



ISSN: 2456-0057  
IJPNE 2019; 4(1): 149-150  
© 2019 IJPNE  
www.journalofsports.com  
Received: 16-11-2018  
Accepted: 18-12-2018

**Harneet Singh**  
Research Scholar, Department of  
Physical Education, Punjabi  
University, Patiala, Punjab,  
India

**Dr. Jagdish Singh**  
Associate Professor, Prof. G.S.  
Govt. College of Physical  
Education Patiala, Punjab,  
India

## Effect of yoga training and physical training protocol on erythrocytes count of under-graduate male students

**Harneet Singh and Dr. Jagdish Singh**

### Abstract

The purpose of current study was to examine the effect of yoga training and physical training protocol on erythrocytes count of Under-Graduate male students. To attain this purpose total forty-five (N=45) male students between age group of 17- 21 years (Mean  $\pm$  SD: age  $19.26 \pm 1.15$ years.) from Punjab were selected as subjects. Pre-test post – test randomized group design was used as experimental design in which total forty-five male students were divided into three groups of fifteen each as randomly. No attempt was made to equate the groups in any manner. Group - A (N<sub>1</sub>=15) yoga training group, Group-B (N<sub>2</sub>=15) physical training group underwent twelve – week training program and Group-C (N<sub>3</sub>=15) acted as Control group, who did not participate in any special training apart from the regular day to day activities. After the collection of pertinent data, to know the effect of twelve - week yoga training and physical training protocol on erythrocytes count of male students, to identify any significant differences between the pre-tests and post-tests means values of all the groups for the dependent variables paired t-test was employed with the help of Statistical Package for the Social Sciences (SPSS) 16.0. The level of significance was set at 0.05 percent. The result was confirmed that, after the participated in twelve – weeks yoga and physical training protocol the erythrocytes counts were increased significantly among under-graduate male students by the pre and post-test mean values and no significant difference was invent in mean values of pre and post-test of erythrocytes counts in control group.

**Keywords:** Physical training protocol, erythrocytes count

### Introduction

Physical activity improves the quality and prolongs existence of our lives. Those people perform exercises regularly they agree that the main reasons for doing exercise is that it leads for feel good, help them to attain or maintain good health and physical fitness. The effect of regular physical activity significantly improves health, physical fitness and work capacity.

Yoga is a physical, mental, and spiritual practice or discipline which originated in India. Yoga is an ancient Indian science and way of life which talks about the origin of diseases. The texts describe the mechanism of how the suppressed emotions percolate into the physical body manifesting as diseases.

### Procedure and Methodology

To attain this purpose total forty-five (N=45) male students between age group of 17- 21 years (Mean  $\pm$  SD: age  $19.26 \pm 1.15$ years.) from Punjab were selected as subjects. Pre-test post – test randomized group design was used as experimental design in which total forty-five male students were divided into three groups of fifteen each as randomly. No attempt was made to equate the groups in any manner. Group - A (N<sub>1</sub>=15) yoga training group, Group-B (N<sub>2</sub>=15) physical training group underwent twelve – week training program and Group-C (N<sub>3</sub>=15) acted as Control group, who did not participate in any special training apart from the regular day to day activities. After the collection of pertinent data, to know the effect of twelve - week yoga training and physical training protocol on erythrocytes count of male students, to identify any significant differences between the pre-tests and post-tests means values of all the groups for the dependent variables paired t-test was employed with the help of Statistical Package for the Social Sciences (SPSS) 16.0. The level of significance was set at 0.05 percent.

**Correspondence**  
**Harneet Singh**  
Research Scholar, Department of  
Physical Education, Punjabi  
University, Patiala, Punjab,  
India

## Results

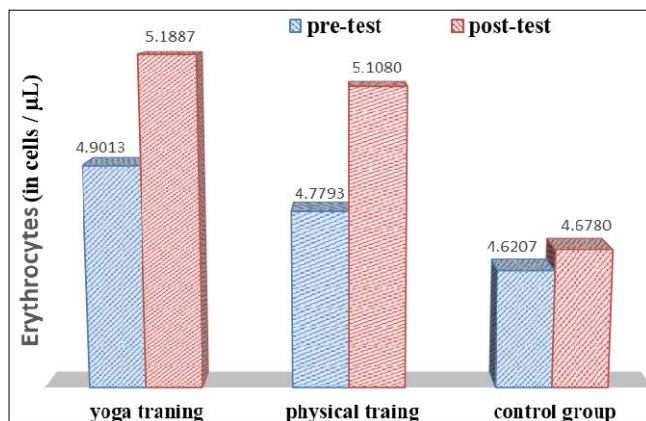
**Table 1:** Comparison Between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group with Regard to Erythrocytes Measured by Beckman Coulter Haematology Cell Counter (cells /  $\mu$ l)

Groups	Pre – test	Post –test	Difference between mean	Standard error of difference	't' Ratio	P value
Yoga Training Group	4.9013	5.1887	.28733	.05021	5.722	.000 <0.05
Physical Training Group	4.7793	5.1080	.32867	.08068	4.074	.001 <0.05
Control Group	4.6207	4.6780	.05733	.08489	.675	.510 >0.05

\* Significant at .05 level  $t_{.05}(14) = 2.145$

It was evident from Table – 1 that the two experimental groups yoga training group and physical training group were significantly improved in the variable erythrocytes as measured by Beckman coulter haematology cell counter (cells /  $\mu$ l) test, in pre – test mean scores of both the groups were 4.9013, 4.7793 and in post – test mean scores were 5.1887, 5.1080. It showed the improvement in post -test mean scores after participated in twelve weeks training programme. The obtained 't' ratios 5.722 and 4.074 for groups of yoga training and physical training respectively were found greater than the tabulated value 2.145 required and the p value of yoga training group was .000 < 0.05 and physical training group was .001 < 0.05 below than 0.05 level of significance.

Also, it can be observed from the Table – 1 that the control group has not shown significant difference between pre-test and post-test means were 4.6207, 4.6780 as obtained 't' ratio 0.675 was lesser than the tabulated value 2.145 required and the p value of control group was .510 > 0.05 higher than 0.05 level of significance. The results of Table –1 was also obtainable in Figure - 1.



**Fig 1:** Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group among Erythrocytes

## Conclusions

The result was confirmed that, after the participated in twelve – weeks yoga and physical training protocol the erythrocytes counts were increased significantly among under-graduate male students by the pre and post-test mean values and no significant difference was invent in mean values of pre and post-test of erythrocytes counts in control group.

## Reference

1. Bhavanani AB, Zeena S, Jayasettiaseelon E, Dayanidy G. Physiological and psychological effects of a yoga training programme in paramedical students. *Yoga Mimamsa*. 2013; 44(4):246-64.
2. Akbar Sazvar, Mohammad Mohammadi, Farzad Nazem, Nader Farahpour. Effect of morning aerobic exercise on hematological parameters in young active males. *Iranian Journal of Health and Physical Activity*. 2012; 4(1):23-28.

3. Anjum Sayyed, Jyotsna Patil, Vilas Chavan, Shirrang Patil, Sujeet Charugulla, Ajit Sontakke, Neelima Kantak. Study of lipid profile and pulmonary functions in subjects participated in sudarshan kriya yoga. *Al Ameen Journal of Medical Sciences*. 2010; 3(1):42-49.
4. Archana Mandape, Jyotsana Bharshankar, Mrunal Phatak. Effect of raja yoga meditation on the lipid profile of healthy adults. *India Journal of Medical Sciences and Health*. 2015; 1(1):10-13.
5. Bernardi L, Radaelli A, Passino C, Falcone C, Auouadro C, Martinelli L *et al*. Effects of physical training on cardiovascular control after heart transplantation. *International Journal of Cardiology*. 2006; 118(3):356-362.
6. Bhatti R, Shaikh DM. The effect of exercise on blood parameters. *Pakistan Journal of Physiology*. 2007; 3(2):23-25.
7. Bijlani RL, Vempati RP, Yadav RK, Ray RB, Gupta V, Sharma R *et al*. A brief but comprehensive lifestyle education program based on yoga reduces risk factors for cardiovascular disease and diabetes mellitus. *Journal of Alternative and Complementary Medicine*. 2005; 11(2):267-74.