

# Poor sleep may age your brain

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Inadequate shuteye associated with mental decline in four new studies.

(HealthDay) -- Evidence is building that poor sleep patterns may do more than make you cranky: The amount and quality of shuteye you get could be linked to mental deterioration and Alzheimer's disease, four new studies suggest.

Too little or too much sleep was equated with two years' brain aging in one study. A separate study concluded that people with sleep apnea -- disrupted breathing during sleep -- were more than twice as likely to develop mild thinking problems or [dementia](#) compared to problem-free [sleepers](#). Yet another suggests [excessive daytime sleepiness](#) may predict diminished memory and [thinking skills](#), known as [cognitive decline](#), in older people.

"Whether sleep changes, such as sleep apnea or disturbances, are signs of a decline to come or the cause of decline is something we don't know, but these four studies . . . shed further light that this is an area we need to look into more," said Heather Snyder, senior associate director of

medical and scientific relations for the Alzheimer's Association in Chicago, who was not involved in the studies.

The studies are scheduled for presentation Monday at the Alzheimer's Association annual meeting in Vancouver.

The largest of the studies, which examined data on more than 15,000 women in the U.S. Nurses' [Health Study](#), suggested that those who slept five hours a day or less, or nine hours a day or more, had lower average mental functioning than participants who slept seven hours per day. Too much or too little sleep was cognitively equivalent to aging by two years, according to the research, which followed the women over 14 years beginning in [middle age](#).

The study also observed that women whose sleep duration changed by two hours or more a day from mid- to later life had worse [brain function](#) than participants with no change in sleep duration -- a finding that held true regardless of how long they usually slept at the beginning of the study.

"We went in with the [hypothesis](#) that extreme changes in sleep duration might be worse for cognitive function because they disrupt the circadian rhythm, so these results line up nicely," said study author Elizabeth Devore, an associate epidemiologist at Brigham and Women's Hospital in Boston. "I think this gives us data to think about sleep- and circadian-based interventions being a route to address cognitive function."

Circadian rhythm is the term for the physical, mental and behavioral changes that follow a 24-hour cycle.

The other new research that associates sleep and brain function follows:

- Scientists from University of California, San Francisco measured

the sleep quality of more than 1,300 women over age 75 using sensor units and recordings of physical changes during sleep. They found that participants with sleep-disordered breathing or [sleep apnea](#) had more than twice the odds of developing mild cognitive impairment or dementia over five years than those without those conditions. Those with greater nighttime wakefulness were more likely to score worse on tests of verbal fluency and global cognition.

- In France, nearly 5,000 mentally healthy French people over age 65 were evaluated four times over eight years. Researchers looked at different aspects of insomnia and found that excessive daytime sleepiness -- which was reported by 18 percent of participants -- increased the risk of mental decline. Difficulty in staying asleep did not.
- Scientists from Washington University School of Medicine in St. Louis obtained samples of blood and cerebrospinal fluid from three groups of volunteers -- those with dementia, a healthy age-matched set and a younger set -- over 36 hours and found that daily [sleep patterns](#) were linked to levels of amyloid proteins. These proteins are recognized as an indicator of Alzheimer's disease.

While Snyder and Devore agreed that much more research is needed, the studies potentially pave the way for sleep interventions that could stave off [mental deterioration](#).

"We may be able to help those individuals," Snyder said. "If you're having problems with sleep, you may want to follow up with your health care provider."

Because research presented at scientific conferences has not been peer-reviewed and published in a medical journal, results are considered preliminary.

Also, if you suffer from insomnia, don't worry that you're doomed to develop dementia. Although the studies report an association between sleep disturbances and mental decline, they do not show a cause-and-effect relationship.

**More information:** The American Sleep Association offers tips to achieve [better sleep habits](#).

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