

Abstract

Title: Comparison of the level of agility with maximum force of the lower limbs, measured by using a leg press, for players of football in junior category.

Objectives: Comparison of maximum strength of lower limbs measured by the leg press with the performance in agility. Comparison of maximum strength of lower limbs measured by the leg press with performances in the short sprints. Comparison between the individual sprints.

Method: The group consisted of 66 measured players aged 15 – 19 years old. The players passed the test throughout the day including the battery tests: tanity (height, weight, amount of fat, amount of muscle mass, bone mass, metabolic age, BMI, protein expressed in kilograms, TBW, ICW, ECW, BMR, visceral fat, segmental analysis-muscle mass in kilograms, fat percentage and phase angles-segmental), stability, handgrip (dominant limb + performance), long jump one foot, agility (Arrowhead R and L, Illinois, K-test, Hexagon, 505 R and L), linear speed (5, 10, 20 m run and 20 m flying run), the maximum force of the lower limbs (leg press), anthropometry (the length and width of each of the segments, the fold of skin, the circumference of the thighs, calves and ankles), SJ, Plyo-6 hops, CMJ- free arms, CMJ- fixed arms, Cybex. From this test battery was used data from tests linear speed, the maximum force of the lower limbs and agility tests.

The results: The highest values of the correlation between the test of maximum force of the lower limbs and agility tests gets Arrowhead R test (-0.44) and Arrowhead L test (-0.42). However, this is only about the medium dependency. Other tests fall within the category of low dependency.

In comparison test of the maximum force of the lower limbs with linear speed tests only 5m sprint ended up with lower levels of dependencies (-0.28), other tests were done in the range (-0.40 to -0.47) showing a medium dependency.

Correlation between linear speed tests showed very high values between similarly distance runs. The highest value of the correlation coefficient was noted between the 20 meters flying sprint and 40 meters (0.96). The second highest value (0.92) was measured between the 10 and 20 meters. The third highest value occurred in sprint at the 10 meters and 40 meters (0.91). This is a very high dependency. In contrast, the smallest dependence has been observed in the sprint for 5 meters and 20 meters flying (0.49).

Keywords: maximum strength, agility, linear speed, leg press, soccer