ABSTRACT

The main objective of this bachelor thesis is to compare the effectiveness of simple visual examination and use of clinical tests in diagnostics of flat feet. Another goal targets mapping the diagnosis of flat feet among pediatricians. Last but not least, I would like to open a discussion on whether it is advantageous to perform clinical tests in a pediatric outpatient clinic.

Methods:

In this study probands aged 7-11 years underwent a clinical examination of feet (sitting, standing and walking) as a part of a regular preventive check-up, followed by two clinical tests - the Heel-rise test and the Jack test. So as to achieve the objective evaluation of the flat feet, a total of three measurements were performed on the PhysioSensing pressure plate. It is a portable dynamic plantograph that allows the detection of the load on the areas of the sole of the foot and the subsequent calculation of the Arch index parameter. On its basis it is possible to classify the degree of flat feet. The work also included a questionnaire for pediatricians in the Google Forms format that contained 12 questions related to the diagnosis of flat feet. A descriptive analysis was performed.

Results:

A total number of 34 children were enrolled in the study, 3 did not attend and one participant was excluded from the study. The study finally involved 30 probands. The analysis was performed individually for both feet. Based on the McNemar test (p-value 0.033) and Wilcoxon test (p-value 0.024), it is possible to argue that the conclusions from the visual examination and clinical tests differ. According to the match table, visual examination identified 43 flat feet, compared with 35 diagnosed by clinical tests. In addition, clinical tests showed a higher agreement with the plantograph screening results (60 %), including a higher value of the Cohen kappa coefficient. Assuming the objectivity of the plantographic examination, the clinical tests can be considered slightly more accurate. The questionnaire was filled in by 224 pediatricians from all regions of the Czech Republic. The Jack test is regularly performed by 4.5 % of the respondents, irregularly by 12 %, the Heel-rise test by 34 % irregularly, by 19.6 % regularly. The rest of pediatricians do not perform clinical trials.

Conclusion:

Different outcome of visual screening and clinical tests has been demonstrated. The values of the coefficients used in the study indicate a greater efficiency of the clinical tests. Most of the pediatricians do not use the mentioned clinical assessment during preventive check-ups.

Key words:

flat foot in childhood, flat foot diagnostics, clinical assessment, Jack test, Heel-rise test, PhysioSensing, pressure plate