



## Effect of Yoga on Selected Bio-Chemical Variables of Overweight School Boys

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### Abstract

The purpose of this study was to find out the effect of yoga on selected bio-chemical variables among overweight school boys. To achieve the purpose of the present study, thirty overweight school boys from Vetri Vikaas Boys Hr.Sec.School, Namakkal, Tamilnadu, India were selected as subjects at random and their ages ranged from 12 to 15 years. The subjects were divided into two equal groups. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (n= 30) were randomly assigned to two equal groups of fifteen overweight school boys each. The groups were assigned as control group and experimental group in an equivalent manner. The training group participated the training for a period of six weeks and the post-tests were conducted. The subjects were tested prior to and after the experimentation on bio-chemical variables. The variable to be used in the present study was collected from all subjects before they have to treat with the respective treatments. It was assumed as pre-test. After completion of treatment they were tested again as it was in the pre-test on all variables used in the present study. This test was assumed as post-test. The following statistical techniques were adopted to treat the collected data in connection with established hypothesis and objectives of this study. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study. It was observed that the six weeks of yoga have significantly differences on the selected bio-chemical variables of overweight school boys.

**Keywords:** Yoga, Overweight, School Boys, Bio-chemical.

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### Introduction

Yoga is a systematic and methodical process to control and develop the mind and body to attain good health, balance of mind and self-realization. Thought yoga has the potential power to make us healthy added to our vigor, still most people lack the knowledge of systematic practice of yoga. They perform yogic exercises for a short period and when their health improves, they discontinue the yoga practice. For this reason, the effective results of yogic practices cannot be determined perfectly. Many scientists, doctors, psychologists etc, all over the world are extensively studying the beneficial aspects of yoga which encourages us to attain positive health through yoga. Yogasanas are very effective in throwing out all our body wastes and bring control over the body and organs are proper functioning of which depends our health and happiness. The Asanas improve mental power and health in controlling the sense organs. It increases the elasticity of our body and makes the body more active and supple. The blood circulation takes place more smoothly and properly and the body becomes capable of more work. It

improves our resistance power against diseases and do not allow any external matter to accumulate in the body, they keep the body free from diseases. The different asanas clean the blood circulation, drain of our body and circulates blood freely to all parts of our body and helps keep our body free from impurities. Yogasanas are the best means to keep organs in proper functioning order. It is not only improving body health, but also have sobering effects on the mind. The mind becomes balance and peaceful. The practice of Yoganasas is very effective activating on various glands, so that they secrete their juices in the required quantity and function properly. Yoga is a way of life, an integrated system of education for the body, mind and inner spirit. The art of right living was perfected and practiced in India thousands of years ago but, since yoga deals with Universal truth its teachings are as valid today as they were in ancient times. Yoga is a practical aid, not a religion and its techniques may be practiced by Buddhist, Jews, Christians, Muslims, Hindus and Atheist alike.

### Methodology

The purpose of this study was to find out the effect of yoga on selected bio-chemical variables among overweight school boys. To achieve the purpose of the present study, thirty overweight school boys from Vetri Vikaas Boys Hr.Sec.School, Namakkal, Tamilnadu, India

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study was collected from all subjects before they have to treat with the respective treatments. It was assumed as pre-test. After completion of treatment they were tested again as it was in the pre-test on all variables used in the present study. This test was assumed as post-test. The following statistical techniques were adopted to treat the collected data in connection with established hypothesis and objectives of this study. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study.

## Results

Table 1

Computation of analysis of covariance of mean of yoga and control groups on total cholesterol

	YG	G	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
<b>Pre-Test Means</b>	223.94	224.04	<b>BG</b>	0.07	1	0.07	0.01
			<b>WG</b>	173.65	28	6.20	
<b>Post-Test Means</b>	206.71	224.02	<b>BG</b>	2246.40	1	2246.40	247.38*
			<b>WG</b>	254.26	28	9.08	
<b>Adjusted Post-Test Means</b>	206.71	224.04	<b>BG</b>	2259.09	1	2259.09	295.70*
			<b>WG</b>	206.27	27	7.64	

\* Significant at 0.05 level

(Table Value for 0.05 Level for df 1 & 28 = 4.19)

(Table Value for 0.05 Level for df 1 & 27 = 4.21)

df- Degrees of Freedom

An examination of table - 1 indicated that the pretest means of yoga and control groups were 223.94 and 224.04 respectively. The obtained F-ratio for the pre-test was 0.01 and the table F-ratio was 4.19. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 1 and 28. The post-test means of the yoga and control groups were 206.71 and 224.02 respectively. The obtained F-ratio for the post-test was 244.38 and the table F-ratio was 4.19. Hence the pre-test mean F-ratio was significant at 0.05

level of confidence for the degree of freedom 1 and 28. The adjusted post-test means of the yoga and control groups were 206.71 and 224.04 respectively. The obtained F-ratio for the adjusted post-test means was 295.70 and the table F-ratio was 4.21. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 27. The pre, post and adjusted post test mean values of yoga and control groups, on total cholesterol are graphically represented in the figure - I.

Figure 1

Pre and post test differences of the yoga and control groups on total cholesterol

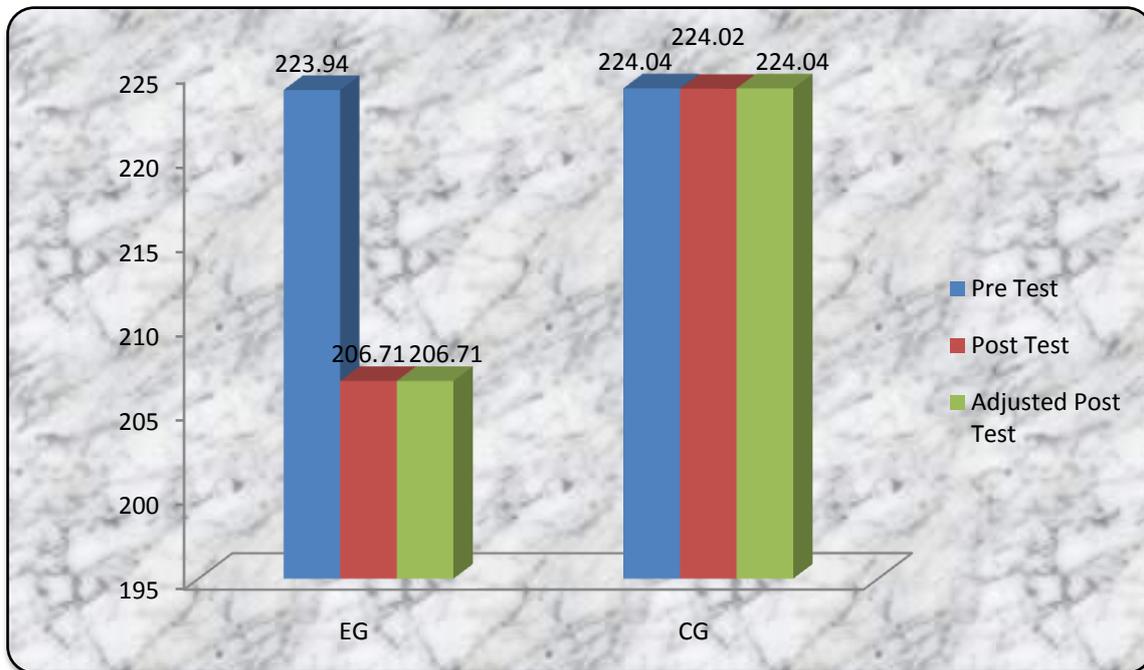


Table 2

Computation of analysis of covariance of mean of yoga and control groups on hdl

	YG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
<b>Pre-Test Means</b>	38.36	37.88	<b>BG</b>	1.77	1	1.77	0.32
			<b>WG</b>	154.95	28	5.53	
<b>Post-Test Means</b>	45.10	38.94	<b>BG</b>	284.59	1	284.59	61.45*
			<b>WG</b>	129.67	28	4.63	
<b>Adjusted Post-Test Means</b>	45.17	38.86	<b>BG</b>	294.43	1	294.43	68.18*
			<b>WG</b>	116.59	27	4.31	

\* Significant at 0.05 level

(Table Value for 0.05 Level for df 1 & 28 = 4.19)

(Table Value for 0.05 Level for df 1 & 27 = 4.21)

df- Degrees of Freedom

An examination of table - 2 indicated that the pretest means of yoga and control groups were 36.36 and 37.88 respectively. The obtained F-ratio for the pre-test was 0.32 and the table F-ratio was 4.19. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 1 and 28. The post-

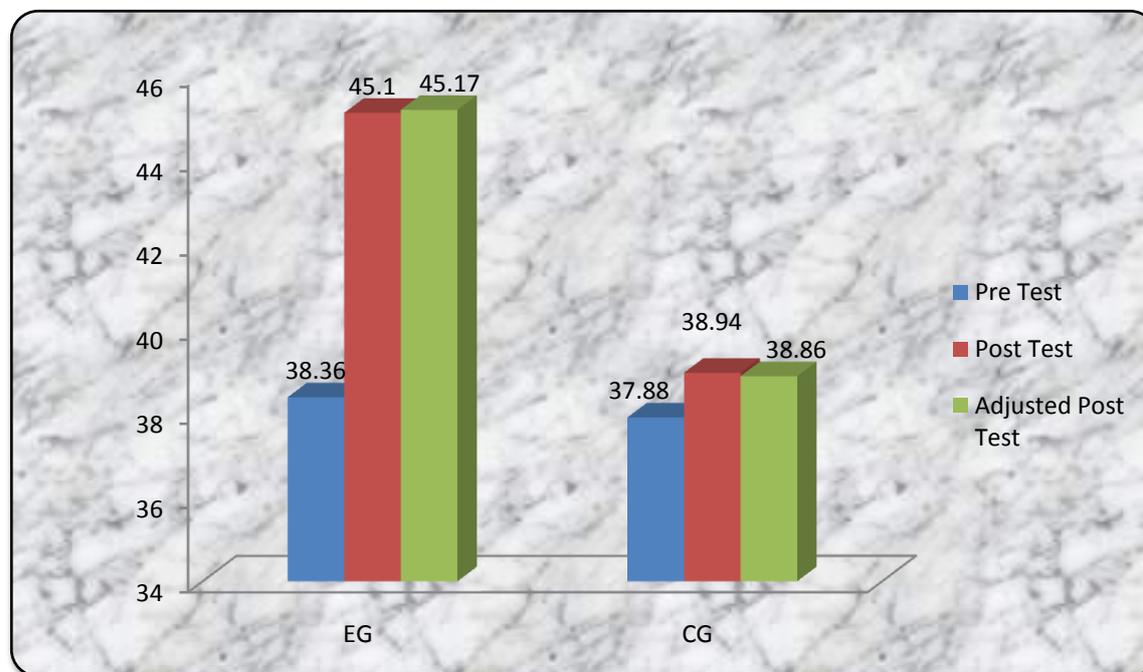
test means of the yoga and control groups were 45.10 and 38.94 respectively. The obtained F-ratio for the post-test was 61.45 and the table F-ratio was 4.19. Hence the pre-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 28. The adjusted post-test means of the yoga and control groups

were 45.17 and 38.86 respectively. The obtained F-ratio for the adjusted post-test means was 68.18 and the table F-ratio was 4.21. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the

degree of freedom 1 and 27. The pre, post and adjusted post test mean values of yoga and control groups, on HDL are graphically represented in the figure - II.

Figure II

Pre and post test differences of the yoga and control groups on hdl



### Conclusions

From the results obtained, the following conclusions were drawn:

1. It was observed that the six weeks of yoga have significantly differences on the selected biochemical variables of overweight school boys.
2. The experimental group had achieved significant improvement on selected bio-chemical variables than the control group.

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