

## Sleeplessness Tied to Early Alzheimer's, Study Says

*Source: HealthDay*

Poor-quality sleep may have worse effects than simple fatigue: A preliminary new study suggests it's linked to the buildup of brain plaques seen in people with Alzheimer's disease.

Researchers at Washington University School of Medicine in St. Louis monitored the sleep patterns of 100 mentally healthy people between the ages of 45 and 80 -- half of whom had a family history of Alzheimer's disease -- and found that those who awakened more than five times an hour were more likely to have amyloid plaque accumulations than those with fewer sleep disturbances.

Amyloid protein plaques are a trait of Alzheimer's, a condition affecting at least 5.4 million Americans that robs patients of memory and reasoning skills. These characteristics, detectable with brain scans and spinal fluid tests, can appear years before Alzheimer's symptoms begin.

"We were initially looking at duration of sleep, but it seems the quality of sleep is more important to this association," said study author Dr. Yo-El Ju, an assistant professor of neurology. "We don't know if early Alzheimer's is causing poor sleep, or vice-versa.

"It's possible that there's some change in brain activity going on during sleep that allows soluble amyloid to decrease overnight," Ju added, "but we need to study this much more closely."

Preliminary results from the study were released Feb. 14 in advance of their presentation at the American Academy of Neurology's annual meeting in April in New Orleans.

For two weeks, study participants wore a device on their wrists that determined whether they were awake or asleep depending on body movements. They also filled out sleep diaries and questionnaires, and underwent brain imaging and spinal fluid tests.

Testing showed that 25 percent had preclinical indicators for Alzheimer's disease, and researchers found that those who slept "less efficiently" were more likely to have the indicators for early-stage Alzheimer's than those with uninterrupted sleep. While the average time spent in bed was about eight hours, the average sleep time was 6.5 hours because of brief awakenings in the night. Those who spent less than 85 percent of their time in bed actually sleeping were more likely to have Alzheimer's traits, or biomarkers.

Because the study, which should be completed in several months, is still under way, Ju said it isn't yet known whether participants with a family history of Alzheimer's are more likely to suffer from disturbed sleep or show biological indicators of the condition.

"Results are very promising, but it's very important to follow the people who don't have any type of early Alzheimer's because that's the only way we'll know what comes first," disturbed sleep or

Alzheimer's biomarkers, she said. Because while the study uncovered an association between poor sleep and plaque formation, it did not prove a cause-and-effect relationship.

Dr. Daniel Potts, a partner at Alabama Neurology and Sleep Medicine in Tuscaloosa, said he suspects that chronic poor-quality sleep will eventually be proven to contribute to amyloid plaque formation.

If that cause-effect relationship is established, scientists may be able to "tailor an intervention" to improve sleep for those affected, Potts said.

"That's my hunch. It makes sense to me," said Potts, also a spokesperson for the American Academy of Neurology. "The best possible thing we could get out of this would be that we could do something about it. But there's not enough data to step out and say [for certain] at this point."

Research presented at medical meetings should be considered preliminary until published in a peer-reviewed medical journal.