

Estimated prevalence of permanent hearing loss among newborns and 6-year-olds: An evaluation of the three auditory screenings in Uppsala

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There are three auditory screenings for children in Uppsala, Newborns, 4-year-old and 6-year-olds, but no register of the coverage and outcome. Investigating the prevalence of permanent hearing loss (PHL) and compare to other countries was one way of evaluating the screening outcome. However different definitions of hearing loss make it difficult to compare. These difficulties will be discussed in the presentation along with the results of the study published in November 2023. <https://doi.org/10.1016/j.ijporl.2023.111785>

Aim

Estimate PHL among newborns and 6-year-olds, compare how different definitions affects this estimation and evaluate the three auditory screenings in Uppsala.

Method

A retrospective investigation of medical records and audiograms was conducted for children born in 2011-2012. Data extraction was performed when the children had reached 7 years of age. Hearing loss was defined as > 20 decibel hearing level in at least one frequency (125–8000 Hz) in one or both ears (clinician's definition).

Result

A total of 1,385 children were included, and 95 were diagnosed with PHL. The prevalence of PHL per 1,000 children at 6 years was 10.11 based on the clinician's definition, 6.16 based on the WHO definition from 2021, and 2.64 based on the WHO definition from 1991. Most of the severe and profound hearing loss were identified in newborns.

Discussion

This study demonstrates the necessity of repeated hearing testing during childhood to identify PHL and suggests a higher prevalence in 6-year-olds than previously reported. The definition of PHL greatly impacted its estimated prevalence.