

# Hearing aids may protect against a higher risk of dementia associated with hearing loss, study suggests

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People experiencing hearing loss who are not using a hearing aid may have a higher risk of dementia than people without hearing loss, suggests

a new study published in *The Lancet Public Health* journal. However, using a hearing aid may reduce this risk to the same level as that of people without hearing loss.

Dementia and [hearing loss](#) are common conditions among [older adults](#). The *Lancet* Commission on [dementia](#) prevention, intervention, and care, published in 2020, suggested that [hearing](#) loss may be linked to around 8% of worldwide dementia cases, therefore, addressing hearing impairment could be a crucial way to reduce the global burden of dementia.

"The evidence is building that hearing loss may be the most impactful modifiable risk factor for dementia in midlife, but the effectiveness of [hearing aid](#) use on reducing the risk of dementia in the real world has remained unclear. Our study provides the best evidence to date to suggest that [hearing aids](#) could be a minimally invasive, cost-effective treatment to mitigate the potential impact of hearing loss on dementia," says corresponding author Prof. Dongshan Zhu, Shandong University (China).

The researchers looked at data from 437,704 people who were part of the UK Biobank database. Information on the presence of hearing loss and use of hearing aids was collected via self-reported questionnaires, and dementia diagnoses were determined using hospital records and death register data. The average age of study participant at recruitment was 56 years old, and the average follow-up time was 12 years.

Around three-quarters of the participants (325,882/437,704) had no hearing loss, and the remaining one-quarter (111,822) had some level of hearing loss. Among those with hearing loss, 11.7% (13,092 / 111,822) used hearing aids.

After controlling for other factors, the study suggests that compared to

participants with normal hearing, people with hearing loss not using hearing aids had a 42% higher risk of all-cause dementia, while no increased risk was found in people with hearing loss who used hearing aids.

This is approximately equivalent to a 1.7% risk of dementia in people with hearing loss who are not using hearing aids, compared to 1.2% among those without hearing loss or who are experiencing hearing loss but using hearing aids.

"Close to four-fifths of people experiencing hearing loss do not use hearing aids in the UK. Hearing loss may begin early in one's 40s, and there is evidence that gradual cognitive decline before a dementia diagnosis can last 20 to 25 years. Our findings highlight the urgent need for the early introduction of hearing aids when someone starts to experience hearing impairment. A group effort from across society is necessary, including raising awareness of hearing loss and the potential links with dementia, increasing accessibility to hearing aids by reducing cost, and more support for primary care workers to screen for hearing impairment, raise awareness, and deliver treatment such as fitting hearing aids," says Dongshan Zhu.

The researchers also analyzed how other factors, including loneliness, [social isolation](#) and depressive symptoms might impact the association between hearing loss and dementia. The study analysis suggests that less than 8% of the association between hearing aid use and decreased dementia risk could be removed by improving psychosocial problems. The authors say this indicates the association between hearing aid use and protection from increased dementia is likely mostly due to direct effects from hearing aids rather than the investigated indirect causes.

"The underlying pathways which may link hearing aid use and reduced dementia risk are unclear. Further research is needed to establish a

[causal relationship](#) and the presence of underlying pathways," says study author Dr. Fan Jiang of Shandong University.

The authors acknowledge some limitations to the study, including that self-reporting is at risk of bias, and that as this study is observational, the association between hearing loss and dementia might be due to reverse causation through neurodegeneration or other shared mechanisms. Additionally, although many co-factors were accounted for, there might be unmeasured factors, such as those who used hearing aids potentially also taking more care of their health than those who did not. Lastly, most UK Biobank participants are white, and very few participants were born deaf or experienced hearing loss before acquiring spoken language, which may limit the generalizability of the findings to other ethnicities and people with limited hearing using sign language.

Writing in a Linked Comment, Prof Gill Livingston and Dr. Sergi Costafreda, University College London, who were not involved in this research, said, "With the addition of Jiang and colleagues' work, the evidence that hearing aids are a powerful tool to reduce the risk of dementia in people with hearing loss, is as good as possible without randomized controlled trials, which might not be practically possible or ethical because people with hearing loss should not be stopped from using effective treatments. Dementia is not only an illness that affects the individual and their family but can also be expensive. However, using hearing aids to prevent dementia has been found to be cost-effective and cost-saving. In the U.S., hearing aids have become available to purchase over the counter, thus making them more accessible. The evidence is compelling that treating hearing loss is a promising way of reducing dementia risk. This is the time to increase awareness of and detection of hearing loss, as well as the acceptability and usability of hearing aids."

**More information:** Association between hearing aid use and all-cause

and cause-specific dementia: an analysis of the UK Biobank cohort, *The Lancet Public Health* (2023). DOI: [10.1016/S2468-2667\(23\)00048-8](https://doi.org/10.1016/S2468-2667(23)00048-8) , [www.thelancet.com/journals/lan ... \(23\)00048-8/fulltext](https://www.thelancet.com/journals/lan... (23)00048-8/fulltext)

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