

Sirinthorn Kanha 2009: Effect of Aerobic Combine with Resistance Exercise on Lipid Profile in Overweight and Obese Women. Master of Science (Sports Science), Major Field: Sports Science, Interdisciplinary Graduate Program. Thesis Advisor: Mrs.Ratree Ruangthai, Ed.D. 144 pages.

The purpose of this research were the study and comparison of the effects of aerobics combined with resistance exercise on lipid profile and physical fitness. 24 overweight and obese women, aged between 28-43 years with a body mass index of over 23 kg./ m<sup>2</sup> were the volunteer subjects in this study. The participants were divided into three groups, to 8 subjects per group. The control group was assigned to pursue normal daily life activities , the experiment group 1 to participate in an aerobic exercise program and the experiment group 2 to do aerobics combined with a resistance exercise program for 3-5 day per week during a period of 12 weeks. The measurement of the blood lipid sample and physical fitness was done prior and after the test. Data was analyzed by the application of mean, standard deviation, matched pair t-test, one-way ANOVA and multiple comparison assessment by LSD method .The significance difference of this research set at .05.

The results show that there was a significant differences between the mean of total cholesterol (TC) in the control group, the experiment group 1 and the experiment group 2 after a 12 week training period. Both experiment group 1 and group 2 exhibited a significant reduction of TC and LDL-C after 12 week of training. Physical fitness flexibility and VO<sub>2</sub>max were significantly increased in both of experiment group 1 and group 2. The percentage of subcutaneous fat was significantly decreased in the experimental group 1. The waist circumference, WHR, leg muscle strength and abdominal endurance only showed significant difference from the control group in experiment group 2. This study concludes that both aerobic exercise and combine exercise programs can decrease lipid profile (TC and LDL-C), body fat and induce improved flexibility and cardiovascular fitness. However, the subjects in group 2 who participated in aerobics combined with a resistance exercise program increased muscle strength and endurance, decreased waist circumferences or abdominal fat and reduced the risk of cardiovascular disease or obesity.

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Student's signature

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Thesis Advisor's signature