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Effect of Yoga on Selected Bio-Chemical Variables among College Students

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Abstract

The purpose of the study was to investigate the effect of twelve weeks yoga on selected bio-chemical variables among college students. It was hypothesized that there would have been a significant effect of twelve weeks yoga on selected bio-chemical variables among college students. For the present study the subjects were 30 male college students from Scott Christian College, Nagercoil, Tamilnadu were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent yoga and Group 'B' underwent no training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of yoga on selected bio-chemical variables among college students. The level of significance was set at 0.05. Significant effect of yoga was found on total cholesterol and LDL.

Keywords: Yoga, Bio-chemical variables, College Students.

Introduction

Yoga has been practised in India for over two millennia. Stories and legends from ancient times testify to the existence of yoga, and to the practitioners and divinities associated with it. Indian literature is a storehouse of knowledge about yoga covering every conceivable level. Roughly in chronological order are the vocals (books of Scriptural knowledge), the Upanishada (philosophical cosmologies), and their commentaries; then the Puranas (ancient cosmologies), and the two epics, the Ramayana and the Mahabharatha. The Mahabharatha contains within itself that masterpiece of Indian scripture the Bhagavad Gita. Towards the end of Vedic period comes the aphoristic literature, with the "Yoga Aphorisms" of Patanjali of special interest to yoga students. These are, besides, whole bodies of works both ancient (Pre-Christian) and more modern dealing with various aspects of yoga and yoga philosophy, testifying to the continued relevance of yoga as a discipline. Yoga has a hoary past. The importance for the spiritual attainment has been recognized throughout the ages by all the systems of Indian philosophy. There is no doubt that the essence of yoga has been considered in the spiritual upliftment of man. One may question as to how then yoga is related to the physical education and whether yoga will not be pulled down from its highest pedestal in doing this. It is necessary, therefore, to clear the concepts of yoga and physical education first. In other systems of physical exercises, the internal organs of the body mostly do not get proper exercise, while yogasana gives sufficient exercise to the internal organs of the body. Yogasanas have a greater impact on the mind and the senses than the other physical exercises with the result that yogasanas help to develop one's physical and mental powers to calm the mind and control the senses. Yogasanas make possible not only physical and mental development but also intellectual and spiritual development. Asanas require the least possible use of physical energy. Yogasanas are called a 'non-violent activity' (Sharma, 1984).

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Material and Methods

The purpose of the study was to investigate the effect of twelve weeks yoga on selected bio-chemical variables among college students. It was hypothesized that there would have been a significant effect of twelve weeks yoga on selected bio-chemical variables among college students. For the present study the subjects were 30 male college students from Scott Christian College, Nagercoil, Tamilnadu were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent yoga and Group 'B' underwent no training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance

(ANCOVA) technique to find out the effect of yoga on selected bio-chemical variables among college students. The level of significance was set at 0.05.

Results

The findings pertaining to analysis of co-variance between experimental group and control group on selected bio-chemical variables among college students for pre-post test respectively have been presented in table I to III.

Table I. ANCOVA between Experimental Group and Control Group on Total Cholesterol of College students for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	190.80	189.20	BG	221.63	1	221.63	0.82
			WG	7522.61	28	268.66	
Post Test Mean	171.60	188.90	BG	2120.53	1	2120.53	5.11*
			WG	11615.33	28	414.83	
Adjusted Post Mean	171.62	188.87	BG	2417.91	1	2417.91	6.07*
			WG	11150.16	27	398.22	

**** Significant at 0.05 level.** **df: 1/27= 4.21**

Table No. I revealed that the obtained 'F' value of 6.07 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of total cholesterol of college students between experimental group and control group.

Figure 1. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to Total Cholesterol

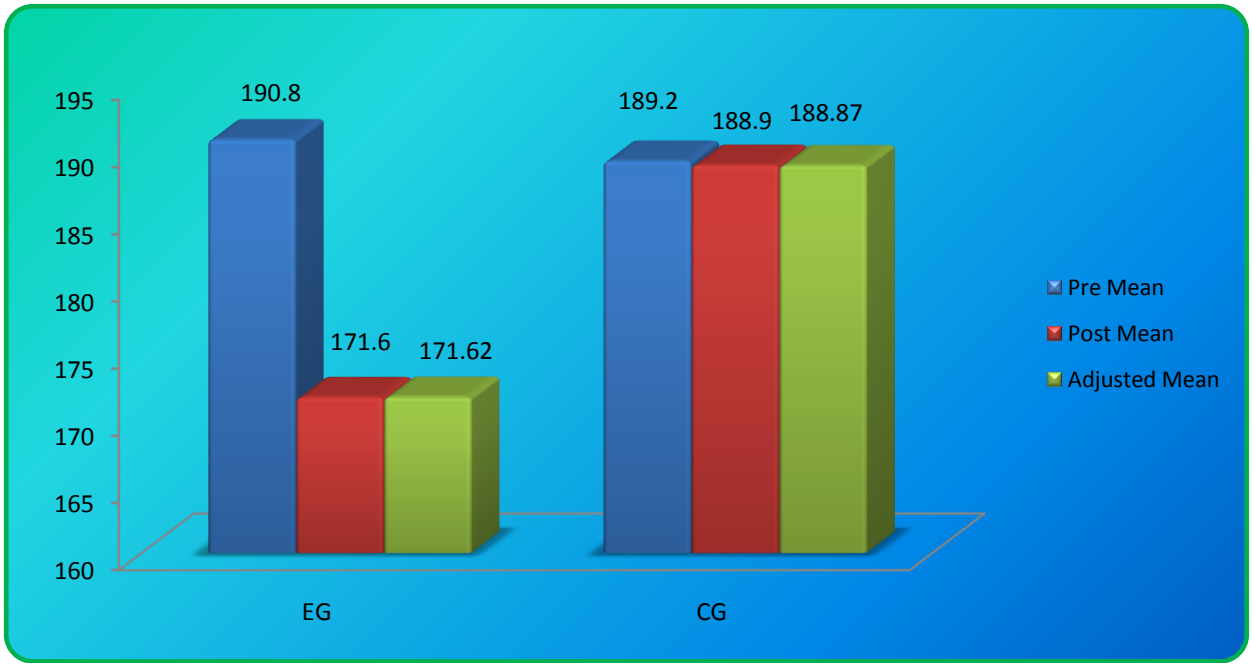


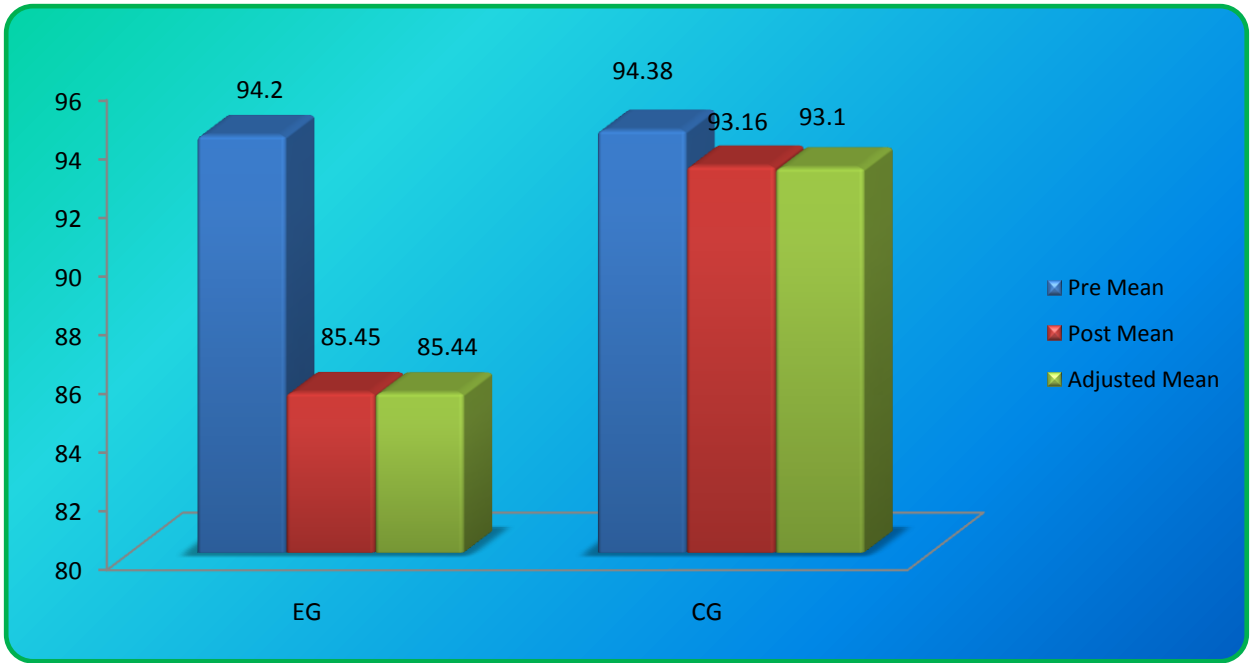
Table II. ANCOVA between Experimental Group and Control Group on LDL of College students for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	94.20	94.38	BG	61.50	1	61.50	0.97
			WG	1773.86	28	63.35	
Post Test Mean	85.45	93.16	BG	3730.83	1	3730.83	72.73*
			WG	1436.13	28	51.29	
Adjusted Post Mean	85.44	93.10	BG	3468.82	1	3468.82	68.88*
			WG	1410.28	27	50.36	

**** Significant at 0.05 level.** **df: 1/27= 4.21**

Table No. II revealed that the obtained 'F' value of 68.88 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of LDL of college students between experimental group and control group.

Figure II. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to LDL



Conclusions

On the basis of findings and within the limitations of the study the following conclusions were drawn: Significant effect of yoga was found on total cholesterol and LDL.

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