



**Full Length Research Article**

**EFFECT OF PRANAYAMA AND MEDITATION ON SELECTED PHYSICAL AND PHYSIOLOGICAL VARIABLES IN HIGH SCHOOL STUDENT**

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**ABSTRACT**

Thirty boys in the group of 12 to 15 years were selected from Mahatma Fule Vidyalaya Talodhi. The subject divided into two groups namely Control group and Experimental group. The Experimental group was given Pranayama and meditation for a period of twelve weeks, both morning and evening on alternative days in a week. The Control group not participate in pranayama and meditation training programme. The collected data were statistically analyzed by using analysis of covariance (ANCOVA). The Experiment group had a significant improvement on the selected physical and physiological variable except Systolic and Diastolic Blood Pressure than that of Control group.

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**INTRODUCTION**

Yogasana and Pranayama have their origin in India and have taken a form of science, which is considered to be great legacy of India to the world. Yoga is the science of right living and it can be incorporated into everyday life. Yoga has an impact on all aspect of the individual physical, mental, Emotional spiritual and religious. Yoga helps to achieve a perfect balance between the body, mind and complete a harmony between the individual and the universal. Yoga is also a process of educating the total personality which includes steadying the mind. Nowadays, yogasanas of practiced as an exercise, they are really meant to prepare one for the meditation. For meditation, healthy and sound body and tensionless mind are required. Various postures of Yogasanas which include standing, sitting, spine and prone position asanas help to keep body healthy and tension free mind. During normal centimeter, whereas in yogic breathing the diaphragm movement maybe as much as three to four centimeters.

**Pranayama and Meditation**

For this study, the subject were practiced nadisodhanabhastrika pranayama and kapalabhatikriya.

For meditation the silent and object were also practiced during the training.

**MATERIALS AND METHODS**

The purpose of the present study was to find out the effect pranayama and meditation on selected physical and physiological variable of adolescent. For the purpose 30 student were selected at random. From Mahatma Fule Vidyalaya, Talodhi Group – A (Experimental group) having 15 students. The Group – B (Control group) having 15 students. The were in the age group of 12 to 15 years. They participated in this research voluntarily and cheerfully without any compulsion. Flexibility were measured by using sit and reach test and breath holding time measured by breath count method and the blood pressure, pulse rate and respiratory rate were assessed by using standard test using Sphygmomanometer, pulse radial artery by using the finger and counting breathing cycle respectively. The experimental group were given yogic pranayama and mediation practice for a period of twelve weeks, both morning and evening on alternative days week. Control group did not participated in any training programme.

**Analysis of Data and Interpretation of Results**

The data, collected from the control group and experimental group on selected physical and physiological variables, were

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**Table 1. Mean and Analysis of Covariance for the Pre-Test and Post Test Data on Flexibility**

Test		Control Group	Experimental Group	Source of variance	Sum of square	df	Mean square	F ration
Pretest	Mean S.D.	34.73	6.55	Between	1.20	1	1.20	0.26
			7.03	with in				
Post test	Mean S.D	35.06	40.60	Between	229.63	1	229.6	4.63*
			7.06	with in				
Adjusted Post test	Mean	32.27	40.39	Between	196.75	1	196.75	154.4*
				with in				

F<sub>0.05</sub> (1, 27) = 4.20 (or) Table value 4.20, significance at 0.05 Levels.

**Table 2. Mean and Analysis of Covariance for the Pre-test and Post Test Data on Breath Holding Time**

Test		Control Group	Experimental Group	Source of variance	Sum of square	df	Mean square	F ration
Pretest	Mean S.D.	27.45	27.47	Between	0.003	1	0.003	0.0001
			1.99	with in				
Post test	Mean S.D	27.45	30.02	Between	49.41	1	28.2	1.75
			2.12	with in				
Adjusted Post test	Mean	27.46	30.01	Between	48.71	1	48.71	55.32*
				with in				

F<sub>0.05</sub> (1, 27) = 4.20 (or) Table value 4.20, significance at 0.05 Levels.

**Table 3. Mean and Analysis of Covariance for the Pre-test and Post Test Data on Systolic Pressure**

Test		Control Group	Experimental Group	Source of variance	Sum of square	df	Mean square	F ration
Pretest	Mean S.D.	11.40	117.07	Between	3.33	1	3.33	0.144
			3.86	with in				
Post test	Mean S.D	118.47	116.66	Between	24.30	1	24.30	2.031
			3.14	with in				
Adjusted Post test	Mean	118.46	116.66	Between	31.905	1	31.905	3.739
				with in				

F<sub>0.05</sub> (1, 27) = 4.20 (or) Table value 4.20, significance at 0.05 Levels.

**Table 4. Mean and Analysis of Covariance for the Pre-test and Post Test Data on Diastolic Pressure**

Test		Control Group	Experimental Group	Source of variance	Sum of square	df	Mean square	F ration
Pretest	Mean S.D.	76.93	79.20	Between	38.53	1	38.53	1.538
			4.65	with in				
Post test	Mean S.D	76.26	79.40	Between	73.63	1	73.633	3.828
			3.99	with in				
Adjusted Post test	Mean	76.27	79.40	Between	21.68	1	21.69	2.121
				with in				

F<sub>0.05</sub> (1, 27) = 4.20 (or) Table value 4.20, significance at 0.05 Levels.

**Table 5. Mean and Analysis of Covariance for the Pre-test and Post Test Data on pulse rate**

Test		Control Group	Experimental Group	Source of variance	Sum of square	df	Mean square	F ration
Pretest	Mean S.D.	80.00	80.133	Between	0.133	1	0.133	0.15
			2.61	with in				
Post test	Mean S.D	76.60	77.20	Between	43.20	1	43.20	5.652*
			2.94	with in				
Adjusted Post test	Mean	79.60	77.20	Between	46.00	1	46.00	8.756*
				with in				

F<sub>0.05</sub> (1, 27) = 4.20 (or) Table value 4.20, significance at 0.05 Levels.

**Table 6. Mean and Analysis of Covariance for the Pre-test and Post Test Data on Respiratory rate**

Test		Control Group	Experimental Group	Source of variance	Sum of square	df	Mean square	F ration
Pretest	Mean S.D.	19.13	18.80	Between	0.833	1	0.833	0.212
			1.73	with in				
Post test	Mean S.D	19.33	20.93	Between	19.20	1	19.20	4.780*
			1.72	with in				
Adjusted Post test	Mean	19.33	21.00	Between	26.702	1	26.702	27.10*
				with in				

F<sub>0.05</sub> (1, 27) = 4.20 (or) Table value 4.20, significance at 0.05 Levels.

statistically analyzed by using the analysis of covariance (ANCOVA) a statistical technique since the two group namely Experimental Group and Control Group tested Twice before (Pre Test) and after (Post Test) the training Programme. The level of significant, fixed at 0.05 level of confidence, was used in this study.

### Conclusion

The findings of this study showed that was a significant change in physical and physiological variables. The study suggest that yogasanaspranayamas and meditation might have good improvement on the physiological variable of Respiratory Rate, Pulse Rate, breath holding time and physical variables like muscular flexibility.

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