
CANCELLED - To investigate the ‘phrase in noise test’ in English among children with cochlear implant age of 4-5 years

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Abstract

Introduction: Assessment of speech perception abilities are an integral part of rehabilitation (AV Program) for children with CI. Along with other standardized measures, it helps in marking progress of children throughout the program period. Poor auditory performance on standardized test can lead to poor outcomes from program and need for modifications in amplification provided. The phrase in noise test may help in estimating speech understanding difficulty in real life situation. Tests for speech in noise are generally carried out in an audiological setup/clinic to perform the tests, however a test administered virtually will be helpful in post COVID situations. The study aims to investigate viability of using a virtual mode of presentation for the phrase in noise test among children with hearing impairment. Phrase in noise test in English will be presented at different SNR conditions. It will be presented over an internet connected platform and responses of children will be compared between this (remotely monitored) to test presented through standard audiometer in sound treated room (standard method).

Method: Phrase test in English (developed by Gomez, Bhat, 2016) was the stimulus for the study. Phrases were combined with 4 talker speech babble noise at thirteen different SNR conditions (from +6 dB to -6 dB) differing by one dB, constant Signal intensity 65 dB and varying noise level was used. Five phrases were available for each SNR condition. The test was administered on 30 children with hearing impairment (PTA higher than 65dB HL). All participants were users of CI and having expressive language level of 3.5 years or higher. A virtual mode was chosen for test administration. Recorded stimuli were played using a Dell Vostro 14 3000 laptop in a quiet room with fixed level of volume control. The SNR of each phrase was checked prior to the test administration using a SLM. At each SNR level, five phrases were played and responses were recorded. The test was also administered on the same children through a regular audiometer in a sound treated room.

Results: Data collection is still ongoing. Results of the two test conditions will be compared statistically. That may help verify reliability of test presentation through laptop remotely. Rank correlation as well as repeated measure ANOVA will help verify similarity, if any, in scores obtained through the two different test conditions.

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