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Does fluctuating conductive hearing loss affect children's phonological development in the early ages?

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Background: One complication of acute otitis media is middle ear effusion, resulting in fluctuating conductive hearing loss. Fluctuating conductive hearing loss has been found to affect children's phonological development. From a developmental perspective, the difference between child and adult word productions is described in terms of phonological processes. However, a complete phonological analysis should include not only generative but also non-linear phonological analysis, i.e. a description of the child's phonology per se, including word and syllable shapes, and phoneme inventory. A complete phonological analysis of otitis-prone children is justified for two reasons: (1) early identification of children at risk of needing intervention, and (2) identification of additional phonological processes specific to fluctuating hearing loss, for differential diagnosis purposes. This paper presents the first stage of an extended, longitudinal study of phonological development of Swedish otitis-prone children.

Method: Four otitis-prone children, two 2,5 and two 3,5 years old, were selected from a larger sample. Speech samples, containing maximally 104 words per child, were elicited by standardized picture naming tasks. The full section of the data collection was recorded. The speech samples were narrowly transcribed, and analyzed with both a non-linear and a generative phonological approach.

Results: The analyses showed that word- and syllable shapes, phoneme inventories, and occurrences of whole word and segment substitution processes for the four children were within age-normal range of phonological development.

Conclusions: The finding that phonological development for these four children was within normal limits raises several questions. For instance, were the results influenced by the sampling procedure, or the kindergartens' pedagogical programme, that is designed to stimulate language development? Moreover, fluctuating hearing loss might affect phonological development more noticeably if other causes of delayed phonological development are also present, or might affect other aspects, or other stages, than those investigated.

