

The Most Optimum Age for Distortion Product Otoacoustic Emission Hearing Screening in Caesarean-delivered Neonates

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There is no universally accepted criterion for optimal age to implement initial Distortion Product Otoacoustic Emission (OAE) hearing screening in caesarean-delivered (CD) neonates, although suggestions from various researchers are available. As an initiative step, this study was aimed at determining the most optimum age for DPOAE screening in CD neonates. A descriptive cross-sectional study was carried out on 101 full term (>37Weeks) CD neonates who were subjected to DPOAE hearing screening during neonatal age of 0-48 hours, 9-11 days and 23-25 days, respectively. Any neonate failing the third screen was subjected to a detailed hearing evaluation. Failure rates of 67.3%, 12.36% and 1.23% were obtained during 0-48 hours, 9-11 days and 23-25 days of life, respectively. Compared with first DPOAE hearing screening group (0-48 hours), failure rate among second DPOAE group (9-11 days) was significantly 5.4 fold lower (67.3%-12.36%) whereas failure rate among third DPOAE group (23-25 days) was most significantly 54.7 fold (67.3%-1.23%) lower. Only one neonate failed the third DPOAE screen, and the detailed hearing evaluation results for the baby reported normal hearing sensitivity. The study findings suggest that the age of initial DPOAE hearing screening of CD babies should be postponed beyond 48 hours of neonatal age and the most optimum age range for neonatal hearing screening for caesarean delivered babies is at 23-25 days.