

Jarunun Phanggamta 2009: The Effect of Core Body Training on Exercise Ball and the Floor Exercise upon Back Muscle Strength and Flexibility in Rhythmic Gymnastics. Master of Science (Sports Science), Major Field: Sports Science, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Supitr Samahito, Ph.D. 95 pages.

The purposes of this research were to study and contrast the effect of core body training on exercise ball and the floor exercise upon back muscle strength and flexibility. The subjects were 30 female rhythmic gymnastics of age 9-15 years old of Jintanagymnastics Club. They were divided into 3 groups with 10 subjects in each group by randomly assignment. The control group performed their usual rhythmic gymnastics, the experimental group 1 performed their usual rhythmic gymnastics combined with the core body training on exercise ball while the experimental group 2 performed their usual rhythmic gymnastics along with the core body training on floor exercise. The experimental groups participated in the training programs 3 days a week for 8 weeks. Then, data were analyzed by using mean, standard deviation, one-way analysis of variance with repeated measures, one-way analysis of covariance and multiple comparison testing by Tukey's method at the .05 level of significance.

The results indicated that the back muscle strength after 8 weeks of two experimental groups were significant difference from the control group ( $p < .05$ ). There were no significant differences in back muscle strength after 8 weeks between the experimental group 1 and the experimental group 2. In addition, the results showed that the increased percent of back muscle strength and flexibility of experimental group 1 using on exercise ball were better than the experimental group 2 using on floor exercise and the controlled group. The findings of this study later used to develop back muscle strength and flexibility.

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