Abstract

Standardized tests in the paediatric population are a tool for physiotherapists to objectively assess the current state, the effect of therapy, as well as long-term monitoring of the patient. However, the results may be skewed by the growth and development with which the child naturally improves. Reference standards of healthy population help to avoid this problem, but they are missing for the Czech population.

The aim of this thesis is to develop a methodology for creating norms for selected gait tests (Six Minute Walk Test, Ten Meter Walk Test, Timed Up and Go test; 6MWT, 10MWT, TUG) in the pediatric population and to test it on a pilot sample of probands. Another aim is to test the reliability of the 10MWT and TUG in this population. Finally, also to determine whether gender, age, anthropometric parameters (height, body weight, length of lower extremity, abdominal circumference) or socioeconomic status have an effect on the resulting 6MWT, 10MWT or TUG values. If the sample size is sufficient, determine the prediction equation and construct percentile plots for boys and girls at 6MWT.

The practical part includes testing 247 probands aged 7-11 years in primary schools in the Kralovehradecky region in walking tests (6MWT, 10MWT, TUG) and evaluation of questionnaire data and measured values.

The results of the distance covered in the 6MWT and the average times in the TUG and 10MWT did not differ between girls and boys. The effect of age and length of lower extremity was demonstrated for all tests. BMI had an effect only on distance covered in the 6MWT. Socioeconomic status had no effect on any of the tests. Both the TUG and 10MWT tests proved to be reliable tools. Predictive equation and percentile plots could not be produced due to insufficient sample size.

The objectives of the study were met, but further research and an interdisciplinary team is needed in the future to develop good quality gait test standards for the entire Czech population of healthy children.

Keywords

Standard setting of motor tests, child population, Six Minute Walk test, Ten Meters Walk test, Timed Up and Go test