

Abstract

Title: Occurrence of coordination disorders in children with hearing impairment

Objectives: The aim of this master thesis was to verify the hypothesis that children with hearing impairment have higher incidence of sensorimotor issues by assessing their motor skills, physical fitness and somatognostic functions. A partial goal was to assess the correlation between the methods used.

Methods: The examination group consisted of 73 children (27 girls and 46 boys) with hearing impairment aged 7 to 16 years (mean age 11.9 ± 2.8 years). The mean weight of the children was 47.7 ± 17.4 kg, the mean height was 153 ± 17.5 cm and the average BMI value was 19.7 ± 4.1 . Following methods for testing of children with hearing impairment were utilized: the Movemet Assessment Battery for Children – Second Edition (MABC-2) and Unifittest 6-60. Results were evaluated according to Czech standards. All children were also tested for their somatognostic functions according to Kolář. Furthermore, anamnestic data were obtained from parents of 54 children using a non-standardized questionnaire. In the case of 20 children, the assessment was repeated after 3 years. Statistica and Microsoft Excel 2016 were used for data processing.

Results: The hypothesis was confirmed, i.e. children with hearing impairment have higher incidence of motor disorders compared to standards for Czech children. Based on results of the Movemet Assessment Battery for Children – Second Edition (MABC-2), 46% of children have no issue, 25% of children have increased probability of motor disorders (amber zone) and 29% of children have significant motor disorders (red zone – Developmental Coordination Disorder). The Unifittest 6-60 physical fitness test results grouped all children in the following way: 78% of children with significantly below-average results, 10% with below-average results, 11% with average results and only 1% with above-average results. The assessment also showed a statistically significant correlation between

the results of both motor tests; correlation between somatognostic functions testing results and motoric testing results and also correlation between repeated measurements from 2014 and 2017.

Keywords: test battery MABC-2, fine motor skills, gross motor skills, balance, somatognosia, Developmental Coordination Disorder (DCD)