

Abstract

Title: Evaluation of the strength of selected muscle groups and the range of motion in sport aerobics athletes

Objective: Sport aerobics belongs to group of sport gymnastics, which brings increased demands especially on joint mobility, muscle strength and coordination of movement. Athletes are selected according to these prerequisites the development of which is still supported by training. The thesis follow up the physical measurement of these attributes.

The Aim: Evaluation of joint mobility and muscle strength of 12–16 year old sport aerobic athletes and their correlations. Furthermore, the comparison together with the level of the performance group.

Method: Measurement of joint mobility using goniometry, hypermobility evaluation using Beighton score, measurement of the muscle strength using HUMAC isokinetic dynamometer. Comparison of measured results with performance group level.

Results: During measurement of the joint range using the method goniometry was found, that in flexion of the hip joint had 100 % of the athletes increased joint motion. In hip extension, the joint range wasn't increased at all. Beighton score showed, that 90 % of athletes were constitutionally hypermobile. The relationship between joint range and the values of the muscle strength – peak torque has not been proven.

Key words: gymnastics, sport aerobics, hypermobility, muscle strength, isokinetic dynamometer, HUMAC NORM CYBEX