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## The comparison of the level of the IL-2, IL-6, IL-10, IFN- $\gamma$ and serum cortisol hormone in young athlete and non-athlete men

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It has been shown that two types of cells (Th1/Th2 cells) play critical roles in defensive immune responses and in immunopathological disorders such as allergic reactions and autoimmune diseases, and the methods of detecting Th1 and Th2 cells have become more important. The purpose of this research is to compare the level of Th1 cells (IL-2, IFN- $\gamma$ ), Th2 cells (IL-6, IL-10) and serum cortisol hormone in young athlete and non-athlete men. This is an applied research that its data is gathered by free method. So in order to carry out the research among healthy and volunteer people, 20 of them (weight:  $78 \pm 4.1$  kg, height:  $179 \pm 3.59$  m, age:  $26 \pm 4.38$  and BMI:  $24 \pm 1.51$ ) are sorted in athletes group (scientific group) and 12 of them (weight:  $79 \pm 4.62$  kg, height:  $181 \pm 2.51$  m, age:  $25 \pm 4.32$  and BMI:  $24 \pm 1.63$ ) in non-athletes group (control group). The scientific group includes those athletes who have atleast 6 months of regular aerobic exercise and control group are the people who haven't had any sport experience. Blood samples for evaluating the above factors in Elisa method are taken from both groups. Considering that the data were normal, with a T test, the independent student in the meaningful level of ( $P \leq 0/005$ ) is examined. Comparing the average amount of IL-2, IL-6, IL-10, IFN- $\gamma$  and serum cortisol hormone in both groups, the amount of IL-6 and cortisol hormones in the scientific group has reduced considerably ( $p < 0/05$ ). The results of this research showed that aerobic exercise changed the balance of Th1/Th2 to TH1. This change is an effect of the reduction of TH1 anti-inflammatory cytokines and can be helpful in cure of rheumatic and allergic sickness.

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