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THE EFFECT OF AN INCREASING AEROBIC EXERCISE SESSION ON SAFETY SYSTEM FOOTBALLERS IN CITY GENAVEH

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ABSTRACT

The purpose of this study, the effect of a growing aerobic training session on seeds of white blood cells (lymphocytes, monocytes, leukocytes, eosinophils, basophils, neutrophils) are footballers was Ganaveh city, Subjects were 13 patients with a mean age of footballers city Ganaveh .,22/30±4/17, Height, 171/53±6/33, Weight 70/84±8/47, And body mass index 24/03±1/91 Who voluntarily participated in this study. This quasi-experimental study of the purpose and subject of at least three years of professional sports were soccer. All participants in two stages (pre-test and post-test) blood samples were taken. Statistical analysis Data were analyzed using paired t-test and a significance level of P<0/05 was considered. The results showed that compared to pre-test to post-test safety factor in the amount of leukocytes p<0/0001, Lymphocytes p<0/0001, Monocytes p<0/0001, Neutrophil p<0/0001, Basophils p<0/0001 Not significant, According to the results of physical activity per session release corticosteroids and inflammatory responses induced cortisol increase focus and concentration the peripheral white blood cells.

Keywords: Leukocytes, Lymphocytes, Monocytes, Neutrophils, Basophils, Increased Aerobic Exercise.

INTRODUCTION

Among other body systems functioning immune system is a special place. So that not only provides the proper growth and health but also the stability of the body against many diseases and deficiencies increase the incidence of various diseases

as well as prevent (Nayman, 2005). Obviously, numerous factors can be used to strengthen or weaken this vital body system function. Knowledge of these factors and the way they impact on the immune system due to a better understanding of its function and help to increase the compatibility of the different circumstances of life. Among these factors are important exercise Because the welfare of the machine and increase life stressors associated with this kind of life with various cardiovascular diseases, blood and the like, along with sport and exercise influence in this regard, many researchers as a have proposed ways to strengthen Necessity of research

Intense activity can have a significant impact on several of the human immune system, for example, the amount of change in the number of immune cells depends on the intensity of the activity, nutrition and changes in stress hormones like epinephrine and cortisol activity after activity there. However, increased levels of immune cells during exercise, but a brief period of immunosuppression in the recovery after strenuous activity occurs, which may increase the readiness for infection and inflammation (Tymenz and et al., 2004).the immune system (Babaei et al., 2003). Many people believe that the more and more intense exercise, the body resistance against diseases and of health will have more favorable effects of exercise on the belief of some body systems including cardiovascular and respiratory systems, while research on the long-term effects of repeated and vigorous exercise on the immune system, upper respiratory tract infection and destruction shows safety factors (Mel Nico et al. , 2007). The rapid growth of sport, competition and professional sports as well as outstanding young researchers in heavy physical activity difficult and requires that the strengthening of the scientific basis of the field of research to do In the company of athletes in competition, while ensuring their health (Havilan et al., 2003). The study was conducted to determine the effect of exercise on the immune system, have shown that exercise has contradictory effects on the immune system to leave in the sense that training with a uniform intensity, enhance immune responses are, in the case of intense and exhaustive exercise, the consequences of an adverse immune response (Green et al., 2003). In general, physical activity, growth and development in athlete's increases, but recent studies have shown that early practice sessions leading to catabolism in athletes is greater than anabolism (Mohammadi et al., 2011). Leukocytes and changes in these levels during intense exercise and long-term it depends on many

factors including time, intensity and duration of exercise and diet, hormones and cytokines density , changes in body temperature and blood flow and other factors that turn them into more research and more precisely needs to be based on (Lim et al., 2005).

LITERATURE

Baj et al. (1994), observed that neutrophil function during a period of low intensity exercise did not change at athletes, but during training with high intensity decreased. Faren Born (1993) reported that immediately after a treadmill test session in men and to the point of exhaustion, neutrophil count increased by 30%, but up to an hour after a workout before the return. Huck et al. (1994), the number of neutrophils in male distance runners work during the period intense of a workout than training courses and subjects in the control group decreased style Pedersen et al (2000) found concentrations of lymphocytes during intense exercise and prolonged decline, but later, the concentration of lymphocytes increased. Malm and colleagues (2000) showed the introspective exercises neutrophil count increases, but no change the increase in lymphocytes is not created. Goeybal and colleagues (2000) have also pointed out that, along with severe psychological pressure to increase leukocyte activity and its affiliates in leading athletes.

METHODS

Statistical Society

The population, 53 men 20-30 years old footballer who Ganaveh city that based on the answers of volunteers and health provisions demographic questionnaire and consent were selected.

Sample

15 random samples of the population. After selecting subjects, the research topic, objective, methods, as well as applications and potential hazards to be aware of their receipt.

Variables

Independent variable: a growing aerobic workout

Dependent variable leukocytes, lymphocytes, neutrophils, Eosinophils,, basophile,

Statistical Methods

In the statistics, a normal direction (normal) test data Kalymvgrvf Smirnov (KS) was used. The pre-test and post-test for comparison of paired t-test was used. 18 SPSS statistical analysis software were used to help. The significance level of the test $p<0/05$ respectively.

RESULTS

Table 1: Descriptive variable subjects studied groups

Count	Features Mean Standard deviation		Variable group
22/30±4/17	**Age (years)**	13	**Subjects**
171/53±6/33	**Height (cm)**		
70/84±8/47	**Weight (kg)**		
24/03±1/91	**BMI (kg m)**		

Table 2: Descriptive statistics of the study

		Categories
Post-test (mean ± SD)	**Pre-test (mean ± SD)**	**Variable Steps**
11/10±2/13	7/76±1/65	**Leukocytes**
4/52±0/84	2/61±0/46	**Lymphocytes**
0/92±0/22	0/67±0/19	**Monocytes**
5/23±1/56	4/12±1/18	**Neutrophil**
0/10±0/02	0/08±0/03	**Basophils**
0/29±0/21	0/26±0/18	**Eosinophils**

Table 3 Kolmogorov-Smirnov test for normality of the data set

Eosinophils		Basophils		Neutrophil		Monocytes		Lymphocytes		Leukocytes		Variable statistic
After the test	pre-exam	After the test	pre-exam	After the test	pre-exam	After the test	pre-exam	After the test	pre-exam	After the test	pre-exam	
13	13	13	13	13	13	13	13	13	13	13	13	**Number**
0/630	0/979	0/620	1/112	0/754	0/734	0/863	0/728	0/652	0/678	0/532	0/754	**Z statistics**
0/823	0/294	0/837	0/169	0/620	0/655	0/446	0/664	0/789	0/748	0/940	0/620	**Significant**

Table 4 compares the mean and standard deviation of leukocytes before and after exercise

Significant level	Degrees of freedom	value of t	Mean and SD	Leukocytes	Variable statistic
0/0001	12	-8/437	7/76±1/65	**pre-exam**	**Increasing aerobic exercise**
			11/10±2/13	**After the test**	

Table 5 compares the mean and standard deviation of lymphocytes before and after exercise

Significant level	Degrees of freedom	value of t	Mean and SD	Lymphocytes	Variable statistic
0/0001	12	-7/950	2/61±0/46	**pre-exam**	**Increasing aerobic exercise**
			4/52±0/84	**After the test**	

Table 6 compares the mean and standard deviation of monocytes before and after exercise

Significant level	Degrees of freedom	value of t	Mean and SD	Monocytes	Variable statistic
0/0001	12	-5/762	0/67±0/19	**pre-exam**	**Increasing aerobic exercise**
			0/92±0/22	**After the test**	

The first hypothesis test between leukocyte values footballers' city Ganaveh after increasing aerobic exercise significant difference in pre-test and post-test there. The results showed that the comparison between the values of leukocytes footballers city Ganaveh after increasing aerobic exercise pre- and post-test is significant and the null hypothesis is rejected p<0/0001. According to the results of this study, the comparison between the pre-test and post-test football players after an exhaustive aerobic exercise session showed that exhaustive exercise causes significant increase in the amount of leukocytes is of blood of the young footballer This is probably due to the release of physical activity per session focusing corticosteroids increased accumulation of cells Leukocyte be increased but also the development and changes in the above-mentioned factors the duration and continuity of activities and external conditions as well as the qualifications and skills of athletes It depends. It can be said that much more active, longer and with more intensity changes we will have more. Second hypothesis test between the values of lymphocytes footballers' city Ganaveh after increasing aerobic exercise significant difference in pre-test and post-test there. The results showed that the comparison between the values of the city Ganaveh lymphocytes footballer after increasing aerobic exercise in the pre-test and post-test is significant and the null hypothesis is rejected p<0/0001. Lymphocytosis rate during exercise depends on the interaction between exercise intensity and fitness level individual. Like white blood cells, lymphocytes and also increase the amount of work to progressively increase the amount of which depends on the intensity of exercise (Khoshnam et al., 2012). Lymphocytosis of exercise may be influenced by an individual's fitness level because the cell count after exercise in untrained Compared with individuals trained as low but significant increases (Cook, 2010). Research has shown that the number of cells at any time between practice and not as much as 10-20 per cent. On the other hand, the changes are likely related to lymphocytic Catecholamines, cortisol and other factors, for transient immunologic abnormalities occur under such conditions (Elsid, 1999) According to the results of this study, the comparison between the pre-test and post-test athletes footballer after an exhaustive aerobic exercise session showed An exhaustive training session resulted in a significant increase in levels of blood lymphocytes were young footballers This is probably due to increased levels of catecholamines

and cortisol-induced cellular stress following exercise intensity is increased. Third hypothesis test values Gonaveh city monocytes footballers after increasing aerobic exercise in the pre-test and post-test differences were not statistically significant. The results showed that the comparison between the levels of monocyte footballers city Gonaveh after increasing aerobic exercise in the pre-test and post-test is significant and the null hypothesis is rejected p<0/0001. According to the results of this study, the comparison between the pre-test and post-test athletes footballer after an exhaustive aerobic exercise session showed An exhaustive training session resulted in a significant increase in levels of blood monocytes were young footballers This is probably due to an inflammatory response resulting from hormone cortisol and an increase in phagocytic activity and muscle gain from it.

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