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Effect of yogasana training on selected hematological variables of government school boys

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Abstract

The purpose of the study was to find out the effect of yogasana training on selected hematological variables of Government school boys. To achieve the purpose of these studies thirty school boys were selected from Government school of Indore, at random and their age ranges from 15 to 17 years and all of them healthy and normal. They were divided in to two groups and designed as Experimental and Control group fifteen school boys each. The experimental groups underwent a six weeks of yogasana training was given. The control group was not allowed to participate in any of the training programme except their routine games and sports classes. The collected data were analyzed by using analysis of covariance (ANCOVA). The results of the study showed that yogasana can be an effective training programme to increase the selected haematological variables of school boys.

Keywords: Yogasana, physical training, hematological variables, Indore

Introduction

Yoga is "skill in action" states the Bhagavad-Gita, the best known of all the Indian philosophical epics, but this is not intended to mean action in just the narrow sense of physical movement. For as well as exercise for improving the skill of the body, Yoga also comprises techniques that act on the mind and emotion, and provides a complete philosophical living. The word 'Yoga' automatically calls to mind sage Patanjali the founder and father of yoga. He lived around three centuries before Christ, and was a great philosopher and grammarian. He was also a physician and a medical work is attributed to him. However this work is now lost in the pages of time. His best known work is Patanjali Yoga Sutras or Aphorism on Yoga. The path outlined by him is called 'Raja Yoga' or the sovereign path. It is so called because of the regal, noble method by which the 'self' is united with the 'over self'. Patanjali's yoga has essentially to do with the mind and its modifications. It deals with the training of the mind to achieve oneness with the universe. Incidental to this objective are the acquisition of 'Siddhis' or powers. Yoga means not only contemplation but also communion and yoking all powers of the body, mind and soul to God. It is a very ancient and efficient system of disciplines and is designed to produce the integration of the body, mind and spirit. It also helps one to achieve higher states of awareness and self-realization by methodical efforts to attain perfection. The therapeutic benefits obtained by performing asanas are well known. The circulation of the blood is improved; tensions can be removed, and a feeling of well-being is induced. The muscles are strengthened; nerves soothed and physical endurance is increased. One important aspect is that blood vessels and nerves, that form the internal organs, are "massaged" by the twists and bending, ensuring proper functioning. Ageing bodies can have fewer aches and pains, stiffening of joints can be healed and depression alleviated. Yoga is the oldest known science of development. Learning and participating in yoga makes one feel good because it positively affects the mind and body. It gives mental, physical and spiritual control. Developed thousands of years ago in India, yoga literally means joining- the joining of the individual self with the 'universal self'. This joining is achieved through the practice and mastering of specific physical postures called 'asana', breathing exercises called 'Pranayama' and 'Meditation' - this is known as the path of 'Raja Yoga', and its subdivision is 'Hatha Yoga'. There are numerous stories about the remarkable abilities of yogis, who are adept in the disciplines of yoga. British doctors more than 200 years ago began studying certain Indians

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who could do some very unusual and interesting things. These people, called yogis, apparently had phenomenal powers of self-regulation of both mind and body. Studies of yogis who demonstrated unusual control over mind and body, and studies of the mechanisms of voluntary autonomic control indicate that body control is achieved through passive concentration and not through active striving, and the important part of the control is the process and the attention to it - not the outcome nor the goal. These dimensions operate in all physical, emotional and mental activity. Yoga helps all to learn autonomic control via passive concentration. Yoga asanas can be used for warm-up, to cool down, regeneration, compensation of muscle balances, synthesis of mind and body, activation or deactivation of the body and also as supplemental exercise. Psychological preparation can be divided into two types, they are general and specific. General psychological preparation is to develop basic mental skills such as goal setting, relaxation techniques, concentration and visualization. The ultimate goal of specific psychological preparation is self-mastery, control of emotions and control of the mind. Yoga is one of the best means of self-improvement and attaining one's full potential. In the advanced stages of yoga, super conscious states are attained which result in a feeling of bliss, deep peace and the emergence of psychic powers. Yogasana are simple actions to keep the internal and external parts of the body in good health. No activity can be performed well as long as the internal and external parts of the body are not in good health. The body and mind are closely related. Thousands of years ago, the people of ancient Greece believed in the principle "A sound mind in a sound body". The whole system of yoga is based on this principle. "Yoga has a complete message for humanity. It has a message both for the human body and for the human mind and also a

message for the human soul." Yoga as a system of physical exercise had been in existence in India since very ancient times. According to our ancient sages, there are eight stages of yoga. They are namely "Yama" which means social discipline, "Niyama" which means individual discipline, "Asana" it means the posture, "Pranayama" which means breath control, "Prathyahar" which means mental discipline, "Dharma" which means the concentration, "Dhyana" which means meditation and "Samadhi" which means self-realization.

Methodology

Subjects for the present study were taken from thirty school boys were selected from Government schools of Indore, at random and their age ranges from 15 to 17 years and all of them healthy and normal. The selected subjects were divided into two groups and designed as Experimental group and Control group fifteen school boys each. The experimental groups underwent a six week of yogasana training. The control group was not allowed to participate in any of the training programme except their routine games and sports classes; a qualified physician examined the subjects medically and declared that they were fit for the study. The duration of the training period was six weeks with five days per week. On every day the training was practiced approximately 60 minutes. Under the instruction and supervision of the investigator. The analysis of covariance (ANCOVA) was applied to find out significant difference if any between experimental and control group. In all cases 0.05 level of confidence was utilized to test the significance. Keeping the feasibility criterion in mind, the following Asanas was selected for the proposed training programme in the study and students was introduced with basic training of these Asana;

Table 1: Schedule of Training

Day	Schedule		Time
	Control Group	Experimental Group	
1 st Day	Control group did not participate in the training program.	Preparatory Exercises - Prayer - Three round of breathing, ohm... -Surya namaskar Asanas 1. Vajrasana 2. Padmasana 3. Sasankasana 4. Bhujangasana 5. Janusirasana 6. Vakrasana 7. Ardhamastvedrasana 8. Pachimottansana 9. Sarvangasana 10. Halasana 11. Matsyasana 12. Dhanurasana 13. Salbhasana -Variation- 1 -Variation-2 -Variation-3 Meditation 1. Shavasana	(20minutes) (30 minutes) (10 minutes)
	Same schedule was repeated for Six weeks Sunday rest		Total 60 min.

Analysis of Data and Findings of the Study

The statistical analysis of data collected on thirty school boys age ranged between 15-17 years, Data were collected two times in the interval of Six weeks. Total Six weeks of yogasana training was conducted. Observations for tests were

collected prior to the treatment in the form of pre-test then after Six weeks of yogasana training; observations for second test was collected in the form of post-test. The data on selected criterion measures for all the groups were collected under similar conditions.

Table 2: Descriptive Statistics of Experimental Groups and Control Group of Pre-Test & Post-Test in relation to Haemoglobin

		N	Mean	Std. Deviation	Std. Error
Haemoglobin Pre Test	Control	15	13.9233	0.748861	0.188191
	Experimental	15	13.1600	0.948272	0.247425
	Total	30	13.5466	0.933194	0.170377
Haemoglobin Post Test	Control	15	13.1833	0.964289	0.251560
	Experimental	15	14.6366	1.426110	0.267522
	Total	30	14.4500	1.027468	0.187589

Table 2 reveal that the mean and standard deviation of Haemoglobin of Pre Test (Experimental Group 13.16 ± 0.94 ,

control Group 13.92 ± 0.74), Post Test (Experimental Group 14.63 ± 1.42 , control Group 13.18 ± 0.96).

Table 3: Analysis of Co-Variance of the Means of Experimental Groups and the Control Group in Relation to Haemoglobin

S. V.	Group			d.f.	Sum of square	Mean square	F ratio
	Control	Experimental					
Pre Test	13.92	13.16	B	1	4.961	4.961	2.846
			W	28	20.293	9.724	
Post Test	13.18	14.63	B	1	2.296	2.296	4.284*
			W	28	28.318	29.011	
Adjusted Post mean	197.28	214.84	B	1	1003.917	1003.917	6.438*
			W	27	6425.424	237.978	

* Significant at 0.05 level of significance

F = Ratio needed for significance at 0.05 level of significance = $df(1, 28) = 4.20$, $df(1, 27) = 4.21$

The analysis of co-variance for Haemoglobin indicated that the resultant F-ratio of 2.846 was significant in case of pre-test means from which it is clear that the pre-test mean was significantly and that the random assignment of subjects to the experimental groups was quite successful. The post-test means of all the two groups yielded a F-ratio of 4.284 which was significant at 0.05 level of confidence. The F-ratio

needed for significance with 1, 28 degree of freedom is 4.20 at 0.05 level of confidence. The difference between the adjusted posts means was found significant as the obtained F-ratio was 6.438. The F-ratio needed for significance at 0.05 level of confidence was 4.21. Thus, mean significant difference exists between experimental and control group in relation to Haemoglobin.

Table 4: Descriptive Statistics of Experimental Groups and Control Group of Pre-Test & Post-Test in relation to Platelets

		N	Mean	Std. Deviation	Std. Error
Platelets Pre Test	Control	15	217.8666	61.996331	15.74918
	Experimental	15	163.4000	34.008481	8.26455
	Total	30	189.6333	54.796478	10.00442
Platelets Post Test	Control	15	191.7333	53.359211	14.03548
	Experimental	15	208.0000	41.473978	10.45033
	Total	30	200.8666	47.809776	8.72883

Table 4 reveal that the mean and standard deviation of Platelets of Pre Test (Experimental Group 163.40 ± 34.00 ,

control Group 217.86 ± 61.99), Post Test (Experimental Group 208.00 ± 41.47 , control Group 191.73 ± 53.35).

Table 5: Analysis of Co-Variance of the Means of Experimental Groups and the Control Group in Relation to Platelets

S. V.	Group			d.f.	Sum of square	Mean square	F ratio	Sig.
	Control	Experimental						
Pre Test	217.86	163.40	B	1	20645.633	20645.633	8.701	0.006
			W	28	66431.333	2372.547		
Post Test	191.73	208.00	B	1	1984.533	496.533	0.866	0.361
			W	28	2296.533	133.833		
Adjusted Post mean	169.46	234.26	B	1	24021.504	24021.504	85.781*	0.002
			W	27	7472.829	276.771		

* Significant at 0.05 level of significance

F = Ratio needed for significance at 0.05 level of significance = $df(1, 28) = 4.20$, $df(1, 27) = 4.21$

The analysis of co-variance for Platelets indicated that the resultant F-ratio of 8.701 was insignificant in case of pre-test means from which it is clear that the pre-test mean does not differ significantly and that the random assignment of subjects to the experimental groups was quite successful. The post-test means of all the two groups yielded an F-ratio of 0.866 which was significant at 0.05 level of confidence. The F-ratio needed for significance with 1, 28 degree of freedom is 4.20 at 0.05 level of confidence. The difference between the

adjusted posts means was found significant as the obtained F-ratio was 85.781. The F-ratio needed for significance at 0.05 level of confidence was 4.21. Thus, mean significant difference exists between experimental and control group in relation to Platelets.

Discussion of Findings

The results of the study have revealed significant differences between control & Experimental Groups in relation to

Haemoglobin but in case of Platelets insignificant difference was found between control & Experimental Groups of school boys, There may be the reason behind this that the training period or duration was short for the improvement in haemoglobin but not enough for the significant improvement in Platelets count. The selected subjects were measured of their Haemoglobin and Blood sugar. The interventional training programmes for this study were six weeks. Analysis of covariance (ANCOVA) was used to find out whether the mean differences were significant or not. The results of this study proved that there was a significant improvement on Haemoglobin and Blood sugar due to Asana, Pranayama and Meditation.

Reference

1. Astrand PO, Rodhal K, Dahl HA, Stromme SB. Textbook of work physiology (4th ed.). Windsor: Human Kinetics, 2003.
2. Bold HV. Swamy Kuvalayananda as Cited: Abstracts and Bibliography of Articles, (Kuvalayanda Birth Centenary Year Publication, 1985, 26.
3. Bole HV, Swami Kuvalayanda. Abstract and Bibliography of Articles (Kuvalayanda Birth Centenary Year Publication, 1985, 26.
4. Nagarathna R, *et al.*, Yoga for Common Ailment (London: Gaibook Publications, 1990, 9-10.
5. Swami SS, Asana Pranayama, Mudra Bandha. Munger, Bihar: U.B.S. Publishers and Distributers, 1996.
6. Sharma PR. Yoga, Yogasana and Pranayama for Health, (Ahmadabad: Navaneeth Publication India Limited), 10.
7. Selvalakshmi S, Yogaraj P. Effect of Varied yogic Practices on Hemoglobin and Blood sugar among obese Women, 2009.
8. Kogler Aladar. Yoga for Every Athlete, Secrets of an Olympic Coach, (Mumbai: Jayco Publishing House, 2003, 11.
9. Wilmore JH, Costill DL. Physiology of Sport and Exercise. 3rd ed. Champaign IL: Human Kinetics, 2005.
10. Verma JP. A Text Book on Sports Statistics, New Delhi, India: Sports Publication, 2009.
11. <http://www.Yoga.com>