Efficacy of audiological rehabilitation:

a randomized controlled trial

Hearing impairment (HI) presents a burden on the daily life of people as it is shown to be associated with considerably higher risk of social isolation, depression and declining cognitive functions. In addition, the prevalence of HI increases with advancing age, affecting nearly one-third of persons above 65 years. If HI remains untreated, the negative consequences can severely affect long-term health and quality of life. Auditory rehabilitation (AR) to improve auditory skills and prevent or decrease participation restrictions could alleviate these negative consequences. Some persons with HI are entitled to AR in the clinic, but many people do not benefit from AR. Moreover, the efficacy of AR remains debated at least partly driven by an important need for high-quality evidence.

In this study, our aim is to assess the efficacy of AR for middle-aged (45-65y) and older adults (65-75y) with HI in a randomized controlled trial. Therefore, we have developed the LUISTER AR scheme and implemented it as an application installed on a tablet. It consists of multiple assessment tests and training tasks. The primary goal of the LUISTER AR scheme is to improve speech perception abilities.

Currently, the LUISTER AR application is being evaluated in comparison to a placebo AR application (active control group) in a randomized controlled trial with middle-aged (n=20) and elderly (n=14) cochlear implant users. Data logging of the different parameters of the application allows for in-depth analysis of the efficacy of the LUISTER AR scheme.

We will present the development and implementation of the LUISTER AR scheme. Additionally, baseline results of the randomized controlled trial including speech perception scores and cognitive functioning, will be discussed for the persons with HI and their normal hearing peers. In conclusion, preliminary results from the LUISTER AR scheme such as on-task improvement and data logging of the intensity and frequency of training will be presented.

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The authors declare that there is no conflict of interest.

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