

Alzheimer's and daytime napping linked in new research

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Could there be a link between cognitive decline and excessive daytime napping? New research from the Rush Alzheimer's Disease Center suggests a potential connection, according to an article published in *Alzheimer's and Dementia: The Journal of the Alzheimer's Association* in March.

The connection appears to occur in both directions, researchers say;

longer and more frequent napping was correlated with worse cognition after one year, and worse cognition was correlated with longer and more frequent naps after one year.

Aron Buchman, MD, a neurologist at Rush University Medical Center and co-author of the article, said the study lends evidence to the changing views of Alzheimer's disease as a purely [cognitive disorder](#).

"We now know that the pathology related to [cognitive decline](#) can cause other changes in function," he said. "It's really a multi-system disorder, also including difficulty sleeping, changes in movement, changes in body composition, depression symptoms, behavioral changes, etc."

Researchers followed more than 1,400 patients for up to 14 years as part of the Rush Memory and Aging Project and the Religious Order Study. Participants wore a wrist-worn sensor that recorded activity continuously for up to 10 days, and came in once a year for examinations and cognitive testing. Any prolonged period of no activity during the daytime from 9 a.m. to 7 p.m. was considered a nap.

When the study started, more than 75% of participants showed no signs of any [cognitive impairment](#), 19.5% had mild cognitive impairment and slightly more than 4% had Alzheimer's disease dementia. Daily napping increased by about 11 minutes per year among those who didn't develop cognitive impairment during follow-up. Naps doubled after a diagnosis of [mild cognitive impairment](#), and nearly tripled after a diagnosis of Alzheimer's disease dementia.

Researchers also compared participants who had normal cognition at the start of the study but developed Alzheimer's disease dementia to their counterparts whose thinking remained stable during the study. They found that [older people](#) who napped more than an hour a day had a 40% higher risk of developing Alzheimer's.

Buchman stressed that the study does not imply that napping causes Alzheimer's dementia, or vice versa.

"This is an [observational study](#), so we can't say that 'a causes b'," he said. "But we can say that they unfold at the same time, and it's possible that the same pathologies may contribute to both."

Alzheimer's disease is caused by the accumulation of two proteins, [amyloid beta](#) and tau, within the brain. While the decline in cognitive function is the most well-known symptom of Alzheimer's disease, this [protein accumulation](#) can occur in various locations of the brain, brainstem and spinal cord, causing a variety of symptoms. The study indicates that increases in the frequency and duration of daytime napping may be one of those symptoms.

"Once you've identified the pathology and location, you can work on potential treatments," Buchman said. "There are proteins or genes that might prevent the accumulation of tau and beta, or there's potentially ways to mitigate or slow their accumulation."

The study was supported by the National Institutes of Health and the BrightFocus Foundation Alzheimer's Research Program. Buchman said that one of the study's primary strengths was its participant cohorts from the Memory and Aging Project and the Religious Order Study. Both studies are decades-long efforts that recruit participants to undergo annual testing, sample collection and organ donation after their death.

"The people in our studies are very special people," he said. "Without people making this kind of contribution we wouldn't be able to do the research that we do. They are so excited to be able to participate, they animate the staff with their participation. We're very lucky to have them."

More information: Peng Li et al, Daytime napping and Alzheimer's dementia: A potential bidirectional relationship, *Alzheimer's & Dementia* (2022). [DOI: 10.1002/alz.12636](https://doi.org/10.1002/alz.12636)

Provided by Rush University Medical Center

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