Outcomes with a commercially available self-fitting hearing aid

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Introduction

Evolution of user controls:

- Volume control
- Tone control
- Multiple memories
- Professional fine-tuning
- Self-fitting
Introduction and objective

SoundWorld Solutions

• 16-channel WDRC, directional mic, noise suppression and feedback cancellation
• Bluetooth technology (connect to free app)
• Rechargeable batteries
• Retractable tube + 3 different size domes
• Help line

Study objective

− Do hearing-impaired adults obtain satisfactory outcomes with a self-fitted device?
Method

User-driven fittings;
N = 38
(Means: 70.3 years; 42 dB HL)

Clinician-driven fittings;
N = 14
(Means: 74.7 years; 45.5 dB HL)

Outcomes measures after 12 weeks
- Coupler gain and output
- Speech reception threshold in noise
- Activity limitation (APHAB)
- Participation restriction (HHIE)
- Satisfaction (SADL)

Experienced HA users with user-driven fittings;
N = 22
(Means: 70.6 years; 45.3 dB HL)

(Convery et al., in review)
Results – Outcomes (N = 52)

• Same hearing aid; User- vs clinician-driven fittings

  • Controlling for demographic factors there were no significant differences in
    • selected gain (p = 0.11);
    • speech recognition in noise performance (p = 0.08);
    • activity limitation (p = 0.87);
    • participation restriction (p = 0.87); or
    • satisfaction (0.26)

(Keidser & Convery, 2018)

When the HA was a constant it did not matter who directed the fitting process
Results – outcomes (N = 22)

- Different hearing aids; Self-directed vs conventional fittings

![SFHA](image1.png) Own

- Significantly higher low-frequency gain in self-fitted hearing aid due to proprietary fitting rationale and some leakage during the in situ audiometry

- No significant difference in speech recognition in noise performance (p = 0.12)

(Keidser & Convery, 2018)
Results – outcomes (N = 22)

No significant difference in reported restriction due to social/emotional effect of hearing loss (p = 0.28)

Significantly more aversiveness reported with SFHAs – presumably due to higher OSPL90 and lack of an adjustable MPO in the SFHAs

Significantly less satisfaction with SFHAs for Positive Effect and Personal Image due to e.g. a large and heavy device body, uncomfortable ear tips, and insufficient daily (rechargeable) battery life

Significant differences due to device specifications rather than who was responsible for fitting

(Keidser & Convery, 2018)
Conclusion

- SFHAs seem clinically viable, provided optimum implementation
  - Size and life of rechargeable battery
  - Design and size of ear tip
  - MPO adjustable
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