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ABSTRACT BOOK

IZVODI SAOPŠTENJA



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RESTING METABOLIC RATE RELATED TO BODY COMPOSITION IN DIFFERENT SPORT DISCIPLINES

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Introduction. Resting metabolic rate (BMR) is the minimal amount of energy the body requires while resting. Body composition (BC) is known to have an impact on BMR and vice versa. The aim of the study was to show the influence of different sport disciplines on BMR regarding BC.

Material and Methods. The sample comprised 360 men (between the ages of 18 and 38). They were divided into 4 groups: I – men who do anaerobic sports (n=90), II – men who do aerobic sports (n=90), III- men who do sports recreationally (n=90), and IV- sedentary control group (n=90). BMR was measured by indirect calorimetry FitMate, Cosmed, Italy. BC was assessed by the bioelectrical impedance, Inbody 720, Great Britain.

Results. The I group showed the highest RMR, 2298.67 ± 298.1 kcal/day, compared to the other groups. II group had 2250.21 ± 316.3 kcal/day; III- 2147.80 ± 337.3 kcal/day; and IV group - 1983.79 ± 316.1 kcal/day. The IV group had the lowest BMR compared to all the other groups ($p < 0.05$). The BC showed that the IV group had the highest body mass index (BMI) of 26.04 ± 3.5 kg/m² where the skeletal muscle mass (SMM) had the lowest level of $44.53 \pm 3.9\%$, compared to the other groups. The IV group showed lowest SMM ($46.19 \pm 4.1\%$), while the I group showed the highest SMM of $49.36 \pm 3.6\%$, compared to the other sports groups ($p < 0.05$).

Conclusion. Based on the obtained results, we may conclude that anaerobic sports showed highest BMR to maintain the energy requirements and proper BC within appropriate muscle mass that may contribute to better sport achievements and healthy lifestyle, respectively.

Keywords: Resting Metabolic Rate, Indirect Calorimetry, Body Composition, Sport