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Parent and Teacher Assessment as a Screening Tool for Hearing Loss among School Children

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Optimum hearing is vital for speech development and education of a child. Many causes of Hearing Loss (HL) are reversible or correctable with modern technology. Early diagnosis of HL will have a significant positive impact. Due to limited resources, it is unable to screen all children for hearing loss. The main objective of this study was to assess whether parent/teacher assessment of a child's hearing can be used as a screening tool for hearing loss among school children. This will reduce the number of children needing a formal hearing assessment. In a descriptive cross-sectional study, 985 schoolchildren studying in grades two to five were recruited. Their assessment about each child's hearing was questioned from parents and the class teacher. All children were screened for HL with Otoscopy, Pure Tone Audiometry (PTA) and Oto Acoustic Emission (OAE). Children, who failed one or more screening tests, were invited for the confirmatory test, Pure Tone Audiometry. 270 (27%), failed at screening. Out of them 193 (71.5%) turned up for diagnostic testing. Out of this 40 (20.7%) children had minimal to moderate hearing loss. Out of this 40 children only four (10%) were suspected of having HL by the teacher. Out of nine children suspected by class teacher, only four (44.4%) had the diagnostic test positive. Therefore, teacher's assessment of hearing as screening tool for HL has a Sensitivity of 10% and Specificity of 99.4%. Predictive value of a positive test is 44.4% and a negative test is 96.0%. Out of 51 children suspected by parents 18 (35.3%) were having HL. Out of 40 children with HL only 18 (45%) were identified by parents, thus sensitivity of 45% and specificity of 96.2%. The predictive value of a positive test is 35.3% and of a negative test is 97.4%. Educating parents and teachers to identify warning signs of HL is needed if to were used as a screening tool.

Key words: Diagnostic Test, Hearing Loss, Screening Tool, Sensitivity, Specificity