Hearing aid benefit in everyday life

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ABSTRACT
Hearing aid benefit is routinely measured with speech tests in quiet or stationary background noise and with questionnaires comprising predefined listening situations. Nevertheless, everyday life of hearing aid users is unique and might not be captured by the traditional tools. An alternative approach employs repeated assessments of individual everyday situations, a method called ecological momentary assessment (EMA). The EMA method was implemented with a smartphone-based system allowing for frequent subjective assessments and objective monitoring of the acoustical environment. In a field study, 20 participants with mild-to-moderate hearing impairment were fitted with hearing aids. The EMA method was applied for several days both before and after hearing aid fitting including an acclimatization phase. The participants categorized their environments and activities and rated loudness, ability and importance of speech understanding, as well as listening effort. By comparing the assessments without and with hearing aids or with old and new hearing aids, the benefit can be estimated. One structural drawback of this approach is the challenge of varying situations between participants but also within participants when comparing different time periods. Having said that, this effect implies the advantage of capturing the hearing-related quality of life on an individual basis.

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