

ARIG Lightning update

Welcome to this first Lightning Update from the Adult Rehabilitation Interest Group. We will be publishing a new update 3 times each year in which we'll address a 'hot rehab topic'. Some updates will summarise and point you to publications to support evidence-based practice or to break down myths, some will tackle controversial topics, and others, like this one, will address a topic about which there is clinical enthusiasm but perhaps the evidence is lacking. If you have ideas for future topics, please get in touch bsaarig@gmail.com.

For this lightning update we have reviewed literature examining the effectiveness of providing hearing dogs to people with hearing loss. Up front, it is worth noting the literature on the topic is sparse. Nonetheless, this review goes some way towards answering the following:

- What is a hearing dog?
- What is the evidence around their being effective at the tasks they are trained to do?
- Do hearing dogs provide benefits beyond the tasks they are trained for?
- Are there downsides to owning a hearing dog and if so, what are they?
- Is provision of a hearing dog cost effective?

What is a hearing dog?

A hearing dog is one of the three types of assistance dog - the others being dogs that assist people with visual impairments and dogs that assist people with disabilities other than blindness or deafness. To meet the definition of an Assistance Dog, the dog must be trained to do three or more tasks to mitigate the effects of an individual's disability. This is in contrast to an emotional support animal which provides support by simply being present. A hearing dog, then, is a dog that alerts individuals who are deaf or hard of hearing to specific sounds. Dogs that simply provide protection or comfort by being present are not Hearing Dogs¹.



Are hearing dogs effective at the tasks they are trained to do?

Hearing Dogs are most commonly trained to provide alerts to the doorbell/knock, warning signals (fire/smoke alarm), the presence of another person, the phone, kitchen timers, the owner's name being called, alarm clocks, and a baby crying^{2,3,4}. In general, Hearing Dog owners report that their dog provides alerts adequately or well^{3,4,5,6,7}, and report a subsequent decrease in reliance on others^{2,3,8}. However, there was little evidence that Hearing Dogs improved hearing-related disability or handicap as assessed using questionnaires^{4,8}, and of course there were instances in which owners felt the dog did not perform the trained tasks well^{3,6}.

Do hearing dogs provide benefits beyond the tasks they are trained for?

Most studies examined the social and psychological benefits of Hearing Dogs. Again, in general, outcomes are positive with Hearing Dog owners reporting increased confidence, ability to relax, independence, safety, well-being and engagement in physical activities, as well as decreased anxiety, dependency, and depression. It is notable, however, that standardised measures were often insensitive to changes or showed less convincing effects^{3,4,7,8,9,10} than open-ended questions or unstandardized tools^{2,4,5,6}.

Are there downsides to owning a hearing dog and if so, what are they?

A number of studies asked open-ended questions about the downsides of having a Hearing Dog^{2,3,4,5,6,10}. The most commonly noted were costs associated with dog care, encountering resistance when trying to access establishments (e.g. restaurants and shops), dealing with problematic dog behaviours, caring for the dog, reduced freedom and flexibility, and physical impacts on the home^{2,3,4,5,6,10}. Dog trainers also noted increased family tensions when a dog is introduced into the home can occur - a point not necessarily raised by the dog owners themselves². However, it is worth mention that these issues are not specific to Hearing Dog ownership - they apply to dog ownership in general^{10,11}.

Is provision of a hearing dog cost effective?

To date there has been just one study that has looked at the cost-effectiveness of Hearing Dogs⁸. It compared the calculated cost of a quality-of-life adjusted year (QALY) for usual care provided via the NHS versus care that included a Hearing Dog. It was concluded that costs were higher for the Hearing Dog group and that therefore Hearing Dogs are not cost effective for the public sector. However, it was noted that Hearing Dogs could be cost effective if the public sector partially covered the costs.

A note on study design: Many of these studies used study-specific open-ended questionnaires or interviews to collect data so bias is probable. Many studies used unmatched waitlist-control groups for comparisons. It is important to consider the impact of unmatched baseline scores and the negative impacts on the control group of 'waiting' for a dog.

Summary

While the literature is sparse and studies are not always well designed, there is evidence that Hearing Dogs benefit people with hearing loss in terms of the environmental alerts they provide, the subsequent decreased reliance on others, and positive psychosocial outcomes that include increased quality of life, confidence and feelings of safety. Nonetheless, most Hearing Dog owners described difficulties associated with dog ownership. Awareness and acceptance of these is a must before a Hearing Dog should be recommended.

References

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