PERFORMANCE MONITORING IN YOUNG MALE BASKETBALL PLAYERS
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Objectives. Basketball players combine elements of power and endurance exercises during training. They need high levels of muscles power to achieve fast running speed and powerful jumping. An aerobic capacity is important to maintain high performance level of the athletes throughout all the game. An aim of our investigation is to determine endurance and power characteristics in young male basketball players.

Methods. Thirty-four Latvian elite male basketball players participated in the investigation. We divided them into two age groups: 15-17 years and 18-21 years old to compare the performance changes with age and duration of training. An endurance of the athletes is determined on a treadmill. The running speed increases step by step for every 2 minutes by 0,25 m/s. An oxygen uptake, heart rate, lactic acid level in the plasma, and vertical jumps height (counter-movement and free) are measured.

Results. The height, weight and body mass index (BMI) do not differ significantly between age groups. In the younger age group the average height is 198,6 ± 7,0 cm, weight 92,1 ± 15,2 kg, BMI 23,4 ± 2,8 kg/m². In the older age group the height is 195,6 ± 9,2 cm, weight 89,6 ± 11,3 kg, BMI 23,4 ± 2,0 kg/m².

The relative maximal oxygen uptake in the younger basketball players is 53,0 ± 6,8 ml/kg·min., but in the older group: 55,1 ± 5,3 ml/kg·min., the difference is none significant.

All parameters determined at the anaerobic threshold level exercises are none significantly better in the older group of athletes. The average relative oxygen uptake in the age group 15-17 years is 47,5 ± 5,2 ml/kg·min., but in the age group 18-21 years 49,2 ± 4,2 ml/kg·min. The running speed is 3,55 ± 0,31 m/s in the younger group and 3,80 ± 0,37 m/s in the older players. The average heart rate is 176 ± 5 beats per min. in the younger basketball players and 173 ± 7 beats per min. in the older athletes.

The maximal height of the counter-movement jump is none significantly higher in the older basketball players (49,9 ± 8,0 cm) in comparison with the younger group (44,9 ± 6,8 cm). The free jump height is 60,5 ± 9,0 cm in the older group and 55,1 ± 8,7 cm in the younger group, the difference is none significant.

Conclusions. The endurance and power characteristics are slightly, none significantly better in the age group of 18-21 years old basketball players in comparison with the age group of 15-17 years.

The performance improvement in the older group of athletes can be explained by the sport training effect. It is not related to the growth because the average height and weight are none significantly higher in the younger athletes.

Keywords: Performance Diagnosis, Basketball

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