

Audience: Hearing-Related Service Professionals and Providers

FOR HEARING PROFESSIONALS: HEARING LOSS MAY BOOST RISK OF DEMENTIA

Multiple research studies have linked social isolation of older adults with risk of poorer health outcomes – and has been well-documented in scholarly articles as well as the national press.¹ Only recently, there have been multiple studies that connect hearing loss and multiple co-morbidities, as outlined by Harvey Abrams.² One of the co-morbidity associations with untreated hearing loss is the increased risk of dementia – and specifically how that may be a significant contributor to health, social, economic and emotional consequences.”

Inadequate research scope limited insight. Consider the irony that this connection had not been fully researched because of the lack of connection and interaction between of audiology and dementia researchers. “While auditory scientists and audiologists/ENTs have expertise in understanding how to measure and address hearing impairment, they have had limited opportunities to work with researchers who study cognitive decline and dementia. Likewise, epidemiologists and cognitive scientists who have investigated the risks for cognitive decline and dementia have been unfamiliar with how to measure hearing and to integrate these tests into studies.” This relationship is documented in a research report led by Frank Lin and Marilyn Albert titled “Hearing Loss and Dementia: Who’s Listening?”³

As individuals age with hearing loss, cognitive load increases. According to the Lin/Albert research, hearing impairment is linked to cognitive load, changes in brain structure and function, and reduced social engagement, which together with aging-related changes can contribute to the loss of cognitive function. In another study at Brandeis, researchers found that older adults with mild-to-moderate hearing loss performed poorer on cognitive tests than those of the same age

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who had good hearing. Wingfield and colleagues at the University of Pennsylvania and Washington University in St. Louis also used MRI to look at the effect that hearing loss has on both brain activity and structure. The study found that people with poorer hearing had less gray matter in the auditory cortex, a region of the brain that is necessary to support speech comprehension.⁴

New study links correction of profound hearing loss and improved cognition. According to authors of a 2017 research paper for the UK Alzheimer's Association, the connection may be through the link between uncorrected hearing loss and increased social isolation, which may indirectly relate to brain health. In another longitudinal study, those diagnosed with hearing loss had a higher risk of "mild cognitive impairment" four years later. However, Clive Ballard, professor of age-related disease at the University of Exeter noted: "It's really not mild. They are in the lowest 5% of cognitive performance and about 50% of those individuals will go on to develop dementia." Finally, in a French study in 2015, individuals aged 65+ with profound hearing loss demonstrated improved speech perception and cognition following cochlear implants.⁵

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¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3625264/>

² <http://www.hearingreview.com/2017/11/hearing-loss-associated-comorbidities-know/>

³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4075051/>

⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4811604/>

⁵ <https://media.jamanetwork.com/news-item/cochlear-implantation-associated-with-improved-speech-perception-cognitive-function-in-older-adults/>