Rojana Noojiam 2009: Effects of Whey Protein Supplementation on Body Composition and Muscle Strength in Weightlifters. Master of Science (Sports Science), Major Field: Sports Science, Interdisciplinary Graduate Program. Thesis Advisor: Mr. Jakapong Khaothin, Ph.D. 83 pages.

The purpose of this research was to study the effects of whey protein supplementation combined with a 6-week weightlifting program on body composition and muscle strength in weightlifters. Twenty male weightlifters were recruited from Angthong Sport School to participate in this study. The participants were randomly assigned to receive whey protein (n=10) or maltodextrin as a placebo (n=10) 1.0 g/kg/day. Either whey protein or maltodextrin were divided into two equal doses / day in the morning and in the evening after the weightlifting program. The dependent variables of body composition (body fat and fat-free mass) and muscle strength as one repetition maximum bench press and leg press were measured before and after week 3 and week 6 of whey protein or placebo supplementation.

The results showed that whey protein supplementation combined with weightlifting program for 6 weeks had a significant effect on increasing fat-free mass and decreasing body fat mass whereas no significant change in body weight was detected. In addition, there was a significant increase in muscle strength for one repetition maximum of bench press, however, the trend over increased muscle strength for one repetition maximum of leg press had effectiveness after 6 weeks of the study.

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