Auditory profiling and hearing-aid satisfaction in hearing-aid candidates

Hearing-impaired (HI) listeners often complain about difficulties communicating in the presence of background noise, although audibility may be restored by a hearing-aid (HA). The audiogram typically forms the basis for HA fitting, i.e. people with similar audiograms are given the same prescription by default. This study aimed at identifying clinically relevant tests that may serve as an informative addition to the audiogram and which may relate more directly to HA satisfaction than the audiogram does.

METHODS: A total of 29 HI and 26 normal-hearing listeners performed tests of spectral and temporal resolution, binaural hearing, speech intelligibility in stationary and fluctuating noise and a working-memory test. Six weeks after HA fitting, the HI listeners answered a questionnaire evaluating HA treatment.

RESULTS: No other measures than masking release between fluctuating and stationary noise correlated significantly with audibility. The HI listeners who obtained the least advantage from fluctuations in background noise in terms of speech intelligibility experienced greater HA satisfaction.

CONCLUSION: HI listeners have difficulties in different hearing domains that are not predictable from their audiogram. Measures of temporal resolution or speech perception in both stationary and fluctuating noise could be relevant measures to consider in an extended auditory profile.

FUNDING: The study was supported by Grosserer L.F. Foghts Fond.

TRIAL REGISTRATION: The protocol was approved by the Science Ethics Committee of the Capital Region of Denmark (reference H-3-2013-004).