 people who had this symptom, 17,650, or 32 percent, had a stroke or heart disease, compared to 112,382, or 26 percent, of the 432,073 people who did not have this symptom of insomnia.

People who woke up too early in the morning and could not get back to sleep were 7 percent more likely to develop these diseases than people who did not have that problem. And people who reported that they had trouble staying focused during the day due to poor sleep were 13 percent more likely to develop these diseases than people who did not have that symptom.
"The link between insomnia symptoms and these diseases was even stronger in younger adults and people who did not have high blood pressure at the start of the study, so future research should look especially at early detection and interventions aimed at these groups," Li said.

Li noted that the study does not show cause and effect between the insomnia symptoms and stroke and heart disease. It only shows an association.

A limitation of the study was that people reported their own symptoms of insomnia, so the information may not have been accurate.

Also, the researchers did not ask participants about having sleep that was not refreshing; this is another common symptom of insomnia.

Provided by American Academy of Neurology

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