P102. Relationship Between Body Composition and Physical Capacities in Pubertal Soccer Players

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INTRODUCTION

Power and speed usually support the decisive decision-making situations in professional soccer, for example, straight sprinting is the most frequent physical action in goal situations (Faude et al., 2012). The aim of this study was to analyse the relationship between body composition and physical capacities in soccer in pubertal soccer players from the total squad and playing field position perspectives.

METHODS

A total of 48 soccer players (15.0±0.5 years; 60.2±7.2 kg; 1.72±0.06 m) participated in the study. Later, the group was divided in 14 defenders, midfield and forward players, a total of 42 players, for player field position analysis. Body composition was assessed through a bioelectric impedance analysis method (Tanita BC 420S MA, Japan). The strength of lower limbs was determined using Ergojump System (Byomedic, SCP, Barcelona, Spain) and countermovement (CMJ). Maximal isometric strength was evaluated using a digital dynamometer, handgrip (HG), (Camry 90 kg), agility was evaluated using the Illinois Agility Run Test and the speed by a 30 m sprint test measured with a stopwatch (Golfinho Sports MC 815, Aveiro, Portugal). Flexibility was assessed through the seat and reach test. Pearson correlation coefficients were determined.

RESULTS

Globally (48 players), correlations were observed between agility and weight ($r=0.37$, $p<0.05$), %BF ($r=0.30$, $p<0.05$) and %MM ($r=0.32$, $p<0.05$). HG correlated only to the 30m sprint ($r=-0.30$, $p<0.05$) and, as expected, CMJ was correlated to agility ($r=-0.54$, $p<0.01$) and sprint ($r=-0.48$, $p<0.01$), the last was also correlated to flexibility ($r=0.43$, $p<0.01$). Analysing the results by players field position, at body composition level, only %MM in the midfield players correlated to performance in a physical capacity test, namely agility ($r=0.55$, $p<0.05$). CMJ correlated to the agility test only in the defensive ($r=-0.56$, $p<0.05$) and forward players ($r=-0.64$, $p<0.05$). Velocity was correlated to CMJ in the defensive player ($r=-0.56$, $p<0.05$) and was the most correlated physical capacity with the agility test, namely in defensive ($r=0.77$, $p<0.01$), midfield ($r=0.58$, $p<0.05$) and forward players ($r=-0.82$, $p<0.01$).

CONCLUSIONS

This study evidences that body composition and physical capacities are related in pubertal soccer player and the global soccer squad analysis in these ages may lead to results that do not consider field position specificities. These facts should be considered in talent identification and daily training practice in pubertal soccer players.

References

Faude, O., Koch, T., Meyer, T. (2012). Straight sprinting is the most frequent action in goal situations in professional football. J Sports Sci, 30(7), 625-31.