

Effects of aerobic, resistance and concurrent training on Irisin, Myostatin, blood lipids, physical fitness in inactive girls Supervisor

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The purpose of this study was to evaluate the effects three modes of training on serum level of irisin, myostatin, blood lipids and physical fitness after 8 weeks of training in young inactive girls. A group of 38 inactivate healthy normal and over weight girls were randomly assigned into four groups including: a control (n=9; age: 25.50±4.80 years old; BMI: 23.28±2.62 kg/m²; WHR: 0.75±0.05), an aerobic training (n=9; age: 24.66±2.29 years old; BMI: 27.70±2.70 kg/m²; WHR: 0.78±0.04), a resistance training (n=10; age: 24.60±2.45 years old; BMI: 23.45±2.83 kg/m²; WHR: 0.74±0.03), or concurrent (aerobic-resistance training; n=10; age: 26.60±4.00 years old; BMI: 24.87±4.21 kg/m²; WHR: 0.79±0.03; BF%:37.96±9.52). Subjects in the all training groups exercised 3 times per week for 8 weeks in accordance with the American College of Sports Medicine recommendations. Aerobic training was composed of 65 min, of exercise at an intensity of 65-75 % of the age-predicted maximum heart rate. Resistance training consisted of 9 exercise with machine and free weight (65-75 % 1RM, 2-4 set, 8-12 repetition, 65 min) and combine training include 25 min aerobic exercise and 25-30 min resistance exercise for 5 exercises (total 65 min) at the same intensity of the other two groups. Fasting blood sample were taken before and 24 hour after last training session, to evaluate Serum level of irisin, myostatin and lipids concentration. Also, Subject's physical fitness was measured before and after 8 week of training period. The concurrent training significantly decreased serum irisin concentration (P 0.05). Myostatsatin serum level was statistically decreased in resistance and concurrent training (P 0.05). Cholesterol, triglyceride, and HDL, were significantly improve in all training groups compared to control (P 0.05). An increase in muscle strength was observed in all training groups, but the increase was higher in resistance group compare to other

groups (P 0.05). VO2max just improved in aerobic group (P

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