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Real-World Data: Using EMA as an Outcome Measure in an Australian Market Trial

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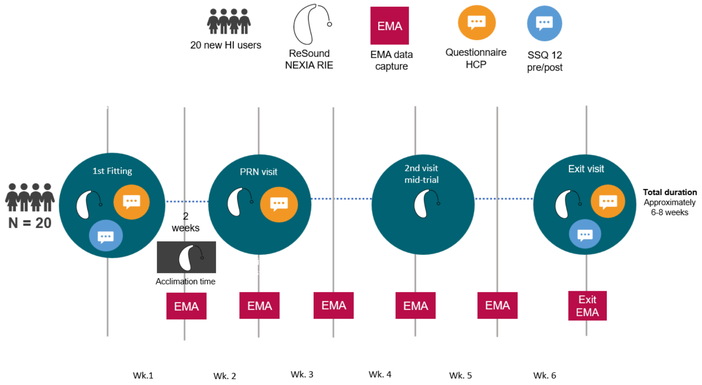
Abstract

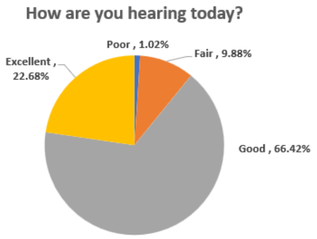
This study utilized Ecological Momentary Assessment (EMA) for real-time data collection of behaviors and contexts using mobile devices and a software platform. The EMA results along with the Speech, Spatial and Qualities of Hearing Scale (SSQ12) outcome measure served as a valuable tool for clinicians to provide more personalized counseling and facilitation of enhanced levels of user satisfaction.

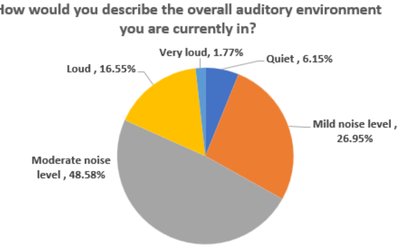
Methods

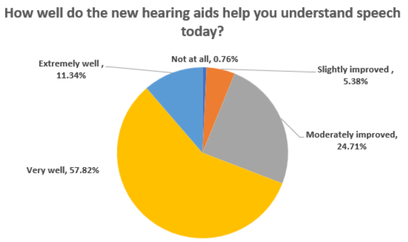
Twenty individuals with varying degrees of hearing loss participated in the study. Test participants were fitted with new hearing aids by their audiologists. They were given pre- and post-fitting paper outcome measures, as well as being provided with a LifeData EMA app on their mobile phone. Participants were prompted on a regular basis to answer questions such as “How well do the new hearing aids help you understand speech today?” and “How would you describe the current auditory environment?”

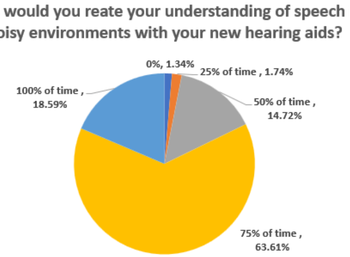


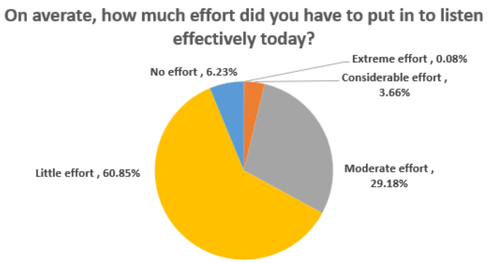
EMA Results



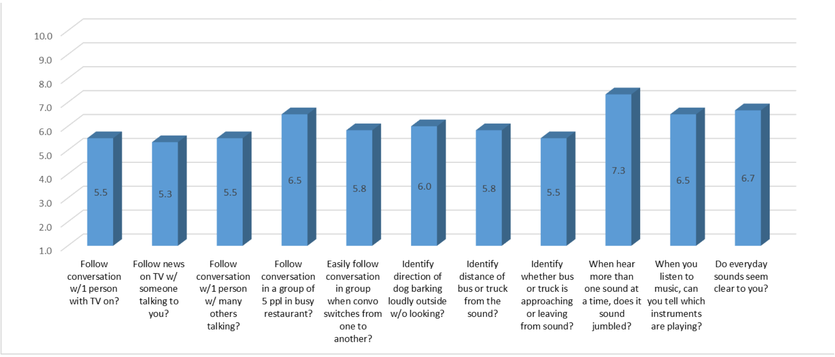








SSQ Results



Discussion

Our study found that introducing an EMA app into a new hearing aid fitting protocol enabled a better understanding of how hearing aids impact users’ daily lives, including their communication, social interactions and emotional well-being. By capturing moment-to-moment fluctiations in environmental factors and hearing aid usage patterns, EMA can provide useful data for identifying personalized intervention strategies and optimizing device settings. The real-time feedback allows for timely adjustments by clinicians to improve comfort and clarity, ultimately leading to improved user satisfaction. Incorporating a more traditional outcome measure such as the SSQ12 along with EMA sampling allowed for capturing of user feedback for more specific situations than implied by the prompts asked within the EMA app. This holistic approach can enable more effective patient-clinician interactions and ultimately improve the quality of life for individuals with heairng impairment.

References

- LifeData Experience sampling App (lifedatacorp.com)
- Noble, W. et al. (2013) A short form of the Speech, Spatial and Qualities of Hearing scale suitable for clinical use: The SSQ12. *International Journal of Audiology* 52(6): 409-412.

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