Comparison of Circuit Training Based on Wrestling Techniques with Wrestling Ordinary Training Regarding the Effectiveness on Cortisol, Testosterone and TCR in Young Wrestlers

Mahmoud Hesar Koshki¹, Azam Mollanovruzí²

¹.PhD degree of biochemistry and sports metabolism, 2.Assistant professor of exercise physiology, Kosar University of Bojnord, Iran

The role of testosterone as anabolic hormone and cortisol as a catabolic hormone is very important. Testosterone: cortisol ratio (TCR) also expresses the balance of anabolic and catabolic muscle metabolism. According to previous research cannot offered consistent pattern of cortisol and testosterone in response to exercise. Therefore, aim of this study was comparison of circuit training based on wrestling techniques with wrestling ordinary training regarding the effectiveness on cortisol, testosterone and TCR in young wrestlers. Twenty one subjects division were divided according to weight, into two groups of circuit training, based on wrestling techniques (n=12) and wrestling ordinary training (n=12). After performing functional tests, blood sampling was done before and after of training. The subjects performed circuit method and ordinary wrestling exercise four weeks, using six wrestling techniques. Independent and paired t-test was used for data analysis. Results showed that circuit training based on these wrestling techniques after four weeks showed no significant differences between the two groups in levels of cortisol (P=0.42), testosterone (P=0.94) and TCR (P=0.83). Intra-group comparison however revealed that the ordinary wrestling exercises caused significantly reduced in testosterone (P=0.04) and TCR (P=0.04). It is recognized that intense exercise are needed to produce testosterone response, so intense exercise main drivers of this hormone secretion. In present study decrease in TCR in wrestling ordinary training group may be showed catabolic state following four weeks ordinary wrestling training.

**KEY WORDS**: Testosterone, Cortisol, TCR, wrestling exercise, circuit training