Effect of intensive training on salivary level of cortisol, testosterone, $\alpha$-amylase and mood of elite adolescent wrestlers

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Abstract

Background and Objective: Increasing the intensity of training is one of the factors that improve the athletic performance. Evaluation of psychological and biochemical factors is believed to be beneficial for evaluating the effectiveness of training schedule. Previous studies have shown that there are various responses to the training intensity due to the level of athlete’s fitness and the kind of training. This study was done to investigate the effect of intensive training on salivary level of cortisol, testosterone, $\alpha$-amylase and mood of elite adolescent wrestlers.

Materials and Methods: This quasi-experimental study was performed on fifteen adolescent wrestlers of Iranian national team during 2009. The subjects were under extension training for three weeks. The saliva samples were taken prior, first, second and third weeks of training to determine cortisol, testosterone and $\alpha$-amylase level of salivary samples. Also, the Brahms questionnaire was used to assess the mood profile before and after the training. Data were analyzed using SPSS-14, ANOVA and student t-tests.

Results: There was no significant differences of salivary cortisol (7.69±0.75, 8.1±0.93 ng/ml), testosterone (82.3±0.89, 64.2±1.7 ng/ml), $\alpha$-amylase (98.81±1.35, 84.2±1.5 U/ml) level and mood (16.4±3.28, 20.08±2.91) of subjects prior and after training.

Conclusion: This study indicated that the intensive training do not alter salivary hormons level and mood of elite adolescent wrestlers.

Keywords: Training, Cortisol, Testosterone, $\alpha$-amylase, Saliva, Mood profile, Adolescent wrestlers

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