Effect of Noise Exposure on Hearing of Pavilion Athletes

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Background, Traditionally, hearing is divided into peripheral (how much we listen) and central (as we hear - quality). Exaggerated exposure to noise in reverberant environment can have negative effects on how much we hear but on the discrimination capacity and auditory memory of the word its effects can be positive. Pavilion athletes are subject to constant noise in a closed and reverberant environment, are a good example to ascertain the impact of noise on hearing. The present study aims to understand the effects of noise exposure on hearing athletes (training 3 to 4 times a week), comparing the results with the results of a matched non-sports control group in age and sex.

Material and Methods, For the study, the sample consisted of 32 individuals, 16 non-athletes and 16 athletes of pavilion, aged between 18 and 25 years. A simple tonal audiogram was performed by air, a repetition test of words, in the silence and with noise and a test of repetition of pseudo words in the silence and with noise.

Results, In the simple tonal audiogram, only in the right ear in the frequencies of 1000 and 10000 Hz, we found statistically significant differences, with worse thresholds in the athletes group. In the repetition tests of words and pseudo words, the performance of athletes was better, both in silence and in noise, with statistically significant differences in word repetition in silence and repetition of pseudo words in noise.

Conclusion, The need for verbal communication in a noisy and reverberant environment, evidenced during a sports training in pavilion, trains the abilities to discriminate and memorize the word heard in noise, having a positive impact on these abilities of the central auditory nervous system.