



P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (ISRA): 5.38  
IJPESH 2017; 4(4): 216-217  
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www.kheljournal.com  
Received: 04-05-2017  
Accepted: 05-06-2017

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## Effect of aerobic training program on white blood cell count

**Dr. Ranbir Singh**

### Abstract

The purpose of present study was to scrutinize the effect of aerobic training program on white blood cell count. For achieving the purpose of the study data was collected on twenty male students between age group of 18- 23 years from National College of Physical Education Chupki, Patiala. The subjects were allocated into two groups: Group-A: Experimental ( $N_1=10$ ) and Group-B: Control ( $N_2=10$ ). Before and after exercise protocol, the WBC count was measured. Blood sample was taken by the lab technician and was tested in a fully high-tech clinical lab. The experimental group was subjected to a aerobic training program, consisting of five days per week evening session for the period of six - weeks. To compare the effect of aerobic training program on white blood cell count mean, standard deviation and t-test were employed with the help of statistical package of SPSS. To test the hypothesis the significance level was set at 0.05 percent. After statistical dealing, result showed that there was significant the effect of aerobic training program on white blood cell count of experimental group and insignificant effect was found in control group.

**Keywords:** Aerobic training program, white blood cell count, physical education

### Introduction

Physical wellness is a dynamic express that empowers a man to do ordinary exercises without being effortlessly worn out, take an interest in relaxation exercises eagerly and beat troublesome circumstances. As per cardiologists and games science specialists, physical action can increment cardiovascular productivity through expanding the working capability of lungs and heart that prompts the lessening of circulatory strain and destructive quick in the blood. These days open exercise, particularly morning exercise, strolling, running, cycling, running and working out, is mainstream among various gatherings of individuals because of its straightforwardness and accommodation. Due to the popularity of morning exercise, it is important to do some research on whether it is beneficial or not. Therefore investigating the effects of morning exercise is of vital importance.

Akbar Sazvar *et al* (2012) <sup>[4]</sup> considered the impact of morning vigorous exercise on some hematological parameters in youthful, dynamic guys. 26 male (age-19 to 23 year), college understudies with no past smoking encounters or consistent exercise programs were haphazardly chosen and isolated into two gatherings: control and exercise. The discoveries demonstrated that amid an six week morning exercise the quantity of red platelets and hemoglobin levels expanded. While the draining circumstances and the quantity of platelets diminished altogether.

In the present investigation analyst rolled out an endeavor to watch improvements actuated by six week vigorous preparing program in hematological parameters of understudies at higher optional school level.

### Material & Methods

For achieving the purpose of the study data was collected on twenty male students between age group of 18- 23 years from National College of Physical Education Chupki, Patiala. The subjects were allocated into two groups: Group-A: Experimental ( $N_1=10$ ) and Group-B: Control ( $N_2=10$ ).

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**Procedure of blood testing:**

Before and after exercise protocol, the WBC count was measured. Blood sample was taken by the lab technician and was tested in a fully high-tech clinical lab.

**Schedule of six - week aerobic training program:**

The experimental group was subjected to a aerobic training program, consisting of five days per week morning session for the period of six - weeks. A combination of five exercise namely Stair climbing, Rope skipping, Stationary cycling, cross-country (5km) and walking (5km) were used in this

training program.

**Statistical Procedure:**

After the accumulation of significant data, to know the effect of aerobic training program on white blood cell count, t-test was utilized on mean estimations of pre and post-tests with the assistance of SPSS 16.0. The level of significance was set at 0.05 percent.

**Results**

**Table 1:** Comparison of Mean, SD and t-value for Pre and Post Test of WBC Count in Experimental Group

Hematological Variable	Group	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	t-Values
WBC	Experimental	6.98	0.42	7.38	0.39	5.94*

t.<sub>.05</sub> (9) = 2.26

The table no. 1 statistically reveals that the calculated t value 5.94 for WBC count of experimental group is greater than table value 2.26. Hence the values of table shows that, during

six – week aerobic training program the WBC level increased significantly in experimental group.

**Table 2:** Comparison of Mean, SD and t-value for Pre and Post Test of WBC Count in Control Group

Hematological Variable	Group	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	t-Values
WBC	Control	6.90	0.49	7.86	0.46	0.76

t.<sub>.05</sub> (9) = 2.26

The table no. 2 statistically shows that the calculated t value 0.76 for WBC count of control group is less than table value that is 2.26. Therefore, the values of table shows that, during there was significant difference in pre and post WBC count in control group.

**Discussion**

During six – week aerobic training program the WBC count improved significantly in experimental group but in the control group there was no significant alteration in mean values.

**Conclusions**

At the end it can be concluded that six week aerobic training program is helpful for the positive change in WBC count in human blood.

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