

Effect van vroege versterking op taalvaardigheid bij kinderen in de DECIBEL-studie

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Objective: Investigate within a nationwide pseudo-randomized study on Developmental Evaluation of Children: Impact and Benefits of Early hearing screening strategies Leiden (DECIBEL study) the effect on spoken language development of Newborn Hearing Screening (NHS) compared with Distraction Hearing Screening (DHS).

Design: This study compares the spoken language abilities of children identified by NHS and by DHS at the age of 3-5 years.

Setting: The NHS-program is introduced with nation-wide coverage in 2006. Birth cohort between 2003 and 2005, resident to the Netherlands at birth, known to an Audiological Center with bilateral PCHI (hearing level in the better ear >40dB) at the age of 3-5 years.

Participants: 152 children were selected based on their parents consent to fill in language questionnaires and children from whom language test data were available through the Audiological Centers.

Main outcome measures: language outcomes at the age of 3-5 years on production and perception of the Reynell Language Scales (Dutch version), and on Dutch versions of two parental questionnaires (McArthur-CDI and Minnesota-CDI).

Results: Average hearing impairment of NHS-group (N=84) is not different from DHS group (N=68). The start of first amplification improved significantly from 29 months for the DHS group to 17 months for the NHS group. A sub-analysis of the whole group shows that children receiving early amplification (< 6 months, N = 36) have a significant better expressive language score compared to children receiving late amplification (> 6 months, N = 116), respectively 90 vs. 83 quotient points.

Conclusions: A first analysis shows that the NHS program results in a significantly earlier amplification to an average of 17 months. The subgroup with early amplification (< 6 months) shows a significantly higher expressive language quotient. The absolute value of 17 months for first amplification is still high but most likely the result of initial organizational problems.