



A Comparative Analysis of Otoacoustic Emission and Automated Auditory Brainstem Response for Newborn Hearing Screening

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To the Editor: Early detection of hearing loss in infants is crucial for their developmental trajectory, especially cognitive, linguistic and social components [1]. In India, where the prevalence of hearing disabilities among children is relatively high, early identification through newborn screening becomes integral component of neonatal care allowing for optimal outcomes [2]. We conducted a retrospective study comparing otoacoustic emission (OAE) and automated auditory brainstem response (AABR) screening methods, aiming to find out the most effective approach for early identification of hearing impairment in neonates.

Data were collected from two branches of our hospital chain having similar patient profiles, over one year, encompassing 2495 newborns. AABR was utilized for 1387 neonates in one unit and OAE for 1108 newborns in the other. Comparative analysis focused on initial screening failure rates and follow-up compliance rates between the two methods.

Our study revealed a significant difference in initial failure rates between the two methods, with AABR demonstrating a 2.73% (38) initial failure rate compared to OAE's 10.01% (111). Subsequent screening showed no failures in either group. However, AABR demonstrated a lower loss to follow-up rate (2.63%) compared to OAE (14.41%). This illustrates that fewer babies requiring subsequent screening leads to lower follow-up losses.

Most similar studies from other countries have reported lower failure rates for AABR compared to OAE [3]. A meta-analysis by Heidari et al. favored AABR for its higher sensitivity and specificity [4].

Our study, the first of its kind in India, seems to indicate the superiority of AABR over OAE for newborn hearing screening. AABR may help lower initial screening failure rates and improve follow-up compliance. This research may contribute to the refinement of newborn hearing screening practices, potentially helping ensure timely intervention and optimal auditory outcomes for all infants.

Declarations

Conflict of Interest None.

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