

THE EFFECT OF PHYSICAL EXERCISE ON THE BODY WATER LEVELS AND MUSCLE MASS IN SUBJECTS ENGAGED IN RECREATIVE PHYSICAL ACTIVITY

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Background: Different research studies show that people who exercise regularly have higher levels of body water due to predominance of lean muscle tissue instead of adipose tissue. Sedentary lifestyle leads to increase in the body fat mass and decrease in the percentage of body water. The aim of the study was to explore the effects of regular recreative physical exercise on the body water levels and muscle.

Methods and Objectives: Study included 50 subjects of both genders aged 18 to 55 years, who engaged in recreational physical exercise. All subjects were measured at baseline, before they started to exercise and after period of three months. Body composition was analyzed by Bioelectrical impedance. All subjects exercised three times a week for 75 minutes. Exercise plan consisted of combined anaerobic training for 45 minutes and aerobic training for 30 minutes. Dietary advice was not provided for participants. Descriptive and analytical statistics methods were used in statistical data processing. Statistical data processing was done in the SPSS Windows version 25 software package.

Results: After three months, the percentage of body water was increased by 1.95% ($p < 0.001$) and it was statistically significant in both sexes ($p < 0.001$). At the end of the study, muscle mass values were higher by 0.62 kg ($p = 0.034$). In relation to gender, a statistically significant difference was found between two measurements in women ($p = 0.025$), while in men this difference was not significant ($p = 0.194$).

Conclusions: Results show that regular physical activity has a favorable effect on the level of body water and muscle mass, that leads to better cardiovascular outcomes.

Keywords: physical inactivity, exercise, body water, muscle mass