

# Loneliness associated with increased risk of Alzheimer's disease

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Lonely individuals may be twice as likely to develop the type of dementia linked to Alzheimer's disease in late life as those who are not lonely, according to a study by researchers at the Rush Alzheimer's Disease Center. The study is published in the February issue of *Archives of General Psychiatry*.

Previous studies have shown that social isolation, or having few interactions with others, is associated with an increased risk of dementia and cognitive decline. However, little was known about the emotional isolation, which refers to feeling alone rather than being alone.

Robert S. Wilson, PhD, and his colleagues, analyzed the association between loneliness and Alzheimer's disease in 823 older adults over a four year period. Participants underwent evaluations that included questionnaires to assess loneliness, classifications of dementia and Alzheimer's disease, and testing of their thinking, learning and memory abilities. Loneliness was measured on a scale of one to five, with higher scores indicating more loneliness.

The data was collected between November 2000 and May 2006.

At the first examination, participants' average loneliness score was 2.3. During the study period, 76 individuals developed dementia that met criteria for Alzheimer's disease. Risk for developing Alzheimer's disease increased approximately 51 percent for each point on the loneliness score, so that a person with a high loneliness score (3.2) had about 2.1

times greater risk of developing Alzheimer's disease than a person with a low score (1.4). The findings did not change significantly when the researchers factored in markers of social isolations, such as a small network and infrequent social activities.

According to Wilson, loneliness is a risk factor for Alzheimer's disease, not an early sign of the disease. Autopsies were performed on 90 individuals who died during the study. Loneliness during life was not related to any of the hallmark brain changes associated with Alzheimer's disease, including nerve plaques and tangles, or tissue damaged by lack of blood flow.

"Humans are very social creatures. We need healthy interactions with others to maintain our health," said Wilson. "The results of our study suggest that people who are persistently lonely may be more vulnerable to the deleterious effects of age-related neuropathology."

The mechanism that does link dementia and loneliness is unclear. Wilson encourages more study to look at how negative emotions cause changes in the brain.

"If loneliness is causing changes in the brain, it is quite possible that medications or changes in behavior could lessen the effects of these negative emotions and reduce the risk of Alzheimer's disease," said Wilson.

Source: Rush University Medical Center

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