

In this Issue:

Hearing Loss and Cognitive Decline in Older Adults

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With prevalence of dementia and hearing loss on the rise^{1,2}, a recent large-scale longitudinal study published in the JAMA Internal Medicine documenting a significant correlation between the two is receiving much attention.

On average, older adults with hearing loss developed cognitive impairment 3.2 years sooner and had 24% increased risk of incident cognitive impairment than those with normal hearing³. The chief author, Frank Lin from Johns Hopkins University School of Medicine argues that untreated hearing loss has poorly acknowledged health consequences in older adults, including cognitive impairment. He emphasises the importance of physicians discussing hearing impairment with their patients, followed by proactive treatment⁴.

As part of the wider US-based Health, Aging and Body Composition study, 1,984 men and women aged 75 to 84 underwent biennial cognitive testing. In 2001, all scored normally on the Modified Mini-Mental State (3MS) and Digit Symbol Substitution (DSS) cognitive function tests. By 2007, those with hearing impairment at baseline demonstrated 41% and 32% greater decline on the 3MS and the DSS respectively relative to those with normal hearing. Furthermore, greater hearing impairment was significantly correlated with greater rate of cognitive decline and risk of incident cognitive impairment. The correlations were independent of known risk factors of dementia including age, high blood pressure, diabetes and stroke.

While the mechanisms are unclear, strong emphasis has been placed on the well-established relationship between hearing loss and social isolation in older adults, which in turn is known to increase the risk of dementia³. Secondly, hearing impairment places a greater cognitive load on auditory decoding, reducing resources available for other tasks. The authors add that there may also be an underlying factor leading to both hearing loss and cognitive problems.

Importantly, further to this epidemiological data, research is underway to determine if hearing loss may be causally related to dementia and if use of hearing aids can slow or delay cognitive decline in older adults.

For more information, see also:

1. Lin, Thorpe, Gordon-Salant & Ferrucci (2011). Hearing loss prevalence and risk factors among older adults in the United States. *J Gerontol A Biol Med Sci*, 66A(5). 582-590.
2. Lin, Metter, O'Brien, Resnick, Zonderman, Ferrucci (2011). Hearing loss and incident dementia. *Arch Neurol*, 68(2). 214-220.
3. Lin et al. (2013). Hearing loss and cognitive decline in older adults. *JAMA Internal Medicine*, 173(4). 293-299.
4. Lin (2012). Hearing loss in older adults: Who's listening. *JAMA*, 307(11). 1147-1148.

