

# **EFFECTS OF SELECTED YOGASANAS, PRANAYAMA AND MEDITATION ON BIOCHEMICAL VARIABLES OF MALE STUDENTS**

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## **Abstract**

The purpose of the study was to find out the effects of selected yogasanas, pranayama and meditation on biochemical variables of male students, such as Blood glucose and Triglycerides. To achieve the purpose of this study forty male students were selected from Pondicherry University Community College, Lawspet, Puducherry, India, at random and their age ranges from 18 to 23 years and all of them healthy and normal. They were divided into two groups and designed as Experimental and Control group twenty male students each. The experimental groups underwent a twelve weeks of yogasanas, pranayama and meditation training were given. The control group were not allowed to participate in any of the training programme except their routine physical education classes. The collected data were analyzed by using analysis of covariance (ANCOVA). The results of the study showed that yoga training can be an effective training programme to decrease the Blood glucose and Triglycerides of male students.

## **Introduction**

India has rich tradition of yogic practices. Yoga is an art of life. It is a science of life; it is a kind of exercise to attain spiritual growth. It brings about a holistic development in man. It paves the way for self confidence and principled living. It is the science of controlling the mind which is responsible for one's action. Once a person controls his mind, and his five senses he will be free of all distractions and hence make him more productive. Though it is not a magic pill, consistent and systematic practice of his art will make man more healthy and agile – yoga is truly a boon from our ancestors, the ancient practice of postures, breathing and meditation is gaining a lot of attention. Asana posture improves general health, fitness of adolescents. Yoga is a holistic system of teaching skills which many activities person seeks, such as control over the mind, control over the body, good breathing habits, and relaxations under pressure, highly developed concentration skills and the ability to focus on the present study. The present study was to find out the effects of selected yogasanas, pranayama and meditation on biochemical variables of male students.

## Methodology

Subjects for the present study were taken from forty male students were selected from Pondicherry University Community College, Lawspet, Puducherry, India, at random and their age ranges from 18 to 23 years and all of them healthy and normal. The study was conducted during the year 2010-2011, The selected subjects were divided into two groups and designed as Experimental group and Control group twenty male students each. The experimental groups underwent a twelve week of yogasanas, pranayama and meditation training. The control group was not allowed to participate in any of the training programmes, except their routine physical education classes. A qualified physician examined the subjects medically and declared that they were fit for the study. The duration of the training period was 12 weeks with five days per week. On every day the training was practiced approximately 45 min under the instruction and supervision of the investigator. Five milliliter of venous blood was collected from each subjects, for assessment of Blood glucose and Triglycerides. The blood was allowed to clot for 15 - 20 minutes and the serum was separated by centrifuging 3000-4000 rpm for 10 min the biochemical variables were estimated by using serum in computerized auto analyzer RANDOX-IMOLA. 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.

### Result of the study

**The pre test and post test mean, standard deviation and the adjusted post test mean of the data on blood glucose is presented in table I**

	Control group	Experimental group	SOV	SOS	df	MS	'F'
<b>Pre -T</b>	84.60	84.85	<b>BW</b>	0.63	1	0.63	0.008
<b>SD</b>	10.01	7.35	<b>W</b>	2929.35	38	77.09	
<b>Post-T</b>	82.65	74.75	<b>BW</b>	624.10	1	624.1	12.78*
<b>SD</b>	6.67	7.29	<b>W</b>	1856.3	38	48.85	
<b>Adjusted post-T</b>	82.68	74.72	<b>BW</b>	633.65	1	633.65	13.94*
			<b>W</b>	1681.56	37	45.45	

\*Significant at 0.05level. Requires table value at 0.05 level of significance for 1& 37 degrees of freedom = 4.104. 1&38 degrees of freedom = 4.096.

The statistical analysis from table-I shows that the pre-test means of experimental and Control group, are 84.60, and 84.85, respectively. The obtained 'F' ratio 0.008 for pre test is less than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The post test means of experimental and Control group, are 82.65 and 74.75 respectively. The obtained 'F' ratio 12.78 for post test is more than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The adjusted post-test means of experimental and Control group are 82.68 and 74.72 respectively. The 'F' ratio obtained for adjusted post-test 13.94 is also more than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. It reveals that there is significant change on Blood glucose as result of experimental training. Since the result has revealed that there is a significant difference.

**The pre test and post test mean, standard deviation and the adjusted post test mean of the data on Triglycerides is presented in table II**

	<b>Control group</b>	<b>Experimental group</b>	<b>SOV</b>	<b>SOS</b>	<b>df</b>	<b>MS</b>	<b>'F'</b>
<b>Pre -T</b>	113.25	114.45	<b>BW</b>	14.40	1	14.40	0.06
<b>SD</b>	14.88	15.58	<b>W</b>	8816.70	38	232.02	
<b>Post-T</b>	119.10	104.80	<b>BW</b>	2044.90	1	2044.9	6.99*
<b>SD</b>	15.23	18.79	<b>W</b>	11115	38	292.50	
<b>Adjusted post-T</b>	119.71	104.19	<b>BW</b>	2405.09	1	2405.09	44.79*
			<b>W</b>	1986.39	37	53.69	

\*Significant at 0.05level. Requires table value at 0.05 level of significance for 1& 37 degrees of freedom = 4.104. 1&38 degrees of freedom = 4.096.

The statistical analysis from table-II shows that the pre-test means of experimental and Control group, are 113.25, and 114.45, respectively. The obtained 'F' ratio 0.062 for pre test is less than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The post test means of experimental and Control group, are 119.10 and 104.80 respectively. The obtained 'F' ratio 6.99 for post test is more than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The adjusted post-test means of experimental and Control group, are 119.71 and 104.19 respectively. The 'F' ratio obtained for adjusted post-test 44.79 is also more than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. It reveals that there is significant change on

Triglycerides as result of experimental training. Since the result has revealed that there is a significant difference.

#### **Discussions on findings**

The above results indicated that the experimental groups had significant changes in Blood glucose and Triglycerides due to the twelve weeks of yogic practices when compared to control group. The effects of yogic practices might be the reason for the improvement of Blood glucose and Triglycerides. Results are conformity with the studies of Shantha Joseph and B.K. Sahay also with the study.

#### **Conclusions**

From the results of the study the following conclusions were drawn: There was a significant difference between experimental group and control group on selected criterion variables.

The biochemical variables like Blood glucose and Triglycerides have significantly decreased after a period of twelve weeks of yogasanas, pranayama and meditation in the post test experimental group when compared to the pre test control and experimental group.

#### **Reference**

1. Santha Joseph, K., et al., "Study of some physiological and biochemical parameters in subjects undergoing yogic training". Indian .J. Med. Res., 74(1981). Pp.120-124.
2. B.K. Sahay, et al., "Biochemical Parameter Normal Volunteers before and after Yogic Practices", Indian Journal of Medical Research, 76 (1982), pp.144-148