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Hearing, hearing aids and their connection to postural control and balance. What do we know and how robust are the findings?

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Introduction

Balance and postural control are related to hearing and hearing loss, but whether they can be improved un older adults when using hearing-aids is not clear. Hearing aids are the most common rehabilitation devices for older adults with hearing loss. When used, properly fitted hearing aids improve audibility and can facilitate speech recognition. In addition, a growing body of research asked whether hearing aids can be used to mitigate the harmful side-effects of age-related hearing loss in other areas, such as falls.

Aims

In a systematic review, we ask whether the use of hearing aids can improve balance and thus reduce risk of falls in older adults with hearing impairment. We targeted studies in which both balance and hearing were objectively tested in older adults. Following evidence for long term gains of hearing aids use, we targeted studies that included experienced hearing aid users.

Methods

The review was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. Five databases were systematicly reviewed. Out of 803 papers that were screened, 8 were included in the final review.

Results

In a systematic screening of 5 databases, 803 relevant papers were identified, out of which 8 papers fitted the inclusion criteria. In the majority of studies, the role of auditory input in balance and postural control was investigated with various balance tests that were conducted in various background noises, with and without hearing aids.

Overall, the majority of the studies found a significant correlation between the use of hearing aids and the outcomes of the balance tests. Of the eight studies, five studies found evidence for better balance and postural control in aided conditions than in unaided conditions. Three studies showed no effect of hearing aid use.

However, hearing status was poorly described or completely in the majority of the studies. Length of hearing aid use was 3 months to 17 years, but only three studies documented this information, and only two studies reported the types of hearing aids used and specific algorithms. No further data was available (e.g., average daily use, technology of hearing aids, fitting strategy etc.).

The quality of the studies was limited (5 papers) or moderated (3 papers).

Conclusions

The low quality of the studies included in the current review and lack of adequate data concerning hearing and hearing aid use, do not allow any clinically relevant conclusion. Therefore, we conclude that the current body of literature is not sufficient to infer that using hearing aids can improve balance and postural control, and counselling regarding this connection should be

Refrences

Lavie, L., Tobia, N., Slav-Zarfati, N., Castel, S., & Banai, K. (2023). Is current data sufficient to infer that hearing aids contribute to postural control and balance in older adults? A systematic review. *Folia Phoniatrica et Logopaedica.* https://doi.org/10.1159/000534164

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