Abstract

Title: Body composition of the Czech national snowboardcross team

Objectives: The aim of this work is to measure and evaluate body composition as a factor influencing sports performance in the Czech snowboardcross team and comparison with relevant data of foreign authors.

Methods: We evaluated body composition data using whole-body BIA analysis (Bodystat 1500 monofrequency analyzer in the field), anthropometric examination (height, weight) and waist-hip ratio, indicating the risk of cardiovascular disease. At the same time, we recorded the age and length of training of snowboarders. We used statistical operations (arithmetic mean, standard deviation, minima and maxima, statistical and material significance) for data analysis. We also compared the data with the relevant results of national teams of Italy and the USA (Vernillo et al., 2016; Sands et al., 2021) and data from the untrained population (Schutz et al., 2002; Abe et al., 2018).

Results: We found that the average BMI of the Czech national team in snowboarding is 24.49 ± 1.8 kg/m^2 (men) and 23.95 ± 0.94 kg/m^2 (women). The mean WHR is 0.8 ± 0.03 (males) and 0.72 ± 0.04 (females). The Czech representatives significantly ($p < 0.05$) and materially ($d \geq 0.8$) differ significantly from the untrained population in FFMI values of 21.6 ± 1.1 kg/m^2 (SBX men) 18.3 ± 1.2 kg/m^2 (SBX women). The Czech male representatives differ insignificantly statistically ($p \geq 0.05$) and materially ($d < 0.8$) from the national teams of Italy and the USA in terms of age (Italy data only), body height, weight and body fat percentage (Italy data only). The female national representatives of the Czech Republic differ materially ($d = 1.21$) from the US female representatives in weight. Age and body height differ insignificantly statistically ($p \geq 0.05$) and ($d < 0.8$).

Keywords: snowboarding, snowboardcross, body composition, SBX, bioelectric impedance, performance, body mass index