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[Intervention Review]

Hearing aids for mild to moderate hearing loss in adults

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ABSTRACT

Background

The main clinical intervention for mild to moderate hearing loss is the provision of hearing aids. These are routinely offered and fitted to those who seek help for hearing difficulties. By amplifying and improving access to sounds, and speech sounds in particular, the aim of hearing aid use is to reduce the negative consequences of hearing loss and improve participation in everyday life.

Objectives

To evaluate the effects of hearing aids for mild to moderate hearing loss in adults.

Search methods

The Cochrane ENT Information Specialist searched the ENT Trials Register; the Cochrane Register of Studies Online; MEDLINE; PubMed; EMBASE; CINAHL; Web of Science; ClinicalTrials.gov; ICTRP and additional sources for published and unpublished trials. The date of the search was 23 March 2017.

Selection criteria

Randomised controlled trials (RCTs) of hearing aids compared to a passive or active control in adults with mild to moderate hearing loss.

Data collection and analysis

We used the standard methodological procedures expected by Cochrane. The primary outcomes in this review were hearing-specific health-related quality of life and the adverse effect pain. Secondary outcomes were health-related quality of life, listening ability and the adverse effect noise-induced hearing loss. We used GRADE to assess the quality of the evidence for each outcome; this is indicated in *italics*.

Main results

We included five RCTs involving 825 participants. The studies were carried out in the USA and Europe, and were published between 1987 and 2017. Risk of bias across the studies varied. Most had low risk for selection, reporting and attrition bias, and a high risk for performance and detection bias because blinding was inadequate or absent.

All participants had mild to moderate hearing loss. The average age across all five studies was between 69 and 83 years. The duration of the studies ranged between six weeks and six months.

There was a large beneficial effect of hearing aids on hearing-specific health-related quality of life associated with participation in daily life as measured using the Hearing Handicap Inventory for the Elderly (HHIE, scale range 1 to 100) compared to the unaided/placebo condition (mean difference (MD) -26.47, 95% confidence interval (CI) -42.16 to -10.77; 722 participants; three studies) (*moderate-quality evidence*).

There was a small beneficial effect of hearing aids on general health-related quality of life (standardised mean difference (SMD) -0.38, 95% CI -0.55 to -0.21; 568 participants; two studies) (*moderate-quality evidence*). There was a large beneficial effect of hearing aids on listening ability (SMD -1.88, 95% CI -3.24 to -0.52; 534 participants; two studies) (*moderate-quality evidence*).

Adverse effects were measured in only one study (48 participants) and none were reported (*very low-quality evidence*).

Authors' conclusions

The available evidence concurs that hearing aids are effective at improving hearing-specific health-related quality of life, general health-related quality of life and listening ability in adults with mild to moderate hearing loss. The evidence is compatible with the widespread provision of hearing aids as the first-line clinical management in those who seek help for hearing difficulties. Greater consistency is needed in the choice of outcome measures used to assess benefits from hearing aids. Further placebo-controlled studies would increase our confidence in the estimates of these effects and ascertain whether they vary according to age, gender, degree of hearing loss and type of hearing aid.

PLAIN LANGUAGE SUMMARY

Hearing aids for mild to moderate hearing loss in adults

Review question

We reviewed the evidence on the effects that hearing aids have on everyday life in adults with mild to moderate hearing loss. We were interested in (1) a person's ability to take part in everyday situations, (2) general health-related quality of life, (3) ability to listen to other people, and (4) harm, such as pain or over-exposure to noise.

Background

Hearing loss is very common and adults with hearing loss may be offered hearing aids. These devices increase the loudness, and may improve the clarity, of sounds so that they are easier to hear. The main goal of hearing aids is to reduce the impact of hearing loss and to improve a person's ability to take part in everyday life. Although hearing aids are the most common technology for adults with hearing loss and are in widespread use, it is not clear how beneficial they are.

Study characteristics

The evidence is up to date to 23 March 2017. We found five clinical studies involving 825 adults with mild to moderate hearing loss who were randomly given either hearing aids, no hearing aids or placebo hearing aids. Studies involved older adults with the average age within studies between 69 and 83 years. The duration of the studies was between six weeks and six months.

Key results

We found evidence in three studies that hearing aids have a large beneficial effect in improving the ability of adults with mild to moderate hearing loss to take part in everyday situations. Hearing aids have a small beneficial effect in improving general health-related quality of life, such as physical, social, emotional and mental well-being, and have a large effect in improving the ability to listen to other people.

Only one study attempted to measure harms due to hearing aids. None were reported.

Quality of the evidence

We judged the evidence that hearing aids improve the ability to take part in everyday situations, improve general health-related quality of life and improve listening ability to be of moderate quality. This means that while we are reasonably confident that the reported benefits of hearing aids are real, there is a possibility that if further studies are conducted the size of the benefit might differ. We judged the quality of evidence for harms to be very low, because this was only measured in one small study.

Conclusions

We found that hearing aids improve the ability of adults with mild to moderate hearing loss to take part in everyday life, their general quality of life and their ability to listen to other people. If an adult with mild to moderate hearing loss seeks help for their hearing difficulties, hearing aids are an effective clinical option. It is important that future studies measure benefits consistently and report benefits separately for different age groups, genders, levels of hearing loss and types of hearing aids.