

Online self-help via controlled discussion forum

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Recent studies on hearing rehabilitation with group discussions show similar long-term benefits as conventional professional counselling [Abrams *et al.*, *J Rehabil Res Dev.* **5**, (2002); Hickson *et al.*, *Ear Hear.* **28** (2007)]. The use of professional support for self-help via the internet may reduce anxiety and depression [Andersson, *Behav Res Ther* **47** (2009)]. Inspired by those results, we created an online discussion forum for self-help where 30 experienced hearing-aid users communicated, on their own for five weeks. Each week they started the discussions from a given topic, without any professional assistance. We measured their reported subjective hearing problems online using standardized questionnaire (HHIE) pre and post the online intervention. The findings show that the participants reduced their reported subjective hearing problems significantly by taking part in the discussions.

By using manifest qualitative content analysis of the participants' online communication we will present results including typical categories and themes in the discussions, as well as peer-to-peer helping behavior.

The findings indicates that interacting with peers have a positive significant effect on the long-term outcome of their hearing rehabilitation. Further development of this tool could be a very useful instrument in the rehabilitation of hearing impaired adults.

INTRODUCTION

Recent studies on hearing rehabilitation with supervised group discussions show similar long-term benefits as conventional professional counselling (Abrams *et al.*, 2002; Hickson *et al.*, 2007). Studies in adjacent fields (tinnitus, anxiety and panic disorders) have shown promising results when using the internet as a way of supervising and treating patients (Andersson, 2009; Carlbring *et al.*, 2001). Inspired by those results, we created a controlled online discussion forum for self-help where

30 experienced hearing-aid users communicated for five weeks. The aim of the study was to investigate the impact on psychosocial health and the exchange of information between hearing-impaired adults on an online discussion forum.

METHOD

Recruitment

Advertisements were published in national Swedish daily newspapers in order to reach possible participants. Information about the study was presented on the study website that provided general information and instructions on how to proceed for participation in the study. On the website, potential participants were instructed to complete screening questions to ensure that they fulfilled the inclusion criteria. The inclusion criteria were; hearing impairment with subjective, significant communication difficulties (defined as a Hearing Handicap Inventory for the Elderly (HHIE) score > 20), used hearing-aids for at least one year, were over 18 years old, had Swedish as mother tongue and had access to a computer and the internet.

Participants

Thirty hearing impaired study participants (16 women and 14 men) were included in the study. The age of the participants ranged from 24 to 76 years (mean 61.2 years; SD 14.2 years). The average audiogram of the participants corresponded to a moderate, typical sloping presbycusis hearing loss that was acquired by age, working situation or was congenital (Fig. 1). All participants had at least one year of experience with using hearing aids, which also was one of the inclusion criteria. The majority of the participants (80%) were using hearing aids bilaterally, however that was not a request to be included in the study.

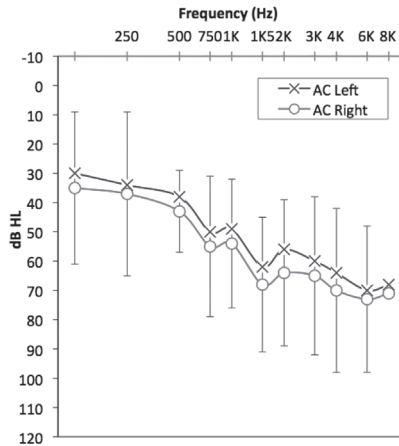


Fig. 1: Average (SD) hearing loss for the included study participants (dB HL).

Intervention

The participants were referred to a discussion forum built on the open source platform *phpbb.com*. Each week the test leader posted a new topic to discuss (Fig. 2). The test leader did not have any personal contact with the participants, but the online discussions were closely monitored.

Evaluation methods

The outcome of the study was results from the standardised questionnaire Hearing Handicap Inventory for the Elderly (HHIE) which the participants filled out pre- and post intervention (Ventry and Weinstein, 1982). A qualitative analysis of the content in the communication between the participants was done after the intervention (Graneheim and Lundman, 2004).

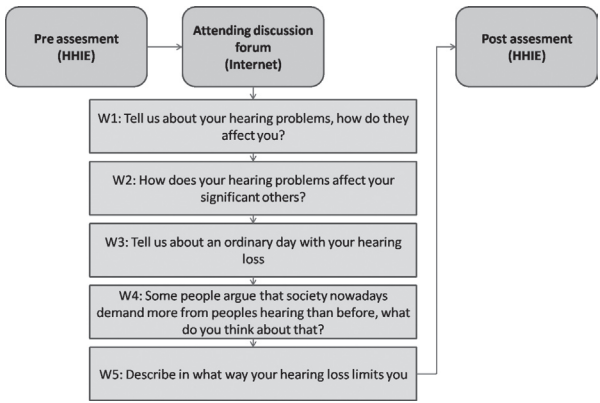


Fig. 2: Overview of included elements in the intervention.

RESULTS

HHIE

Results from the questionnaire HHIE showed that the participants decreased their subjective hearing related problems ($p < 0.05$) after the intervention period was finished by taking part in the online group discussions (Fig. 3).

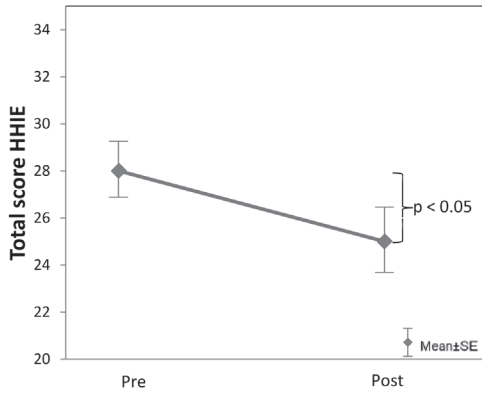


Fig. 3: Result from the questionnaire HHIE shows a significant decrease of subjective related hearing problems after the intervention period.

Conventional content analysis

The transcribed text from the online discussions was analysed using the following steps according to Hsieh and Shannon (2005) as well as Graneheim and Lundman (2004):

1. Meaning units were selected
2. An initial analysis was performed
3. The text was condensed
4. An initial coding scheme was established
5. The codes were sorted into categories
6. The categories were sorted into one theme

The outcome of the analysis was a conceptual model of the hearing impaireds' communication with peers concerning subjective solutions to managing different daily communication situations (Fig. 4).

Theme	Self-awareness makes it possible to give constructive positive feedback			
Category	Emotional reactions		Practical solutions	
Code	Stigma	Family reflections	Relaxing from sounds	Assistive listening devices
Condensed meaning unit	Admitting hearing loss	Support or not from surrounding people	Finding ways for gathering energy	Solutions where hearing aids are not enough
Example of meaning units	<p>LH: When we meet new people I feel ashamed of telling them that I have a hearing loss.</p> <p>GA: I recognize what you are saying about not admitting hearing problems.</p>	<p>BL: Unfortunately people in my surroundings are not understanding [how to respect my hearing loss]</p> <p>EE: You can contact your local hearing-association, they can lend you informative videos that deal with the problems you are talking about.</p>	<p>LF: One thing that works for me is to meditate 20 min at noon, then I have energy for the rest of the day.</p>	<p>EE: ... what is working best for TV is a "hearing pillow".</p> <p>BB: What is a "hearing pillow"? Where can I get one?</p> <p>EE: You can get one from your hearing clinic. You can connect the pillow with your TV and then switch on your hearing aids to telecoil.</p>

Fig. 4: Example of meaning units, condensed meaning units, codes, categories and the theme from the analysis.

CONCLUSIONS

- The findings indicate that online interaction with peers in a controlled research context has a positive significant effect on hearing related problems when measured with HHIE.
- Results from a qualitative analysis of the online discussions show that hearing aid users that have high self-awareness of their hearing situation can give constructive feedback to peers in a similar situation.
- There are good possibilities of using the internet in the rehabilitation process of hearing aid users.

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