"EFFECT OF SENSORY NEURAL HEARING IMPAIRMENT ON BALANCE IN CHILDREN - A CROSS SECTIONAL OBSERVATIONAL STUDY"

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ABSTRACT

Hearing is one of the five major senses.[1] There is a 20-70% prevalence of vestibular dysfunction reported in children with the sensory neural hearing loss.[2] They show vestibular function impairment because cochlea and vestibule share continuous membranous labyrinth of the inner ear and balance impairment because otolith organs contribute to postural control, particularly through the vestibulospinal system.[3] Balance assessment is not a routine procedure in children with hearing impairment.[4-5] Hence, this study incorporates balance assessment to find out how much they lack when compared with normal children. This two-group study involved 40 children, i.e., 20 children with sensorineural hearing loss and 20 with normal hearing, aged between 8 to 14 years. Pediatric balance scale and Modified Clinical Test of Sensory Interaction in Balance (CTSIB-M) scale on 20 normal and 20 deaf children (sensorineural deafness) were used to assess vestibular function, static and dynamic balance. For data analysis paired t test was used. Result of this study showed that Mean age was 11.47. The mean value of CTSIB-M score for normal children was 119.6 and that of deaf children was 110.7. Significance difference p value is 0.008. The mean value of PBS score for normal children was 55.3 and that of deaf children was 54. Significance difference p value is 0.008. That shows p value is 0.05 indicating significant difference in balance between normal and deaf children. It was concluded that children with sensory neural hearing impairment showed lower dynamic balance performance than normal hearing children.

Key Words: Sensorineural hearing loss, vestibular function, static and dynamic balance.

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