

Thesis Title The Effect of Training on Body Fat and Physical
Fitness in Physical Education College Runners.
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ABSTRACT

The effect of physical training on the changes of body fat and physical fitness of the runners were studied. The main objective was to examine the association between body fat and physical fitness of the runners. Study population were 53 students (38 males and 15 females) from Angthong, Chonburi, Samutsakorn and Suphanburi Physical Education College. The subjects were representative of their colleges in competition of the 16th Physical Education College Games which held in 1990.

The study was divided into 3 phases, first period of training, intensive training and post training. Data were collected by measuring skinfolds and physical fitness of each subject. A 3-day dietary records and interview for general background were also performed.

The results of the study revealed that the average body fat of

male runners was statistically decreased during the intensive training than the first period, and post training period ($p < 0.05$), but the change in body fat was not significantly different among the female runners of all 3 periods. The results of physical fitness measurement indicated that hand grip strength, leg extension strength, sit-up, flexibility, and agility of male runners were significantly increased during the post training compared with the first period ($p < 0.05$).

The significant improvement of female runners on hand grip strength, and agility were observed during the post training period compared with those of the first training period. It was also found that leg extension strength and flexibility during post training were significantly higher than intensive training ($p < 0.05$). In addition, resting pulse rates of female subjects taken during intensive training period were significantly lower than those of the post training period ($p < 0.05$).

The association between the body fat, and physical fitness of both male and female runners were analyzed and found that the differences of body fat were positive correlation with physical fitness (leg extension strength, and horizontal jumping) during the first and post training periods ($p < 0.05$). The differences of body fat during the first and intensive training periods were also positive correlation with physical fitness on horizontal jumping among female runners ($p < 0.05$).

It can be concluded from the results of the study that training could assist to reduce body fat. Additionally, it may help to increase physical fitness.