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Comparative Laterality in (central) auditory processing disorders and dyslexia

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Background

Laterality may be assessed through dichotic testing and is a measure of hemispheric brain functioning and specialization. It is generally documented that the left hemisphere is specialized for language and the right for music and speech prosody. Scientific references of dichotic digits are numerous and include a Greek dichotic digits test.

Materials and methods

The Greek dichotic digits test was digitalized with simultaneous removal of noise and optimization of speech quality. The test was then administered at a supra-threshold level through headphones in a group of children diagnosed with (central) auditory processing disorders and/or dyslexia as well as in a control group.

Results

Percentages of correct identification of digits were calculated separately for each ear and the scores were organized and analyzed according to the four subject groups. Group 1: normal children, Group 2: children diagnosed with dyslexia, Group 3: children diagnosed with (C)APD and Group 4: children diagnosed with both dyslexia and (C)APD. Mean scores for the right ear were 90.25, 86.88, 76.50 and 70.83 for groups 1,2,3 and 4 respectively and for the left ear 88, 84.58, 70.83, 70.83.

Conclusions

Children with (Central) Auditory Processing Disorders and children with co-existing dyslexia and (C) APD show greater difficulty in performing the dichotic digits test as opposed to normal children and children with dyslexia. This could aid in more appropriate intervention for dyslexic children.

References

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