

What are the effects of Internet-interventions for audio-vestibular disorders?

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Background: Internet-interventions have been developed within the field of audiology for those with hearing loss, tinnitus, and vestibular rehabilitation. Although individual studies have been conducted, knowledge of the efficacy and effectiveness of these Internet interventions is still being sought. This review examines the effects of Internet-Interventions for Audio-vestibular disorders.

Methods: A comprehensive systematic review regarding the evidence-base of Internet-based interventions for auditory-related conditions was undertaken. The aims were to identify the primary, secondary and long-term effects of Internet interventions for adults with hearing loss, tinnitus, and vestibular disorders.

Results: Fifteen studies (1,811 participants) met the inclusion criteria, with nine studies targeting tinnitus distress, five considering hearing loss and one for vestibular difficulties. Only the tinnitus and hearing loss Internet intervention studies were eligible for data synthesis. Internet-based interventions for hearing loss were diverse. Overall they showed no significant effects, although a statistically significant moderate effect ($d = 0.59$) was found after removing the study with the highest risk of bias (as a result of high attrition). Most Internet-based interventions for tinnitus provided cognitive behavioural therapy. They yielded statistically significant mean effect sizes for reducing tinnitus distress compared with both inactive ($d = 0.59$) and active controls ($d = 0.32$). Significant effects were also present for the secondary outcomes of anxiety, depression, insomnia, and quality of life (combined effect $d = 0.28$). Only Internet-based interventions for tinnitus evaluated the 1-year post-intervention effects indicated that results were maintained long-term ($d = 0.45$). Scientific study quality was appraised using the GRADE approach and found to vary from very low to moderate.

Conclusion: This review indicates the potential of Internet interventions to provide evidence-based accessible care to those with audio-vestibular disorders. Further development of these interventions are encouraged where few exist, particularly for vestibular rehabilitation and for each phase of hearing rehabilitation. Additional high-quality evidence is required before conclusive results can be established. These findings are of importance to guide future planning of audio-vestibular intervention research and clinical services by healthcare providers, researchers, consumers, and stakeholders.

Improving accessibility of Internet-interventions

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Background: An Internet-based tinnitus intervention for use in the USA is required. Although such interventions exist, they are not suitable for this population in their present form. The aim of this study was to adapt an Internet-based cognitive behavioural therapy intervention (ICBT) for tinnitus to ensure its suitability for a US population. The study objectives were to ensure its accessibility in terms of readability, language, and cultural suitability.

Methods: The intervention materials were redesigned to ensure accessibility in terms of readability, language, and cultural suitability. Readability Studio was used to objectively evaluate readability. Cultural and linguistic adaptations required were identified by a tinnitus expert in the USA. The intervention was evaluated for functionality, comprehensiveness, readability, and content by specialist audiologists practicing in the USA.

Results: Accessibility regarding readability was improved to ensure all chapters had readability levels of between Grades 5-6. Cultural and linguistic adaptations were made in terms of content, vocabulary, and spelling. Accessibility was enhanced by translating the intervention material into Spanish. To improve engagement, adaptations were made to the interactive elements and worksheets. Specialist audiologist ratings indicated acceptability of the intervention as an alternative tinnitus intervention.

Conclusion: This study shows that Internet intervention material can be revised to adhere to best practice guidelines. These revisions improved accessibility, readability and comprehension. Further studies are required to determine whether these changes improve self-efficacy, engagement, and aided motivation to undertake the intervention.