

Abstract

Author: Bc. Anna Pavelková

Title: Correlation of physical activity, motor skills and flat feet in children aged 7-15 years

Objectives: The aim of the diploma thesis is to map the level of physical activity of selected age population of children that were indicated for physiotherapy, based on a questionnaire of physical activity PAQ-C. To monitor whether we find physical activity at levels 1 and 2 out (low physical activity) out of 5 levels possible in children with flatfeet, on the basis of the PAQ-C questionnaire. Further objectify the flatfeet using a podoscope, and determine the level of the flatfeet according to Clement. Confirm / disprove the effect of the level of flatfeet on the achievement of the percentile (component and total) of the test battery MABC-2 in the evaluation of motor skills (especially balance and gross motor skills).

Methods: A group of 15 children aged ± 10 years with diagnosed flatfeet (indicated for individual or group physiotherapy) formed a research sample for our study. Proband filled out an anamnestic questionnaire and a questionnaire on physical activity PAQ-C. Photographs of the plantogram of patients' were taken from the podoscope using a Huawei P9 Lite mobile camera (2017) placed on a tripod. The level of flatfeet was evaluated according to Clement based on the Chippaux-Šmirák index in the AutoCAD 2020 software. The examination of motor skills was performed using a standardized test battery MABC-2. Statistical data processing took place in Microsoft Excel 2019.

Results: Low physical activity in the group of children with flatfeet was not confirmed. The influence of the level of flatfeet according to Clement on the percentile evaluation of the total motor skills according to the MABC-2 test battery was not confirmed. The descending order of the component percentile evaluation of motor skills - fine motor skills, gross motor skills, balance was not proven. However, an increased number of children with motor difficulties and the risk of motor difficulties can be observed when compared to the average population. The average standard score of the components of fine motor skills, gross motor skills and balance is below the population average. Based on the average standard score, the balance component showed the worst result in comparison to the fine and gross motor components.

Conclusion: In comparison to the population sample, a trend of a higher incidence of impaired motor skills in children with flatfeet is observed. The balance component turned out to be the most affected (lowest average standard score), in comparison to fine and gross motor skills.

Keywords: foot arch, fine motor skills, gross motor skills, balance, younger school age, older school age, PAQ-C, MABC-2