

ESTROGENS (β -ESTRADIOL) AND TESTOSTERONE HORMONES, AS RESPONSIBLE FACTORS FOR CHANGES IN LIPID PROFILE AND BODY COMPOSITION IN MALE ELITE ATHLETES

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Introduction

The practice of physical activity and a balanced diet have been identified as strategies to acquire cardiovascular benefits. This study attends to determinate the changes in hormones, testosterone (T) and estrogen (E_2) levels, as a result of regular practice, vigorous physical activity and its influence on body composition and lipid profiles in male athletes, since this gender has a higher prevalence of cardiovascular disease.

Methods

In this study where recruited 42 male participants 20 of them professional soccer players (SG) (age 15-28 years) and as control group 22 students (CG) with sedentary lifestyle (aged 18-28 years). The SG workout two times a day, 4 times a week (duration between 60 and 90 minutes each), and competing in football match`s at the weekend. The SG is also subject to a medical diet control. Anthropometric evaluation body composition and clinical analysis where used to determinate the lipid profile and the hormone levels. IPAQ in CG

Results

There were significant differences between groups (SG minor than CG) mainly in abdominal, subscapular and thigh skinfolds; hips and waist circumference; in the lipid profile the total cholesterol, triglycerides, HDL- C levels. On the levels of T and E_2 CG values were minor than SG one`s. We noticed a strong correlation between physical activity level and the T concentration and significant increase among the E_2 levels with exercise. There`s a strong correlation between the increase of T levels and the reduction of subscapular, abdominal skinfolds and waist circumference.

Discussion

The results of the present study suggest that vigorous physical activity have improved the body composition, particularly in the reduction of central fat mass, in the SG and there lipid profile by increasing the T levels. The findings support that individuals who practice vigorous physical activity in a relation of "dose-effect" acquire additional benefits which reduces the risk of mortality (Teramoto et al 2009; Tompson et al 2007).

References

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