

Very irregular sleep linked to higher risk of dementia

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People who have very irregular sleep patterns may have a higher risk of dementia than those who have more regular sleep patterns, according to new research published in the online issue of *Neurology*. The study does

not prove that sleep irregularity causes dementia. It only shows an association.

Sleep regularity is how consistent you are at going to sleep and waking up at the same time each day.

"Sleep health recommendations often focus on getting the recommended amount of sleep, which is seven to nine hours a night, but there is less emphasis on maintaining regular sleep schedules," said study author Matthew Paul Pase, Ph.D. of Monash University in Melbourne, Australia. "Our findings suggest the regularity of a person's sleep is an important factor when considering a person's risk of dementia."

The study involved 88,094 people with an average age of 62 in the United Kingdom. They were followed for an average of seven years.

Participants wore a wrist device for seven days that measured their sleep cycle. Researchers then calculated the regularity of participants' sleep. They determined the probability of being in the same sleep state, asleep or awake, at any two time points 24 hours apart, averaged over seven days.

A person who sleeps and wakes at the exact same times each day would have a sleep regularity index of 100, while a person who sleeps and wakes at different times every day would have a score of zero.

Researchers then looked at medical data to identify which participants developed dementia and found 480 people developed the disease.

Researchers found links between sleep regularity scores and risk of dementia. Compared to those with an average sleep regularity index, the risk of dementia was highest for people who had the most irregular sleep.

People in the lowest fifth percentile had the most irregular sleep with an average score of 41. Those in the highest 95th percentile had the most regular sleep with an average score of 71. People between these two groups had an average sleep regularity score of 60.

After adjusting for age, sex and genetic risk of Alzheimer's disease, researchers found that those with the most irregular sleep were 53% more likely to develop dementia than people in the middle group. For people with the most regular sleep, researchers found they did not have a lower risk of developing dementia than people in the middle group.

"Effective sleep health education combined with behavioral therapies can improve irregular sleep patterns," Pase said. "Based on our findings, people with irregular sleep may only need to improve their sleep regularity to average levels, compared to very high levels, to prevent dementia. Future research is needed to confirm our findings."

Pase said that although they adjusted for several factors that can affect the risk of dementia, they cannot rule out that another unknown factor may play a role in the association between sleep [regularity](#) and [dementia](#).

More information: Stephanie R. Yiallourou et al, Association of the Sleep Regularity Index With Incident Dementia and Brain Volume, *Neurology* (2023). DOI: 10.1212/WNL.0000000000208029 , doi.org/10.1212/WNL.0000000000208029

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