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Ismail, A.H.^{a b}, Armitage, C.J.^{d f}, Munro, K.J.^{a c}, Marsden, A.^e, Dawes, P.D.^{a c}

Evaluation of the I-PLAN Intervention to Promote Hearing Aid Use in New Adult Users: a Randomized Controlled Trial

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^a Manchester Centre for Audiology and Deafness, School of Health Sciences, University of Manchester, Oxford Road, Manchester, United Kingdom

^b Department of Audiology and Speech-Language Pathology, Kulliyah of Allied Health Sciences, International Islamic University Malaysia, Bandar Indera Mahkota, Kuantan, Pahang, 25200, Malaysia

^c Manchester University Hospitals NHS Foundation Trust (MFT), Manchester Academic Health Science Centre, Manchester, United Kingdom

^d Manchester Centre for Health Psychology, School of Health Sciences, University of Manchester, United Kingdom

^e Centre for Biostatistics, School of Health Sciences, University of Manchester, United Kingdom

^f NIHR Greater Manchester Patient Safety Translational Research Centre, University of Manchester, Oxford Road, Manchester, United Kingdom

Abstract

Objective: Provision of information is already part of standard care and may not be sufficient to promote hearing aid use. The I-PLAN is a behavior change intervention that is designed to promote hearing aid use in adults. It consists of a prompt, an action plan and provision of information. The objective was to test the effectiveness of the I-PLAN prompt and plan components in promoting hearing aid use and benefit. Hypotheses were: there would be greater hearing aid use, benefit, self-regulation, and hearing aid use habit among participants who received the prompt or plan component, compared with no prompt or no plan component, and the effect would be the greatest in participants who received both prompt and plan; and self-regulation and habit would mediate the effect of prompt and/or plan components on hearing aid use and benefit. **Design:** A 2 x 2 factorial randomized controlled trial design. Two hundred forty new adult patients (60 in each group) were randomized to: information (info) only; info + prompt; info + plan; or info + prompt + plan. All participants received treatment as usual in addition to I-PLAN components, which were provided in a sealed envelope at the end of the hearing aid fitting consultation. Participants in the prompt group were instructed to use their hearing aid box as a physical prompt to remind them to use the device. Participants in the plan group were instructed to write an action plan to encourage them to turn their intentions into action. Participants, audiologists, and researchers were blinded to group allocation. The primary outcome was self-reported proportion of time hearing aids were used in situations where they had listening difficulties. Secondary outcomes were hearing aid use derived from data logging, self-reported hearing aid benefit, self-reported self-regulation, and habit. Outcomes were measured at 6-week post-fitting. **Results:** Contrary to predictions, participants who received the prompt component reported using their hearing aid less than participants without the prompt ($p = 0.03$; $d = 0.24$). The mean proportion of time hearing aid were used was 73.4% of the time in the prompt group compared with 79.9% of the time in the no prompt group. Participants who received the plan component reported using their hearing aids more frequently than those who did not receive the plan (Meanplan = 81.0% vs Meannoplan = 71.8% of the time; $p = 0.01$; $d = 0.34$). Receiving both prompt and plan components did not change self-reported proportion of time hearing aids were used but data-logging use was significantly reduced. The prompt reduced self-regulation of hearing aid use compared with the no prompt ($p = 0.04$; $d = 0.28$), while the plan promoted stronger hearing aid use habits than the no plan group ($p = 0.02$; $d = 0.30$). **Conclusions:** Audiologists should consider using action plans to promote hearing aid use. Despite the decrease in hearing aid use when using the hearing aid box as a physical prompt, hearing aid use was still high ($\approx 70\%$ of the time). The hearing aid box may have slightly reduced hearing aid use by undermining self-regulation. Participants may have delegated responsibility for hearing aid use to the prompt. Subsequent studies should evaluate different prompts and test the long-term benefit of the plan on hearing aid use via habit formation. © 2022 Asia-Pacific Academy of Ophthalmology.

Author Keywords

Adult patient; Hearing aid use; Randomized controlled trial

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Correspondence Address

Ismail A.H.; Department of Audiology and Speech-Language Pathology, Bandar Indera Mahkota, Kuantan, Malaysia; email: afzarini@iium.edu.my

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