

# Sleeping over 8 hours a day associated with greater risk of stroke

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People who sleep for more than eight hours a day have an increased risk of stroke, according to a study by the University of Cambridge - and this risk doubles for older people who persistently sleep longer than average. However, the researchers say it is unclear why this association exists and call for further research to explore the link.

Previous studies have already suggested a possible association between [sleep](#) and risk of [stroke](#), but today's study, published in the journal *Neurology*, is the first to provide detailed information about the British population and to examine the relationship between a change in [sleep duration](#) over time and subsequent stroke risk.

Researchers from the Department of Public Health and Primary Care at the University of Cambridge followed just under 10,000 people aged 42-81 years of age from the European Prospective Investigation into Cancer (EPIC)-Norfolk cohort over 9.5 years. During 1998-2000 and then again four years later, they asked the cohort how many hours on average they slept in a day and whether they generally slept well.

Almost seven out of ten participants reported sleeping between six and eight hours a day, whilst one in ten reported sleeping for over eight hours a day. Participants who slept for less than six hours or more than eight hours were more likely to be older, women and less active.

Over the almost ten year period of the study, 346 participants suffered a stroke, either non-fatal or fatal stroke. After adjusting for various factors

including age and sex, the researchers found that people who slept longer than eight hours a day were at a 46% greater risk of stroke than average. People who slept less than six hours a day were at an 18% increased risk, but the small number of people falling in this category meant the association was not statistically significant.

Participants who reported persistently long sleep - in other words, they reported sleeping over eight hours when asked at both points of the study - were at double the risk of stroke compared to those with persistently average sleep duration (between six and eight hours a day). This risk was even greater for those whose reported sleep increased from short to long over the four years - their risk was close to four times that of people who maintained an average sleep duration.

In addition to studying the EPIC-Norfolk cohort, the researchers carried out a study of combined data from 11 other studies related to identify the association between sleep duration and patterns of stroke risk. Their final analysis, including 560,000 participants from seven countries, supported the findings from the EPIC-Norfolk cohort study.

Yue Leng, PhD candidate at the University of Cambridge, says: "It's apparent both from our own participants and the wealth of international data that there's a link between sleeping longer than average and a greater risk of stroke. What is far less clear, however, is the direction of this link, whether longer sleep is a symptom, an early marker or a cause of cardiovascular problems."

While older people have less work and fewer social demands and therefore often have the option of sleeping longer, previous research has shown that in fact, they tend to sleep on average for shorter periods.

The researchers say it is unclear yet why the link between sleep and stroke risk should exist. Lack of sleep has been linked with factors such

as disrupted metabolism and raised levels of the 'stress hormone' cortisol, all of which may lead to higher blood pressure and increased stroke risk. However, the current study suggests that the association between longer sleep duration and higher risk of stroke was independent of normal risk factors for cardiovascular disease.

Professor Kay-Tee Khaw, senior author on the study, adds: "We need to understand the reasons behind the link between sleep and stroke risk. What is happening in the body that causes this link? With further research, we may find that excessive sleep proves to be an early indicator of increased stroke risk, particularly among older people."

**More information:** Leng, Y et al. Sleep duration and risk of fatal and nonfatal stroke: A prospective study and meta-analysis. *Neurology*; 25 Feb 2015

Provided by University of Cambridge

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