

APHAB norms for WDRC hearing aids

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Introduction

In the present climate of consumer-driven healthcare, quality of service is determined in large through client opinion; which may be obtained using systematic self-report outcome measures.

One such self-assessment measure is the Abbreviated Profile of Hearing Aid Benefit (APHAB) (Cox & Alexander, 1995). This outcome measure assesses activity limitations for hearing-impaired individuals, unaided and after receiving amplification. Normative data for this outcome measure were obtained in 1995, based on responses from elderly individuals who wore 1990-era mostly linear hearing aids. Because current hearing-impaired clients are fit predominantly with compression-capable hearing aids, these questions have been asked:

1. Are responses to the APHAB by users of WDRC-capable hearing devices significantly different from the responses by users of linear hearing aids?
2. Should normative values used for hearing aid wearers fit with 2005-era current compression strategies be different from the 1995 norms?

This poster describes an investigation of these questions.

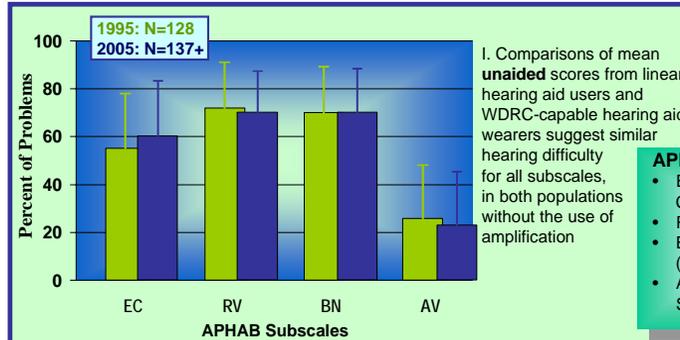
Method

- This study was a multi-site cross-sectional survey; using hearing-impaired individuals aged 60 or older who had been fit bilaterally with wide-dynamic-range-compression-capable hearing aids between six and eighteen months prior to recruitment.
- Subjects were identified by seven private practice audiologists: Ben Cox, Au.D., Memphis TN; Sue Ann Holland, M.S., Abilene, TX; Peter Marinovich, Ph.D., Santa Rosa, CA; Lorra Pettit, Au.D., West Monroe, LA; Helena Solodar, Au.D., Atlanta, GA; Champa Sreenivas, Ph.D., Vallejo, CA; and John Tecca, Ph.D., Portage, MI.
- The audiologists were asked to identify clients aged 60 and older, fit bilaterally with WDRC-capable hearing aids in December, 2004 or earlier.
- Audiologists worked backward in time until they had identified 50 consecutive clients or until they reached clients fit prior to June, 2003.
- All clients who met the inclusion criteria were identified.
- 321 potential subjects were contacted; 146 of these subjects returned surveys with valid data.

Calculating Scores

- Each item is answered for "without my hearing aid" and "with my hearing aid" so that each subscale produces a score for unaided listening and a score for aided listening.
- Benefit is calculated by comparing the patient's reported difficulty in the unaided condition with their amount of difficulty when using amplification.

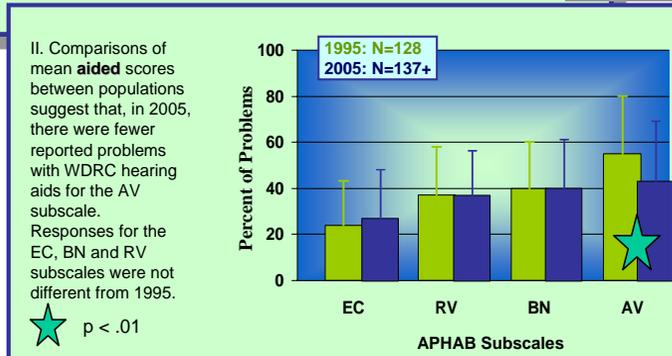
Results



I. Comparisons of mean **unaided** scores from linear hearing aid users and WDRC-capable hearing aid wearers suggest similar hearing difficulty for all subscales, in both populations without the use of amplification

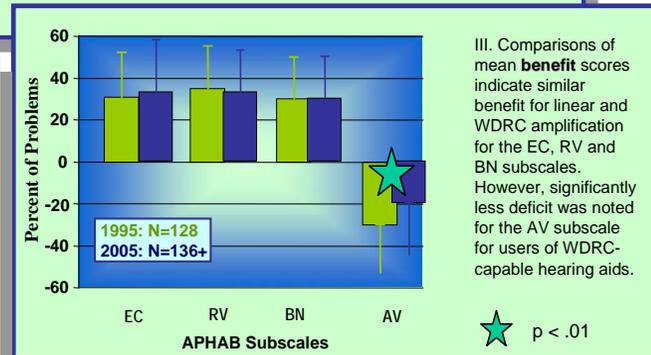
APHAB subscales

- Ease of Communication (EC)
- Reverberation (RV)
- Background Noise (BN)
- Aversiveness of Sounds (AV)



II. Comparisons of mean **aided** scores between populations suggest that, in 2005, there were fewer reported problems with WDRC hearing aids for the AV subscale. Responses for the EC, BN and RV subscales were not different from 1995.

★ $p < .01$



III. Comparisons of mean **benefit** scores indicate similar benefit for linear and WDRC amplification for the EC, RV and BN subscales. However, significantly less deficit was noted for the AV subscale for users of WDRC-capable hearing aids.

★ $p < .01$

Conclusions

- The similarities between 1995 and 2005 unaided data indicate that hearing aid wearers' perceptions of their degree of hearing difficulty without amplification has not changed over that period.

• Aided comparisons suggest that difficulty with understanding amplified speech has not improved with new technology in the last ten years. On the other hand, differences in mean AV scores indicate that newer technology has addressed the common complaint that hearing aids cause many everyday sounds to become objectionably loud. These results indicate that the compression capabilities of current hearing aids have resulted in less negative reactions to environmental sounds when compared to linear hearing aids.

• Benefit comparisons suggest that despite improvements in technology, wide-dynamic-range-compression-capable hearing aids have not resulted in changes in benefit for speech communication.

Q & A

Q. Are responses to the APHAB by people who wear WDRC-capable hearing devices significantly different from the responses by linear hearing aid users?

A. Yes. Responses to the APHAB reported by users of modern WDRC hearing aids are significantly different from those reported by users of linear analog hearing aids for the Aversiveness of Sounds subscale.

Q. Can I use the 1995 APHAB normative values with WDRC hearing aid users?

A. Not for the AV subscale. New normative values for the APHAB should be used when obtaining baseline and hearing aid outcome measures for WDRC hearing aid users in order to ensure accurate clinical interpretation of client responses to this survey.

Q. Where can I get the new APHAB norms?

A. The 2005 norms will be published in the near future.

Reference

Cox, RM, Alexander, GC. (1995). The Abbreviated Profile of Hearing Aid Benefit. *Ear & Hearing*, 16, 176-186.

