



## Comparing the Serum Levels of IL-2, IL-6, TNF $\alpha$ , IFN- $\gamma$ and CRP between Sprinter Athletes and Non-athletes

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### Abstract

The aim of this study was to compare changes in serum levels of IL-2, IL-6, TNF $\alpha$ , IFN- $\gamma$  and CRP in athletes of speed runners and non-athletes. The statistical sample of this study included 70 young men aged 20 to 25 years old. Twenty participants were sprinter and 50 non-athletes. Then, they were divided into two groups: speed runners (20 persons) with mean ( $78 \pm 41.4$  kg; height:  $181.2 \pm 13.2$  cm; age:  $21.2 \pm 14$  years; body mass index:  $1.94 \pm 1$ ; 23) and non-athletic group (50 persons) with mean (weight:  $77 \pm 6.26$  kg; height:  $180 \pm 3.22$  cm;  $22 \pm 2/45$ ; body mass index  $23 \pm 2/02$ ). Blood samples were prepared to measure the IL-2, IL-6, TNF $\alpha$ , IFN- $\gamma$  and CRP variables and were determined by ELISA method. In order to analyze the data, inferential statistical test of independent t test was used for comparison between groups. Independent t-test showed a significant difference between the groups in IL-2 ( $p = 0.0225$ , IL-6 ( $p = 0.028$ ), TNF $\alpha$  ( $p = 0.1010$ ) and CRP ( $p = 0.016$ ); however, there was no significant difference in the level of IFN- $\gamma$  between the two groups. Considering that cytokine changes were observed in speed runners. It is recommended that the trainers make a significant contribution to strengthening the safety system during the preparation period.

**Key Words:** Sprinter, Interleukin-2, Interleukin-6, C-Reactive Protein, Interferon-Gamma, Tumor Necrosis Factor Alpha.