Hearing Screening in Preschool Children of a Rural Community in Portugal - A 10-year Experience

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Introduction

Preschool hearing screening programmes would identify later onset or progressive hearing losses and conductive hearing loss, due to the high prevalence of otitis media with effusion in childhood. Hearing loss associated with otitis media with effusion can have a great impact on reading, writing, central auditory processing and balance.

Objectives

The present study aims at characterising the audiological alterations found in preschool children screened in a rural community in Portugal, and the correlation between audiological findings and otoscopy.

Methodology

This is an observational study using the results obtained in a ten year audiological and otological screening of preschool children. Otoscopy, Tympanometry and Audiometry (1, 2 and 4 KHz presented at 40 and 20 dB intensity) were performed at the first stage of the screening and the results were classified as ''pass'' or ''refer''. Every non-normal result of any category would imply a second stage consisting of observation by an ENT specialist at the site and the establishing of a follow-up plan. Written Informed Consent was obtained from the parents prior to initiating the study.

Results

595 children aged 5 and 6 years were screened between 2007 and 2017, of whom 192 (32.3%) required referral to the second stage. The most frequent alteration was found in the tympanogram. The tympanograms showed a significant correlation with the otoscopy performed by the ENT doctor, mainly type B tympanograms. The pass/refer audiometry also showed a statistically significant correlation with the medical otoscopy, although weak in all frequencies studied.

Conclusion
It's extremely important to perform a hearing screening in the age range of 5-6 years (with a high predisposition to middle ear problems), with the main objective of identifying and referring for treatment children who present alterations in order to reduce the consequences of the hearing impairment.