Abstract

Title: Influence of different way of strength training on body composition, postural stability and muscle and explosive strength in Men's Physique and Street Workout Athletes

Objectives: The aim of the thesis was to find out the level and the difference between the parameters of body constitution, postural stability and muscular and explosive force of upper and lower limbs with groups of Men´s Physique and Street Workout athletes.

Methods: The research sample was represented by two groups (Men´s Physique competitors and Street Workout athletes). We assessed chosen parameters of body constitution by Tanita MC-980MA, postural stability by RS Footscan, explosive force (Kistler) and muscular force (Cybex Humac Norm and Takei A5401). Assessed parameters of body constitution were percentage of body fat and fatless matter. In the tests of postural stability, we assessed total travel way of the center of pressure (TTW) in chosen stands (open/closed eyes and one-leg left/right). When testing explosive force, overall produced maximal force and height of the leap were assessed. Muscular force of upper limbs was evaluated by produced force in kg and muscular force of lower limbs was assessed with the help of muscular force moment in concentric muscle activity with angular velocity 60°·s-1.

Result: We found out a significant difference between the given groups in the tests of explosive force of the lower limbs in the parameters height of the leap in CMJF ($F_{1,8} = 7,83$; $p < 0,03$) and in the parameters overall produced force ($F_{1,8} = 6,75$; $p < 0,04$). Significant was also the difference in SQJ in the parameters overall produced force (F1,8 = 6,12; p <0,04). Than in muscle force tests, the force ratio between Quadriceps and Hamstring of non-dominant lower limb (F1,8 = 5,54; p <0,05). Finally, the FFMI difference between the MP and SW groups (F1.8 = 5.57; p <0.05). In the other tests we didn’t find out any significant differences.

Keywords: Kinetics, testing, diagnostics, workout, fitness, posture, dysbalance.