Body water percentage and its relationship with fat percentage, BMI, physical activity and fitness level


Introduction: A proper corporal hydration, physical activity and physical fitness level are three factors closely related to people’s health.

Objective: This study aims to determine the relationship among body water percentage, assessed with anthropometric parameters and the amount of physical activity and also fitness level of a group of university women students.

Method: 57 women aged 21.02 ± 2.45 years were measured and weighed by Tanita Segmental BC-418MA with the purpose of obtaining results of body water, BMI and body fat percentage. Ipaq-Short Form was used to quantify physical activity. As for the fitness level, the test was conducted by Forest Service, and thus determine VO2Max (n = 36) by using the Polar Team program. For the Pearson correlation (r), SPSS 22.0 for Windows was used.

Results: The results indicate significant correlations (p <0.001) between both body fat percentage and BMI, and between the VO2Max (p <0.05) and body water percentage.

Conclusions: Body water percentage decreases as body fat percentage does, and BMI increase when increasing VO2max. The body fatty tissue composition and the fitness level modified the body water percentage of the analyzed group.

Key words: body water percentage, body fat percentage, VO2Max.

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Water intake and body water percentage, role of physical activity in university women students

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Introduction: Physical activity and proper hydration status have a direct impact on health.

Objective: This work aims to analyze the water intake and hydration status in university women students who present different levels of physical activity.

Method: 57 university women students, age of 21.02 ± 2.45 years were classified according to Ipaaq-Short Form in sedentary (n = 10), medium physical activity (n = 37) and high physical activity (n = 10). Water intake was analyzed in each group by a food and beverage intake record during a period of seven days, they were transformed into energy and nutrient intake by Nutriber (version 1.1.1.3r); and water percentage of the total body weight by bioimpedance (Segmental Tanita BF-418). Nonparametric Kruskal-Wallis test was used (SPSS 22.0 for Windows).

Results: Results showed significant differences between sedentary and medium physical activity groups (p <0.05) and between sedentary and high physical activity groups (p <0.05). In both cases the sedentary group shows the higher body water percentage. According to the levels of physical activity, water intake has not shown significant differences among groups.

Conclusions: None of the groups drink the amount of water recommended for their age. Despite this, hydration is compatible with a normal intake and it is higher in the sedentary group than in those doing some physical activity.

Key words: percentage body water, water intake, physical activity.

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Influence of alcohol consumption on hydration status in healthy adults

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Introduction: Both osmolality and water intake are considered key biomarkers of the hydration status, which is necessary for adequate cellular homeostasis and wellbeing. However, alcohol intake has been shown to affect the hydration status due to an elevated diuresis effect.

Objective: To evaluate the influence of alcohol consumption on the hydration status of healthy adults.

Method: This study was performed in 123 adults (25-45 y, 69% women). Blood samples were collected to analyze osmolality levels and a 72 h-recall food ques-