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Paediatric hearing loss in South Africa: a survey of diagnostic audiology procedures in 3 South African Provinces

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Abstract

Background: With 17 babies born with hearing loss every day in South Africa, there is a pressing need for systematic Early Hearing Detection and Intervention (EHDI) services. Progress is being made in the area of newborn hearing screening with studies to document the screening fora and processes appropriate for a developing country context. A systematic review of EHDI services in South Africa highlighted the need for comprehensive studies on diagnostic protocols and procedures in diagnosing paediatric hearing loss. There has also been a recognition of the ethical obligation to ensure equitable access to efficient and timely diagnostic and intervention services for children identified with hearing loss, regardless of their geographic or socioeconomic status.

Objective: The aim of this study was to document the current practice of audiologists in South Africa, with reference to paediatric audiology diagnosis, reporting of testing results, record keeping and data management in a closed sample set in 3 provinces of SA.

Method: This study utilised a retrospective record review process as well as a survey to identify the processes and procedures followed by audiologists in the diagnosis of paediatric hearing loss, across both the public and private sectors. The children who were part of the Home Intervention Hearing and language Opportunities Parent Education Services (HI HOPES) programme were selected using convenience sampling. The files of 230 children, who had diagnostic audiology records as part of the HI HOPES programme data were included as part of the sample for this study. Audiology reports and records were reviewed so as to gain an understanding of the diagnostic procedures used. Data were then compared to the HPCSA recommended guideline document to determine how diagnostic testing compared to testing procedures outlined in the guideline document. Finally, a survey to identify data management procedures followed by audiologists was sent to 40 public (n=21) and private (n=19) sector audiologists

Results: Data reflected in diagnostic audiology reports indicate differences in tests employed with paediatric clients across the regions of Gauteng, Kwazulu Natal and Western Cape, as well as across the public and private sectors. There is an increased use of electrophysiology measures across all the age ranges of paediatric clients. The

extensive use of electrophysiology on older children means there is an increased need for the use of sedation. The analysis of sedation information included in the diagnostic audiology reports indicated a need for evaluation of safety during sedation for diagnostic testing, as well as a need for development of sedation guidelines for auditory electrophysiology testing in South Africa.

The logging of diagnostic audiology data as well as sedation information in audiology reports also indicated that data is not always comprehensive. The survey showed that there is a need for efficient audiology data management and tracking systems to allow for evaluation of EHDI services, and for sharing of diagnostic information amongst professionals. Challenges with the implementation of online/electronic data management systems include those that are common to a developed world context (time and staff for data entry), as well as challenges unique to a developing country context (electricity access and internet connection).

Conclusion: Accuracy in paediatric diagnostic audiology is important as this step in the EHDI pathway is necessary for appropriate provision of amplification, communication methodology options and the influence on future education options and success. Paediatric diagnostic audiology in South Africa shows a lack of agreement with South African diagnostic guidelines in terms of tests employed, across the provinces of Gauteng, KZN and WC as well as across the public and private healthcare sectors. The incomplete sedation information on audiology reports indicates the deficiencies in accurate and comprehensive data recording. . Extensive studies across all provinces relating to all aspects of EHDI services (screening, diagnosis, intervention and data management) are necessary. Further studies on diagnostic practice and resources in South Africa will provide information on factors that are preventing adherence to South African guidelines as well as international best practice guidelines for paediatric diagnostic audiology, as well as information and resources that are needed for advancement and improvement of the field.

Keywords: Paediatric diagnostic audiology, hearing loss, EHDI, hearing screening