

The use of ecological momentary assessment to evaluate aided benefit with children

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Objectives: This study investigated ecological momentary assessment (EMA) implementation with children and presents preliminary results specific to the quantification of real-world aided benefit for fittings specific to listening in quiet and noisy situations.

Background: Traditional approaches to assessing hearing aid benefit include laboratory-based tests and retrospective self-report surveys. The experience sampling method (ESM) is an alternate technique used to capture real-time data from real-world experiences. Included in ESM is EMA, an ecologically valid and patient-focused self-report data method that aligns with technologically driven research questions. In audiology, EMA can offer a detailed investigation of real-world aided performance, contributing to individualization of hearing aid fitting(s). Research suggests that EMA is feasible with adults and is a valid measurement of hearing aid outcome(s). The feasibility and data quality of EMA results collected with children is currently unknown.

Methods: Twenty-nine children aged 7-17 wore behind-the-ear hearing aids fitted to the DSL v5.0 child prescription with manually accessible programs including targets for listening in quiet (program 1: P1) and noise (program 2: P2). Children completed a one-week trial, outside of school time, with self-triggered, twice-daily EMA entries using both programs. Data collection included a tablet-based survey of situation-specific loudness, ratings of hearing aid benefit and program preference.

Results: On average, participants completed 12 entries during their trial (M = 9 days), totaling 334 entries. Findings suggest that situational loudness, as judged by the children, related to program use/preference, speech understanding and ratings of loudness.

Conclusions: Findings indicate that EMA methodologies are feasible with older children and enable the collection of real-time, ecologically valid data. In this study, EMA enabled the evaluation of hearing aid benefit specific to one noise management strategy: the DSL v5.0 child prescription, with targets specific to listening in noise.