

Worasit Seaburin 2010: Effects of Exercise Training Between Small Side Game and Sport-Specific Exercise on Aerobic and Anaerobic Fitness in Soccer Players. Master of Science (Sports Science), Major Field: Sports Science, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Ratre Ruangthai, Ed.D. 131 pages.

The purpose of this research was to study the effects of exercise training between small side game and sport-specific exercise on aerobic and anaerobic fitness. Thirty male subjects aged 18-22 years old, who were football players at Mahidol University. The subjects were simple randomly assigned into three experimental groups with 10 subjects in each group. The first experimental group performed continuous training while the second experimental group performed small side game training and the third experimental group performed sport-specific exercise training. Subjects were trained 3 day per week for 8 weeks. All subjects were tested for the maximal oxygen consumption ( $VO_{2max}$ ), muscle strength test by isokinetics dynamometer, running time in 30 meter (sec), agility test and muscle power. Data were analyzed using mean, standard error and one-way ANOVA. Multiple comparisons were performed using the Tukey method at the 0.05 level of significance.

The results of this study showed that the maximal oxygen consumption and peak torque of knee extension after eight weeks of training were not significantly different among the three groups. However, peak torque of knee flexion in small side game group and sport-specific exercise group were significantly differences ( $p < 0.05$ ) from continuous training group. In addition, ratio of knee flexion and extension, running time in 30 meter, agility test, and muscle power in small side game group were significantly differences ( $p < 0.05$ ) from continuous training group. There were no significant differences between small side game group and sport-specific exercise group. Moreover, the effects of three exercise training on maximal oxygen consumption ( $VO_{2max}$ ) and peak torque of knee flexion after eight weeks were significantly differences ( $p < 0.05$ ) from pre-training. In addition, running time in 30 meter, agility test, and muscle power in small side game group and sport-specific exercise group after eight weeks were significantly differences ( $p < 0.05$ ) from pre-training.

The result indicated that effects of exercise training of small side game and sport-specific exercise increased both aerobic and anaerobic fitness in soccer players. The finding will be useful for the applied training to improve aerobic and anaerobic fitness in soccer players as well.

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Thesis Advisor's signature