

## Current issue

## Archival Issues

Volume 27, 2010  
Volume 26, 2009  
Volume 25, 2008  
Volume 24, 2007  
Volume 23, 2006  
Volume 22, 2005  
Volume 21, 2004  
Volume 20, 2003

## Search

## Newsletter

## Authors Pathway

## Information for Authors



## » Journal Abstract

Effects of training time on serum immunoglobulin alterations and cortisol testosterone responses in male athlete students

MJ Pourvaghari, AA Ghaeini, AA Ravasi, MR Kordi

*Biol Sport* 2010; 27 (1):

ICID: 907783

Article type: Original article

IC™ Value: 9.38

Abstract provided by Publisher



The purpose of this study was to examine the effect of incremental continuous running as well as morning vs evening-time training on changes in serum immunoglobulins including IgA, IgG, IgM, testosterone, and cortisol hormones responses. For this reason, 28 male athletic students were purposefully selected and randomly divided into the two groups; morning-time training group (n=14, weight=68.2±9.8kg, age=19.5±1.6 years, training time=7: 30 AM) and evening-time training group (n=14, weight=63.8±8.4 kg, age=19.81±1.24 years, training time =16: 30 PM). The participants were trained according to an incremental continuous running program with a certain heart rate for two months (16 sessions). To determine the amount of serum immunoglobulins as well as cortisol and testosterone hormones, the participants' blood samples were taken twice, once 24 hours before the first training session and once 24 hours after training session. Then, a 12 – minute running-walking test was used to measure the maximal oxygen consumption. The results showed there were not any significant differences between the amounts of IgA, IgM, IgG serum of both groups in pre-test and post-test (i.e., respectively, p=0.727, p=0.068, p=0.14). Also, there were not any significant differences between the amounts of testosterone and cortisol hormones secreted of both groups in pre-test and post-test. However, there were significant differences between the concentrations of cortisol hormone of the two groups in pre-test (p=0.006) and post-test (p=0.0001). More ever, the results also showed a significant difference between the pre-test of the morning-time training group and the post-test of the evening-time training group (p=0.0001). The findings of this research indicate that cortisol hormone is influenced by the time of training, which is due to circadian rhythm.

ICID 907783

[FULL TEXT](#) 157 KB

### Related articles

- in IndexCopernicus™
  - ↳ Circadian Rhythm [815 related records]
  - ↳ immunoglobulin [5 related records]
  - ↳ Cortisol [20 related records]
  - ↳ Testosterone [403 related records]
  - ↳ Continuous aerobic running [0 related records]

Search

Back

