

Abstract

Although tinnitus generally goes hand in hand with hearing loss and is therefore usually treated with sound amplification, some people with tinnitus may have a slight or even very slight (subnormal) hearing loss that is not eligible for getting a hearing aid in France.

Patients with mild hearing loss and tinnitus received hearing aids, their outcomes on speech performance in noise and tinnitus reduction have been evaluated at 1 month and 6 months. Those data have been compared with a control group of patients with tinnitus and moderate to severe hearing loss. Fittings and data logging have been analyzed for both groups.

Preliminary results are suggesting that both groups are getting a tinnitus improvement considering THI and VAS scores thanks to their hearing aids.

Tinnitus Improvement is however slightly lower considering the group 1 (group with mild hearing loss) in comparison with group 2 at 1 months, but both groups are getting a significative improvement after 6 months. Speech in noise is also improved for both groups immediately after one month.

Objectives

The aim of this study is to investigate the benefits of hearing aids for tinnitus sufferers with very mild hearing loss. As a secondary objective, we wanted to investigate if the fitting technique is different depending on the level of hearing loss

Material and Method

45 patients are involved in this study all fitted with Widex premium hearing aids. Patients were divided into two groups.

- Group 1 represented the study population. It consisted of 22 tinnitus subjects with very slight loss (PTA < 20 dB).
- Group 2 represents a control population. It is composed of 23 tinnitus subjects with mild loss (PTA between 30 and 40 dB).

THI, VAS on tinnitus severity, speech in noise (HINT) were performed before getting the hearing aid, after 1 month, and 6 months of hearing aid use.

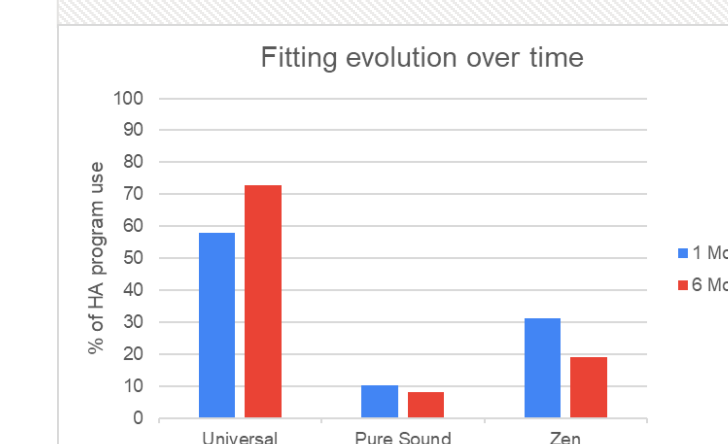
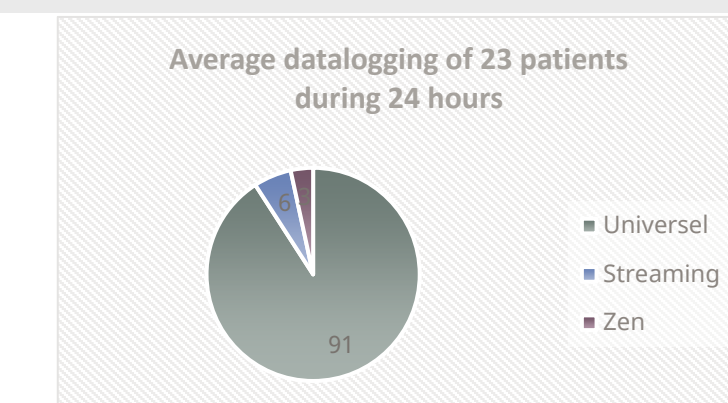
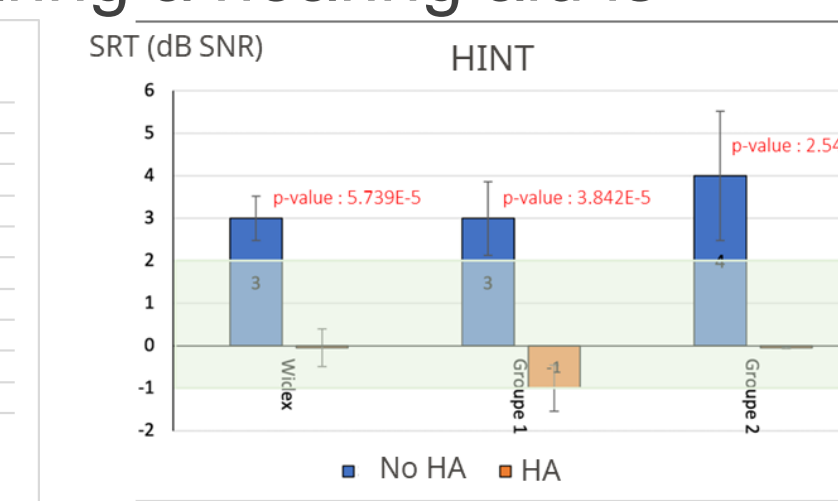
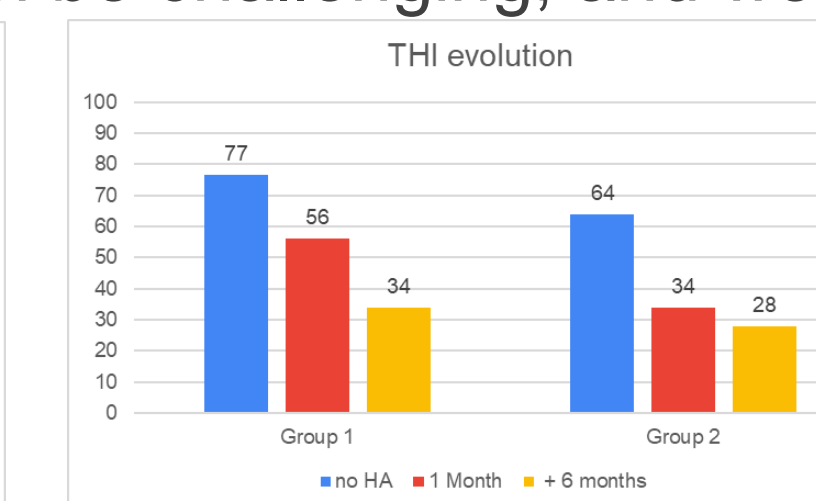
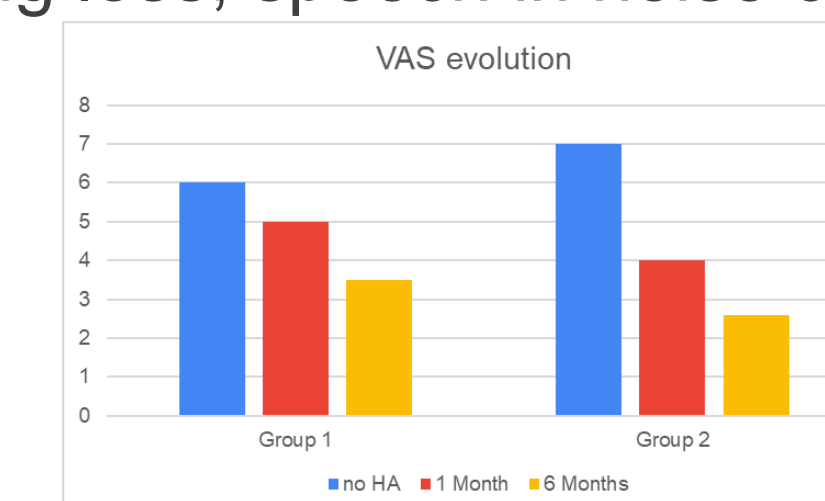
Results

Common fitting technique for both groups:

- No differences in insertion gains between tinnitus and non-tinnitus subjects
- General use of Widex rationale
- Deactivation/reduction of the Soft level noise reducer
- More amplification for the group with moderate hearing loss
- Amplification and sound therapy for the group with mild hearing loss with an evolution towards amplification over time

Outcomes are also very promising for both groups:

- There is a positive evolution of the THI and VAS for both groups, however, it seems that the evolution is a bit different and goes faster for group 2.
- Even with a slight hearing loss, speech in noise can be challenging, and wearing a hearing aid is providing a benefit



Conclusion

Outcomes reported for patients with mild hearing loss compared with the control group demonstrates the benefits of hearing aids in the treatment of tinnitus for this population. However, it is important to notice that the fitting approach could be slightly different with sound therapy in addition to the classic amplification. Time to success in case of slight hearing loss could be a bit longer and should be taken into account.

References

- Francis Kuk, PhD, Heidi Peeters, MA, et Chi Lau, PhD. « The Efficacy of Fractal Music Employed in Hearing Aids for Tinnitus Management », 2010.
- 2015-02 Hearing Review (Sweetow et al.) Do tinnitus patients continue to use amplification and sound therapy post habilitation
- Moffat, G., K. Adjout, S. Gallego, H. Thai-Van, L. Collet, et A. J. Noreña. « Effects of Hearing Aid Fitting on the Perceptual Characteristics of Tinnitus ».