

Material and methods: Eleven patients (9 females, 2 males; mean age 62.36 ± 5.89 years) with both hearing loss and tinnitus were enrolled. Study eligibility criteria specified SNHL, based on a pure tone average of hearing thresholds at 0.5, 1, 2 and 4 kHz > 20 dB, as well as not having previously received any counselling or cognitive therapy for tinnitus. Tinnitus was examined using tinnitogram test and 25 items of the Tinnitus Handicap Inventory (THI). Data management and analyses were performed using IBM SPSS Statistics 27. Correlations between the THI and the use of hearing aids, as well as between THI scores and perceived tinnitus intensity, were evaluated using Spearman's correlation coefficient. Statistical results were considered significant at the alpha level < 0.05 .

Results: Tinnitus was bilateral in 54.5% of the patients and unilateral in 45.5%. Hearing aids were worn by 6 patients (63.64%) for a mean time of 9.69 years. For patients who wore hearing aids, significantly lower scores were found on the THI compared to unfitted participants (mean THI scores of 19.10 vs 49.50; $R_p = 0.66$; $p = 0.03$). Likewise, a moderate correlation was found between tinnitus intensity and THI, with higher tinnitus intensity associated with higher scores of THI ($R_p = 0.70$, $p = 0.02$).

Conclusions: Marked effects on tinnitus were observed in participants with hearing aids, showing significant improvements with auditory amplification. Acoustic therapy using hearing aids seems to be effective for tinnitus-associated hearing loss.

Impact of the use of mask on speech perception

Ana Carvalho^{1,2,3}, Ana Luísa Rodrigues¹, Daniel Matos¹, João Ferreira¹, Regina Cardoso¹, Tânia Tomás¹

¹ Polytechnic Institute of Coimbra, ESTeSC – Coimbra Health School, Department of Audiology, Physiotherapy and Environmental Health, Coimbra, Portugal

² Portuguese Institute of Oncology of Coimbra, Francisco Gentil, E.P.E, Coimbra, Portugal

³ OviSonus, Coimbra, Portugal

Background: The COVID-19 pandemic, caused by the SARS-CoV-2 virus, triggered the need to use several preventive measures, which brought new challenges to communication, such as complying with social distancing and the use of face protection systems. Although there is a relief in the mandatory measures, the use of masks is still frequent, especially in health units. This study evaluated the impact of mask use on speech perception, by performing vocal audiometry in live voice, without using a mask and using three different types of masks (Surgical, KN95, FFP2).

Material and methods: The study was observational, analytical, and cross-sectional. It had a sample of 25 individuals with normal hearing, between 35 and 55 years old, to whom vocal audiometry was performed without a mask and with 3 types of face protection masks.

Results: 80% of the individuals considered that they heard well and 68% of the individuals considered that they hear worse with a mask than without a mask. The mask preferred by most participants is the KN95 (56%), while 44% prefer to

use the surgical mask. There were statistically significant differences in the vocal audiogram when using the FFP2 mask, with a percentage of correct answers of 82.08%.

Conclusions: It was concluded with this study that, of all the masks used, it was with the FFP2 that there were statistically significant differences in speech perception. It was concluded that all masks affect speech perception, with greater impact on FFP2, which is most used in a hospital environment, requiring greater care and adopting alternative strategies to ensure that the message is understood by the other person.

Importance of auditory training in the development and stimulation of skills in hearing aid users – a systematic review of the literature

Maria José Pereira, Ana Catarina Barbosa, Vera Faria

Department of Audiology, School of Health, Polytechnic Institute of Porto

Background: Auditory rehabilitation performed by psychoacoustic amplification allows for an increase in audibility, however, there may be difficulties in sound perception. Auditory training can be used to improve auditory performance, consequently improving auditory skills affected by hearing loss. This study aims to understand which skills are developed and/or stimulated by auditory training in hearing aid users and the importance of this type of training in these individuals.

Material and methods: Systematic review of the qualitative literature. The search was applied in the electronic databases PubMed, Web of Science and B-on using the expression “auditory training” for “hearing loss” AND (abilities or skills) AND hearing aids”.

Results: After applying the eligibility criteria, 23 articles were analysed, published between 2013 and 2021.

Discussion: The main skills affected by hearing loss and stimulated by training are mainly related to speech perception, especially in noisy environments. There was greater evidence of the effectiveness of formal auditory training, compared to informal auditory training.

Conclusions: Auditory training has an influence on the auditory skills affected by hearing loss; however, there were some differences in the results, thus it is important to invest in further studies in this area.

Influence of chronic obstructive pulmonary disease and ventilotherapy on hearing

Rita Graça, Vasco de Oliveira

Department of Audiology, School of Health, Polytechnic Institute of Porto, Portugal

Background: Chronic Obstructive Pulmonary Disease is a disease that affects the airways, characterized by its chronic and progressive inflammation, resulting in obstruction of the respiratory flow. It's pathogenesis leads to states of hypoxia