PTH051

Spoken Language in Hearing Impairment Children with Digital Hearing-Aid or Cochlear Implant: Grammatical Strengths and Weaknesses

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Abstract:
In this study, semi spontaneous samples of spoken language are analysed. Participants are 30 children with severe or profound deafness who employ digital hearing-aid or cochlear implant. The main goal is to find out the strengths and weaknesses of their grammatical skills in order to employ that information in designing speech therapy programs.

The age of our participants is ranged from 6 to 13. They have no other handicap associated and employ hearing-aid or cochlear implant at least since aged 4. We have used the test called "Formulación de oraciones" (Formulation of sentences), taken from the Spanish edition of the CELF-4 by Semel, Wiig and Secord (2006), being the age-range 5 through 21 years. Each participant formulates a sentence using an orally presented target word or phrase with a stimulus picture as a reference.

These sentences are analysed in order to obtain the score that allow us to get an equivalent age. Furthermore, we analyse in which type of sentences most of the mistakes are made and the errors that can be found in a non-grammatical sentence (omission, replacements, additions and those related to syntactic agreement or verbal flexion). Once this is done, the sample is classified into two groups depending on the grade of grammaticality (high and low degree). Finally, we analyse some variables that can explain the difference of performance in relation to the grammaticality, which are these: using cochlear implant or digital hearing aid, belonging to the younger group (6-9 years of age) or to the elder one(10-13), having been fitted early (0-2 years of age), medium (2,1-3) o late (3.1-5).

Data show that only 6% reach an equivalence between linguistic and chronological ages. Overall it is observed that most of the sentences are simple and grammatical. However, we find frequent grammatical mistakes when complex sentences are used. The main errors are these: omission of functional words and non-lexical verbs, replacement of verbal modes and tenses and lack of agreement between verb and subject. Age when the fitting was applied and interaction between age and kind of fitting are variables with a significant effect (p=.006. and p=.002) Mean scores reveal that the participants with better level of grammaticality are the elder children employing digital hearing aids (severe hearing impairment).

These results must be taken into account when planning a speech therapy fitted to the strengths and weaknesses observed.

Learning Outcomes: Participants will be aware of how advanced technology improves language skills though some weaknesses require intervention. Participants will gain understanding of the main grammatical difficulties observed in hearing impairment children. Participants will receive a useful information to design the aims a speech therapy leaded to hearing impairment children must have.

This abstract advances the priorities of the WHO collaborative plan