Biology of Sport

pISSN 0860-021X

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Journal Abstract

Influence of a monitored aerobic training and a low-energy diet on serum leptin concentration in obese women

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Biol Sport 2003; 20 (1):

ICID: 6703

Article type: Original article

IC™ Value: 10.26

Abstract provided by Publisher



The study focused on the influence of a 9-week monitored energy deficit on serum leptin level in 16 obese women. Additionally, measurements of body components and total cholesterol (CHO), HDL cholesterol (HDL) and triacylglycerols (TRG) concentration in blood were carried out, concentration of LDL cholesterol (LDL) was evaluated. Energy deficit was induced by a diet and "fat burning" type exercises. Leptin concentration in blood serum was significantly higher before $(41.7\pm16.5~\text{ng/ml})$ than after the accomplishment of experiment $(24.7\pm16.2~\text{ng/ml})$. Body mass decreased, which was mainly due to a drop in body fat (from $36.6\pm13.9~\text{kg}$ to $29.0\pm12.5~\text{kg}$). All changes have been statistically significant at the level of P<0.001. A significant decrease of CHO (from $187.9\pm26.3~\text{mg/dl}$ to $167.1\pm25.4~\text{mg/dl}$; P<0.001) and LDL (from $115.5\pm25.1~\text{mg/dl}$ to $102.3\pm21.5~\text{mg/dl}$; P<0.05) concentration in blood was noticed. However, changes in HDL and TRG concentration were statistically insignificant. There was a statistically significant correlation (P<0.05) recorded between changes in leptin concentration in blood and changes in body mass, BMI and body fat (0.51;~0.58;~0.64~respectively). No correlation was observed between leptin and lean body mass, CHO, HDL, LDL or TRG.

ICID 6703

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