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Effect of yoga asana training on haematological variables of school students

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Abstract

This study was conducted to find out the effect of yoga asana training on haematological variables of school level students. This was an experimental study. For conducted this study, 50 male students of 9th to 12th classes were selected as the subjects. They were divided into two groups randomly, each group have 25 subjects. Group-I assigned for yoga asana training. Group II treated as a control group. Control group was not participated any type of training. White blood cells, Red blood cells, Haemoglobin and Platelets were selected as the haematological variables for the study. The subjects were participated in 12 weeks yoga asana training program. The data for the study was collected through the pre and post-test of 12 weeks training program. For analyzing the data of haematological variables t- test was applied at 0.05 test level of significant. The result of the study showed that there was non-significant improvement in White blood cell, red blood cells and platelets but significant improvement in haemoglobin due to yoga asana training.

Keywords: Yoga, haematological, white blood cells, red blood cells, haemoglobin, platelets

Introduction

During the last few decades, the life style of the people has totally changed. The way of life and other social systems have changed greatly throughout the world. There is a lot of competition for survival in this modern world. Everyone is on peak in materialistic sense.

Our present educational system has failed to achieve the ultimate aim of education. Today, the main aim of the students is collecting degrees and diplomas only. Most of the youngsters and children have become patients due to different conditions of life and work culture. They are not spared from the stress and strains of life. They live in a hurry-up world of busy parents, incessant lessons, video games and irregular eating habits. They are not aware about their mental and physical fitness. It is very difficult to stay healthy due to a large number of problems in routine life.

We all are looking towards yoga for solving to various health problems which are common in this modern world. Thus yoga is a combination of discipline and art which directly affects the existence of man at every level. Therefore, the importance and need of yoga must be felt in every sphere of life. It develops the whole personality of an individual like physical, mental, moral and intellectual. So, this study was conducted to know the effects of yoga asana on haematological variables of school level students.

Objectives of study

To find out the effect of yoga asana training on haematological variables.

Research Methodology

Selection of the subject

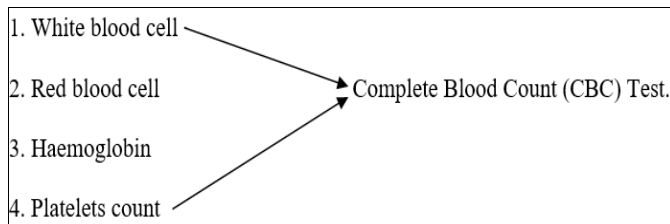
For the present study 50 male students of 9th to 12th classes from Govt. Senior Secondary Schools were selected by purposive sampling as the subjects of the study and they were divided into two groups randomly. Each group has 25 subjects. Group-I for Yoga Asana training group, Group- II treated as control group. Haematological test was conducted for the both groups before and after the trainings program. Group-I participated in their respective given 12 weeks, five days a week training program of Yoga whereas Control group was not

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participated any type of specific training program.

Selection of test

The purpose of this study was to test the effect of Yoga asana training on haematological variables, the following test was selected to measure the haematological fitness components.



All haematological variables were measured in a medical Laboratory by CBC Test.

Training Program

Table 1: Yoga asana training detailed program

S.No.	Name of yoga	1 to 4 week		5 to 8 week		9 to 12 week	
		Duration	Rest	Duration	Rest	Duration	Rest
1	Warm up	10 minutes					
2	Tadasana	30 Sec	60Sec.	45Sec.	45 Sec	60 sec.	30 Sec.
3	Trikonasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
4	Padmasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
5	Vajrasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
6	Bhujangasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
7	Shalabasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
8	Dhanurasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
9	Halasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
10	Chakrasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
11	Matsayasana	30 Sec	60 Sec	45Sec.	45Sec.	60 sec.	30 Sec.
12	Cooling down	10 minutes					

Each training session of yoga asana group had 10 asanas and each asana had 2 repetitions. Training was divided in three phases. Each phase had 4 weeks. In first phase of asana training no holding position took place. Second phase had 15 seconds holding position and in the third phase of training 30 seconds of final position holding took place.

Statistical procedure

For analyzing the data of haematological fitness variables, t test was applied to assess the impact of yoga asana training on the haematological fitness.

Results of the Study

Table 2: Comparison of Pre and Post experiment results of haematological variables of Yoga Asana group and Control group

	Variable	Mean	Std. Deviation	Mean Difference	T
Yoga Asana Group (N=25)	White blood cells (10 ³ /ul)	6.90	1.27	0.028	0.116
		6.88	1.43		

Control Group (N=25)	White blood cells (10 ³ /ul)	7.47	1.54	0.068	0.196
		7.40	2.24		
Yoga Asana Group (N=25)	Red blood cells (10 ⁶ /ul)	4.41	0.57	-0.142	0.994
		4.56	0.52		
Control Group (N=25)	Red blood cells (10 ⁶ /ul)	4.54	0.40	-0.013	-
		4.55	0.44		
Yoga Asana Group (N=25)	Hemoglobin (g/dl)	11.22	1.52	-0.896	-
		12.12	1.03		
Control Group (N=25)	Hemoglobin (g/dl)	11.65	1.32	-0.486	-
		12.14	1.16		
Yoga Asana Group (N=25)	Platelets (10 ³ ul)	291.68	51.20	10.880	1.317
		280.80	39.41		
Control Group (N=25)	Platelets (10 ³ ul)	309.36	93.54	24.160	1.843
		285.20	78.26		

The table shows the pre and post-test comparison in mean, SD, Mean difference and t value of haematological variables of Yogasana group and control group. The results of the data showed that pre and post value of experiment t value was 0.116 of white blood cells, 0.994 of red blood cells and 1.317 of platelets which was non-significant improvement at .05 level of significance. In case of hemoglobin the value of t was -2.740 which was significant at .05 level of significance. Whereas t value of pre and post value of control group of white blood cells, red blood cells and platelets were not significant at .05 level of significance but in case of hemoglobin it was significant. Which showed that there is no significant improvement in haematological variables like white blood cell, Red blood cell and platelets but significant improvement in hemoglobin concentration after 12 weeks Yog Asana training.

Conclusion

The results of the study revealed non-significant changes in White blood cell, Red blood cell and Platelet count of students during pre-test and post-test. Mean comparison between pre and post-test revealed significant difference for Hemoglobin due to yoga asana training. Hematological parameters could be effected by various factors such as diet, rest, environment etc. which cannot be controlled properly during the training period. So, it may effects the results of the study that's why these factors should be considered as limitations of the study or beyond the control of the researcher.

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