Medical Xpress

Unprecedented study of hearing aid outcomes in older adults released today

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The first-ever placebo-controlled, double-blind, randomized clinical trial of hearing aid outcomes published today in the *American Journal of Audiology* shows that older adults benefit from hearing aid use.

Led by researchers at Indiana University with funding support (Grant No. R01 DC011771) from the National Institute on Deafness and Other Communication Disorders (NIDCD), the study sought to compare patient outcomes when hearing aids are delivered via an audiology "best practices" model compared with an "over-the-counter" (OTC) model. In the context of this study, the OTC model meant that patients received a high-quality, pre-programmed hearing aid that was not fitted by an audiologist.

The methodology is generally considered the highest standard for clinical trials.

"The research findings provide firm evidence that hearing aids do, in fact, provide significant benefit to older adults," said Larry Humes, PhD, CCC-A, a distinguished professor in the Department of Speech and Hearing Sciences at Indiana University Bloomington and the study's lead author. "This is important because, even though millions of Americans have hearing loss, there has been an absence of rigorous clinical research that has demonstrated clear benefits provided by hearing aids to older adults. Consequently, the U.S. Preventive Services Task Force has not been able to support widespread hearing screening for adults over age 50. This study, along with others to follow, will help establish the

evidence base needed to foster better hearing health care for many older Americans."

The study looked at 154 adults ages 55-79 years with mild-to-moderate hearing loss. All participants received the same high-end digital mini hearing aids fitted in both ears. Subjects were divided into three groups. One (the best practices group) received "best practices" services from audiologists that included professional fitting and counseling; one (the OTC group) received no professional fitting by an audiologist and selected their own pre-programmed hearing aids; and one (the placebo group) received a professional fitting but used a hearing aid that was programmed to provide no acoustical benefit.

Researchers found that hearing aids are effective in older adults for both the audiology best practices model and the OTC model. There were no significant differences in outcome between these two service-delivery approaches for five of the six outcome measures, but the OTC group fared somewhat worse when it came to satisfaction with their hearing aids. Fewer OTC participants were also likely to purchase their hearing aids after the trial (55% for the OTC group vs. 81% for the best practices group, with 36% for the placebo group). Following the initial 6-week trial, both the OTC and placebo groups were offered hearing aids under the best practices model. Satisfaction significantly increased for patients in both groups who chose to continue under audiologist care, and more participants opted to purchase their hearing aids after this continued period of care than after the initial trial.

In the United States, a large discrepancy exists between the number of people who could benefit from hearing aids and those who actually wear them. Close to 29 million U.S. adults could benefit from using hearing aids, according to NIDCD. Yet, among adults aged 70 and older with hearing loss who could benefit from wearing hearing aids, fewer than one in three (30%) have ever used them. Even fewer adults aged 20-69

(approximately 16%) who could benefit have ever used them.

In the study, researchers noted that NIDCD has prioritized identifying research areas that could lead to the improvement of hearing health care for adults with mild-to-moderate hearing loss—in particular, enhancing the accessibility and affordability of hearing health care. This study helps answer a high-priority research question of how current delivery systems can be used or modified to increase accessibility and affordability of hearing health care, according to study authors.

"More studies are needed to assess the generalization of the results obtained here to other patient populations, other devices, and other models of OTC service delivery," said Humes, adding, "All of the devices used in this study were of high quality as opposed to the simpler, less expensive devices many associate with an OTC model. Also, all patients received a complete audiologic evaluation prior to treatment—another potential difference from some OTC models under consideration. These factors could impact patient outcomes. However, the results of this study should serve as a yardstick for comparing outcomes of future hearing aid studies."

More information: Larry E. Humes et al, The Effects of Service-Delivery Model and Purchase Price on Hearing-Aid Outcomes in Older Adults: A Randomized Double-Blind Placebo-Controlled Clinical Trial, *American Journal of Audiology* (2017). DOI: 10.1044/2017_AJA-16-0111

Provided by American Speech-Language-Hearing Association

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