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Results of 5 years AABR neonatal hearing screening in Dutch NICU's

H.L.M van Straaten (Isala Kliniek, Zwolle), E.T.M. Hille & P.H. Verkerk (LUMC, Leiden),

h.l.m.van.straaten@isala.nl

Objective: Evaluation of Dutch hearing screening program in Neonatal Intensive Care Units (NICU).

Material and Method: Since 1999 a two step Automated Auditory Brainstem Response hearing screening program is gradually introduced in all 10 Dutch NICU's. Inclusion criteria for hearing screening are ≥ 48 hr intensive care, positive family anamnesis for hearing loss and cranio-facial malformations. Central data registration enables tracking of the newborns and monitoring of the quality of the program (by TNO-Quality of Life, Leiden).

Results: From 1998-2004, 16831 survivors were enrolled in the program. Mean gestational age was 33.5 week (SD 4.7), mean birth weight 1750g (SD 1016). 1.0% of parents refused. Total losses were 1.5%. In 99.7% of the tests a result was obtained. 90.8% of newborns passed the first round. Finally 3.0% of newborns were referred for audiologic diagnostics. Hereby 1.8% turned out to have a bilateral, 0.5% a unilateral and 0.7% no hearing loss. Of the infants with two abnormal AABR test results 80% were at diagnostic follow up diagnosed as having a hearing loss. 25% of the unilateral referrals turned out to have a bilateral hearing loss.

Conclusion: An AABR hearing screening program in Dutch NICU's meets high quality performance criteria, results in a 1.8% bilateral and 0.5% unilateral hearing loss and has a low number of false positives.