An Experimental Study on the Effect of Aerobic Training Protocol on Thrombocytes Count among School Going Deaf Male Students

Pushpinder Singh[a], Nishan Singh Deol[b]
[a]Research Scholar, [b]Head and Professor,
[ab]Department of Physical Education, Punjabi University, Patiala, Punjab, India

Abstract

The purpose of present study was to scrutinize the effect of eight - week aerobic training program on thrombocytes count among deaf male students at higher secondary school level. For achieving the purpose of the study, data was collected on twenty (N=20) deaf students between age of 17- 25 years from Patiala School for deaf and Blind, Safdipur, Patiala, Punjab, India. The subjects were purposively assigned into two groups: Group-A: Experimental (N_1=10) and Group-B: Control (N_2=10). Before and after exercise protocol, the hematological parameter was measured. All blood samples were taken by the lab technician and were examined in a fully computerized clinical laboratory. The experimental group was subjected to a aerobic training program, consisting of five days per week evening session for the period of eight - weeks. To compare the effect of eight - week aerobic training program on thrombocytes count among deaf male students 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. It was found that eight week training program had no significant effect on the thrombocytes count of deaf male students of higher secondary school level.

KEYWORDS: Protocol, Thrombocytes and hematological parameter.

INTRODUCTION

Physical fitness is an active state that enables a person to do everyday activities without being easily tired, participate in leisure activities enthusiastically and overcome difficult situations. According to cardiologists and sports science experts, physical activity can increase cardiovascular efficiency through increasing the working potential of lungs and heart that leads to the reduction of blood pressure and harmful fast in the blood. Nowadays public exercise, especially morning exercise, walking, jogging, cycling, running and working out, is popular among different groups of people due to its ease and convenience.

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.

Kielar et al. (1975) examined the effect of standardized aerobic and anaerobic exercise on blood pH level and thrombocytes count. Seven male athletes were used as subjects in this study. There was no change in the blood pH level and thrombocytes count at the 60 per cent intensity level (aerobic exercise), but at anaerobic levels (80 per cent and maximum) there was an increasing drop of pH with increasing intensity of exercise.

Akbar et al. (2012) studied the effect of morning aerobic exercise on some hematological parameters in young, active males. 26 male (age-19 to 23 year), university students without any previous smoking experiences or regular exercise programs were

randomly selected and divided into two groups: control and exercise. The findings showed that during an eight week morning exercise the number of red blood cells and hemoglobin levels increased. While the bleeding times and the number of platelets decreased significantly.

In the present study researcher made an attempt to observe changes induced by eight week aerobic training program in thrombocytes count of students at higher secondary school level.

MATERIAL & METHODS

Subjects: Data was collected on twenty (N=20) deaf students between age group of 17-25 years (Mean ± SD: age 20.95 ± 2.21years,) from Patiala School for Deaf and Blind, Safdipur, Patiala, Punjab, India. The subjects were purposively assigned into two groups: Group-A: Experimental (N_1=10) and Group-B: Control (N_2=10).

Selection of Variables:

Table – 1: Selected Hematological Variable, Test and Unit of Measurement

Sr.no	Hematological variable	Tests For Measurement	Unit of Measurement	Normal Range
1.	Complete Blood Count	Thrombocytes Count	m/ µL (Thousands per cubic millimeter of blood)	147-347 m/ µL

Procedure of blood testing:

In the present research, eight - week aerobic training program was applied to subjects. Before and after exercise protocol, the thrombocytes count was measured. All blood samples were taken by the lab technician and were examined in a fully computerized clinical laboratory.

Schedule of eight - 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 eight - weeks. Day of exercise, duration and repetitions are presented in table 2.

Table 2: Schedule of eight - week aerobic training program

Day	Aerobic Exercise	Duration	Repetition
Monday	Walking	½ hour	1
Tuesday	Skipping rope	2 minute	6
Wednesday	Stationary cycling	5 minute	3
Thursday	Stair climbing	3 minute	4
Friday	Cross country skill for 3km	---	1
Saturday	Rest	---	---

Sunday	Rest	---	---

Statistical Procedure :
After the collection of relevant data, to know the effect of eight - week aerobic training program on thrombocytes count among deaf students, t-test was employed on mean values of pre and post tests with the help of SPSS 16.0. The level of significance was set at 0.05 percent.

RESULTS

Table No. 3: Comparison of Mean, SD and t-value for Pre and Post Test of Thrombocytes Count in Experimental Group (N_1=10)

Variable	Group	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	t-Values
Thrombocytes	Experimental	2.43	0.33	2.61	0.4	0.98

$t_{.05}$ (9) = 2.26

The table no.3 statistically reveals that the calculated t value 0.98 for thrombocytes count of experimental group is less than table value that is 2.26. Therefore the values of table no. 5 shows that, during eight – weeks aerobic training protocol there is no significant change in thrombocytes level in experimental group. The results of table no 5 are also depicted in figure no. 1

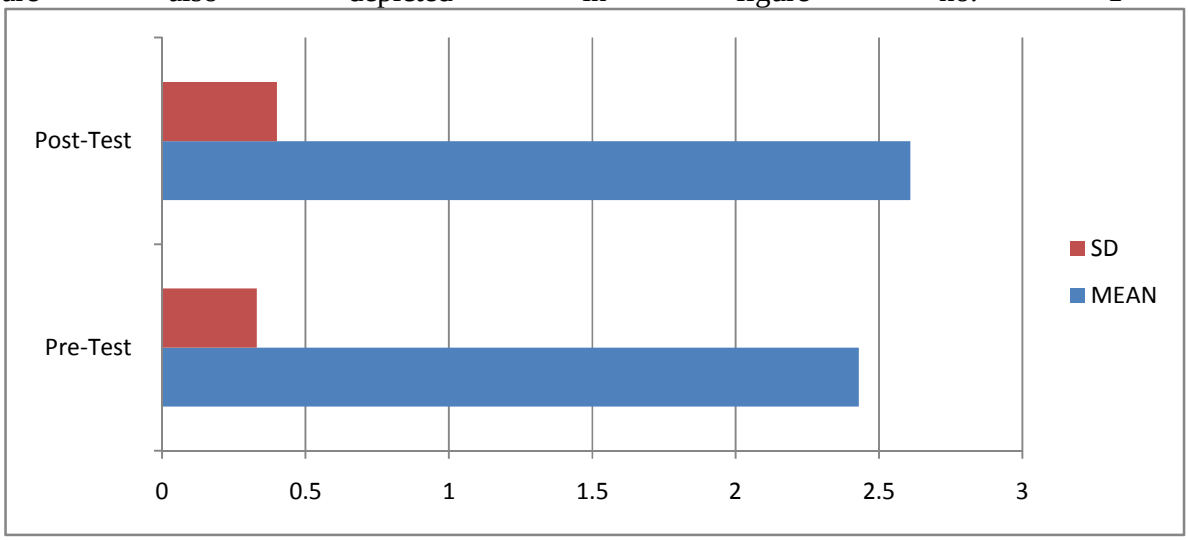

Figure no. 1: Comparison of Mean and SD values for Pre and Post Test of Thrombocytes Count in Experimental Group

Table No. 4: Comparison of Mean, SD and t-value for Pre and Post Test of Thrombocytes Count in Control Group (N_2=10)

Variable	Group	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	t-Values
Thrombocytes	Control	2.55	0.28	2.57	0.20	0.20

The table no. 4 statistically depict that the calculated t value 0.20 for thrombocytes count of control group is less than table value that is 2.26. Hence, the values of table no. 4 shows that, there is no significant difference in pre and post thrombocytes count in control group. The results of table no 6 are also illustrated in figure no. 2

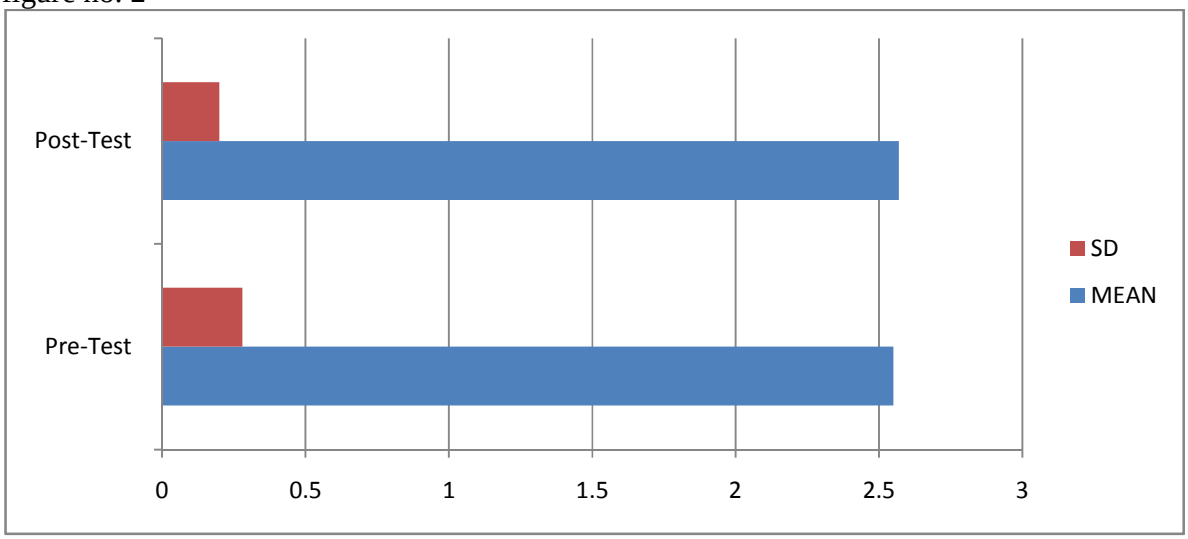

Figure no. 2: Comparison of Mean and SD values for Pre and Post Test of Thrombocytes Count in Control Group

DISCUSSION

During eight – week aerobic training program, non - significant changes were found in the thrombocytes count of experimental and control groups. These results of the study confirm the findings of Kielar et. al. (1975) who also reported insignificant effect of twelve week aerobic training program on blood pH level and thrombocytes count. It's pertinent to mention that in the present study a very light training program was employed and also there was lack of full cooperation by the subjects.

ACKNOWLEDGEMENT

I am heartily thankful to all students of Patiala School for Deaf and Blind, Safdipur, Patiala who served as subjects for this study and without whose help this study could not have been completed.

REFERENCES:

Akbar Sazvar, Mohammad Mohammadi and Farzad Nazem & Nader Farahpour (2012) The Effect of Morning Aerobic Exercise on Some Hematological Parameters in Young, Active Males. *Iranian Journal of Health and Physical Activity* vol. 4 (1), pp. 23-28.

Evrim Çakmakçi, Ahmet Sanioglu, Hüsamettin Vatansev & Kamile Marakoglu, (2010). The Effects Of 8-Week Step-Aerobic Exercise On The Body Composition And Hematologic Parameters In The Obese And Overweight Females. *Physical Education and Sport / Science, Movement and Health* vol. 2(1) pp. 113-117

R. A. Kielar, P. Teraslinna, D. G. Rowe, & J. Jackson, (1975) Standardized aerobic and anaerobic exercise: differential effects on intraocular tension, blood pH, and lactate. *Investigative Ophthalmology* vol. 14 (10), pp.123-129

Morgan R & Patterson (2004), Acute effects of dehydration on sweat composition in men during prolonged exercise in the heat. *Journal of Aging Phys Act* vol. 15, pp. 287-299.