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## Effect of yogic practice, naturopathy, on selected biochemical variables among obese college men students

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### Abstract

Aim of the study was to determine the effects of naturopathy, yogic practice on selected biochemical variables among obese college students. For this study forty five (N=45) obese boys students studying various colleges affiliated to Anna University, BIT Campus, Trichy, Tamilnadu State, India during the academic year 2015-2016 were selected randomly as subjects. The subjects were assigned at random into three groups of fifteen each (n=15). Group-I underwent Naturopathy treatment (n=15), Group-II underwent Yogic practices (n=15) and Group-III acted as Control. The exercise period was limited to six weeks. Among the bio-chemical variables Total cholesterol and Triglycerides (TGL), were selected as dependent variables. All the groups were tested on the selected criterion variables prior to and immediately after the training programme for a period of six weeks. The data on Total Cholesterol and Triglycerides (TGL) were assessed by Blood sample tests. The data collected before and after the experimentation of the treatment, Analysis of Covariance (ANCOVA) were used to analyze the post training significance. The level of significance test 'F' ratio obtained by the Analysis of Covariance was fixed at 0.05 level of confidence, which was considered to be more appropriate in view of the fact that very high sophisticated equipments were not used for more stringent level of significance. Whenever the obtained "F" ratio value for adjusted post test mean was found to be significant, the Scheffe's test was applied as post hoc test to determine the paired men differences, if any. The results of the study showed, the experimental groups namely, Naturopathy treatment (Group-I) and yogic practices (Group-II) had significantly improved in Total cholesterol and Triglycerides (TGL). Significant differences in achievements were found between Naturopathy treatment and yogic practices in all the selected criterion variables such as Total cholesterol and Triglycerides. The yogic practices group was found to have greater impact on the Group concerned than the Naturopathy treatment group on the respective group and Control group in enhancing the performance of Total cholesterol and Triglycerides.

**Keywords:** Naturopathy, yogic practice, biochemical variable

### Introduction

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.

Yoga has been practiced 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.

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Naturopathy is a simple, unsophisticated, accommodative and cheap system of health care when compared to other systems of medicine. Its origin dates back to our ancient texts on health and longevity. Most of the principles and practices of naturopathy like Morbid Matter theory, fasting, nutrition, dietetics, cleansing acts, massages, exercises etc and the concepts of vitality, panchamahabhutas (five great elements) were familiar to our Vaidyas, and Rishis and have been in use in our country over the past many years. This is not the case with other countries where Naturopathy as a system of medicine gained popularity much later after pioneering works of Louis Kuhne, Adolf Just and Henry Lindlahr. In India, Naturopathy owes its revival of sorts to Mahatma Gandhi who adopted Nature Cure not only in his personal life but also in his national program, giving it a great fillip. His active interest inspired a number of thinkers and consequently led to the establishment of many Nature Cure hospitals and centres. Nature Care movement started in India when Louis Kuhne's book "New Science of Healing" was translated in Hindi, Urdu and Telugu. With the concepts being more or less familiar, Kuhne's philosophy and practices were easily grasped and imbibed by the practitioners.

**Methodology**

The study was conducted on forty five (N=45) obese boys students studying various colleges affiliated to Anna University, BIT Campus, Trichy, Tamilnadu State, India

during the academic year 2015-2016 were selected randomly as subjects. The subjects were assigned at random into three groups of fifteen each (n=15). Group-I underwent Naturopathy treatment (n=15), Group-II underwent Yogic practices (n=15) and Group-III acted as Control. The exercise period was limited to six weeks. Among the bio-chemical variables Total cholesterol and Triglycerides (TGL), were selected as dependent variables. All the groups were tested on the selected criterion variables prior to and immediately after the training programme for a period of six weeks. The data on Total Cholesterol and Triglycerides (TGL) were assessed by Blood sample tests.. All the subjects were tested prior to and immediately after the training period of twelve weeks for all the selected variables. The data collected data from the three groups prior to and immediately after the training programme on the selected criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, Scheffe's post hoc test was followed to determine which of the paired mean differences was significant. In all the cases .05 level of confidence was fixed to test the hypotheses.

**Results and Discussion**

The analysis of covariance on Total Cholesterol and Triglycerides (TGL) of the adjusted test scores of Yogic practices group, Naturopathy treatment group and Control group have been analyzed and presented in Table -I.

**Table 1:** Analysis of Covariance on Total Cholesterol And Triglycerides (Tgl) of Yogic Practices Group, Naturopathy Treatment Group and Control Group

Certain Variables	Adjusted Post test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
	Yogic Practices Group	Naturopathy Treatment Group	Control Group					
Total Cholesterol	167.31	177.16	195.13	Between With in	5970.83 767.93	2 41	2985.41 18.73	159.39*
Triglycerides (TGL)	114.90	128.65	144.25	Between With in	6323.55 665.62	2 41	3161.78 16.23	194.75*

\*Significant at .05 level of confidence.  
(The table value required for significance at .05 level with df 2 and 41 is 3.23)

Table-I shows that the adjusted post-test mean values of Total Cholesterol and Triglycerides (TGL) for yogic practices group, naturopathy treatment group, and control group are 167.31, 177.16, 195.13 114.90, 128.65 and 144.25 respectively. The obtained F-ratios are 159.39 and 194.75 is more than the table value 3.23 for df 2 and 41 required for significance at .05 level of confidence.

The results of the study indicate that there is a significant difference exists among the adjusted post-test means of experimental groups showing the increase of Total Cholesterol and Triglycerides (TGL). To determine which of the paired means had a significant differences, Scheffe's test was applied as Post hoc test and the results are presented in Table II.

**Table 2:** The Scheffe's Test for the Differences between the Adjusted Post Tests Paired Means on Dependent Variables

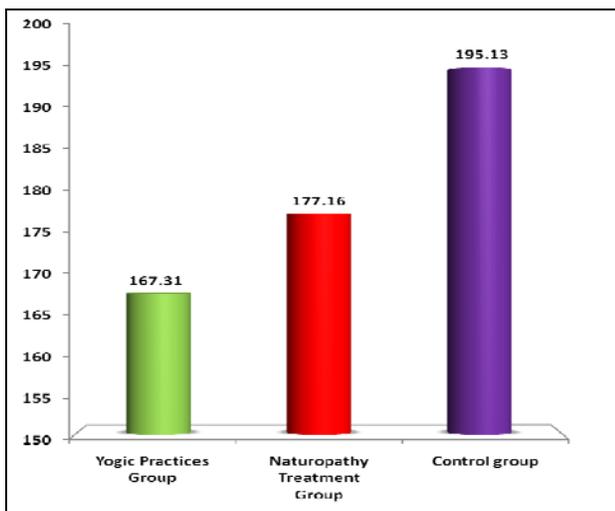
Certain Variables	Adjusted Post-test Means			Mean Difference	Confidence Interval
	Yogic Practices Group	Naturopathy Treatment Group	Control Group		
Total Cholesterol	167.31	177.16		9.85*	4.02
	167.31		195.13	27.82*	4.02
		177.16	195.13	17.97*	4.02
Triglycerides (TGL)	114.90	128.65		13.75*	3.74
	144.90		144.25	0.65	3.74
		128.65	144.25	15.57*	3.74

\* Significant at .05 level of confidence

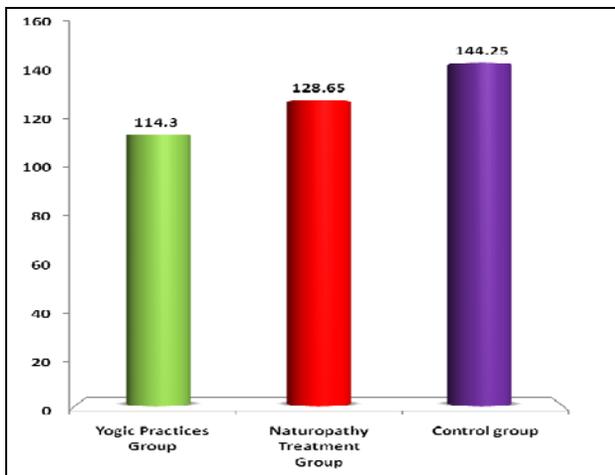
The above table-II shows that the mean difference values of Total Cholesterol between yogic practices group and naturopathy treatment group, yogic practices group and control group, Naturopathy treatment group and control group were 9.85, 17.97 and 27.83 respectively, which were greater than the confidence interval value of 4.02 on 0.05 level of confidence. The results of the study showed that there was a

significant difference between yogic practices group and naturopathy treatment group, yogic practices group and control group, Naturopathy treatment group and control group on Total cholesterol. Further the above table -II shows that the mean difference values of Triglycerides (TGL) between yogic practices group and naturopathy treatment group, Naturopathy treatment

group and control group were 13.75 and 15.57 respectively, which were greater than the confidence interval value of 3.74 on 0.05 level of confidence. The results of the study showed that there was a significant difference between yogic practices group and naturopathy treatment group, Naturopathy treatment group and control group on Triglycerides (TGL). The mean difference values of Triglycerides (TGL) between yogic practices group and control group is 0.65, which is lesser than the confidence interval value of 3.74 at 0.05 level of confidence. The results of the study showed that there was a no significant difference between yogic practices group and control group on Triglycerides (TGL). The adjusted mean values of yogic practices group, naturopathy treatment group, and control group on Total cholesterol and Triglycerides (TGL) are graphically represented in the figure-I and figure-II respectively.



**Fig 1:** The Adjusted post mean values of Yogic Practices Group, Naturopathy Treatment Group and Control group on Total cholesterol (Scores in mg/dl)



**Fig 2:** The Adjusted post mean values of Yogic Practices Group, Naturopathy Treatment Group and Control group on Triglycerides (TGL) (Scores in mg/dl)

**Conclusion**

From the analysis of the data, the following conclusions were drawn.

1. The yogic practices group and naturopathy treatment group had registered significant improvement on the

selected criterion variables namely Total cholesterol and Triglycerides (TGL).

2. It may be concluded that the yogic practices group is better than naturopathy treatment group and control group in improving Total cholesterol and Triglycerides (TGL).

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