

Newborn Hearing Screening: The Great Omission

Muhammad Jamalullah

Hearing impairment in children across the world constitutes a particular serious obstacle to their optimal development and education, including language acquisition. Hearing loss is the most common sensory deficit in humans, ranging from slight to profound^{1,2}. Untreated hearing loss will affect speech and language development and lead to impaired cognitive and social skills. These factors consequently have deleterious effect in education achievement, mental health and quality of life. Early detection and intervention is key to effective management and support the children having deafness to come in the main stream of the nation. Hearing loss have a definitive economic impact in any country that is loss of productivity due to unemployment, social cost as a result of social isolation communication difficulties and cost of additional educational support to children. This is the reason that Hearing Screening is mandatory and early identification and intervention leads to many advantages and benefits. Firstly early identification and intervention helps to improve speech, language, social and academic development. Secondly, early intervention enable parents to make timely and informed decisions. A high level of family involvement and early start of educational interventions are the best predictors for speech development³. Moreover, the early intervention to address hearing loss is cost-effective, brings benefit to individuals and saving to the family, society and country⁴.

Currently in Pakistan there is no hearing screening program at national level in public or private sector. A study in India reveals 6.3% of the population is suffering from significant hearing loss⁵. Depending on the circumstances different methods can be used for hearing assessment –Family questionnaires, Behavioral measures and Physiological measures. In the first case, parents are advised to look for the response of their children to different sounds and how they try to generate voice such as babbling and other vocalizations. In the second case the responses of babies to Behavioral measuring devices are used to identify hearing loss. The developed countries are utilizing physiological measures, that is, Otoacoustic emissions (OAE) and Auditory Brainstem evoked Response audiometry (ABR). Priority should be given to babies with risk factors of hearing loss, for example- any previous cases of hearing impairment in the family, TORCH infections, craniofacial abnormalities, Treacher Collins syndrome, untoward states during the time of birth for example asphyxia, decrease weight and hyperbilirubinemia.

For hearing screening two protocols may be followed- ie Community based screening and Institution based screening. The first case complies the screening of newborns with history of home delivery, by using brief questionnaire and behavioral testing, all the newborns who fail to qualify is considered for Otoacoustic emissions (OAE) and if they fail, they are then sent for Auditory Brainstem evoked response Audiometry (ABR) testing. While in the second case all the infants should be screened by Otoacoustic Emission, those who do not qualify are reexamined after four weeks and if they still unable to meet the requirements are scrutinized by brain stem evoked response in advanced audiological setups.

Programs should ideally aim to screen all neonates before one month of age. A diagnostic audiological investigation is necessary for those who do not pass the screening not later than three months of age. So the cases picked up having decreased hearing may be offered high gain hearing aid or cochlear implant followed by speech therapy. These individuals may then be referred to special schools for better education. Many countries recommended and have been implementing hearing screening in their NHS program⁶.

It is dire need to create awareness at individual and national level. We may have teaching cadre or pamphlets for the parents of newborn so they may adopt simple measures for early detection of hearing loss. These measures are startle reflex, eye blinking, fist clinching and turning of head towards the source of sound. In the second stage, health care professionals should strive for the implementation of advanced hearing screening by OAE and ABR.

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Correspondence to:

Muhammad Jamalullah
Professor of ENT Department
Al-Nafees Medical College
Isra University, Islamabad Campus, Pakistan
Email: Jamalullahm@gmail.com

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