EFFECT OF YOGIC EXERCISES TRAINING ON SELECTED PHYSIOLOGICAL VARIABLES OF SECONDARY SCHOOL MALE STUDENTS

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ABSTRACT

The purpose of study was to investigate the overall effectiveness of Pranayama and Shatkarmas on Blood pressure, Heart rate, Respiration rate & lungs vital capacity on secondary school students. For the purpose of the study one hundred twenty male students from various schools of government of N.C.T of Delhi were randomly selected for the study. The twoexperimental groups andone controlled group were taken for the study. The level of significance was kept 0.05%.

KEYWORDS: Pranayama, Respiration Rate and B.P.

INTRODUCTION:

Yoga effects physical fitness and physiological fitness anthropometric and sociological fitness, mental and emotion fitness. Since it has been felt by gleaning through the literature and the opinion of the yoga experts that the impact of yoga on the human body mind and soul is unique and worth taking into consideration. Yoga is systematic process of all round personality development and physical mental, intellectual, emotional and spiritual level. The ultimate aim is to get liberation. It is a living experience of the knowledge of the Vedas. Now a days yog is a becoming more and more popular to gain physical fitness at global level. In west and in India, many people adopted yoga as a part of their life and as a tool to keep their body and mind fit, by improving functions of vital organs of the body. The science of yoga is oldest science of world and it practiced for peace of mind and also to improve fitness. Keeping in view the utmost essential and important aspects of the impact and influence of Pranayama, Shatkarmas on various systems of the body were investigated.

OBJECTIVES OF THE STUDY:

In present study the effect of Pranayamas and Shatkarmas were investigated on physiological variables. Students have been pre tested and post tested (after 12 week). The effect of particular training program given to the different groups were investigated.

DATA COLLECTION AND PROCEDURE:

For the investigation purpose one hundred twenty students were divided into three groups of forty students each. The formation of the groups were on the basis of residential areas, age level and food habits etc. One group was kept as control group while the rest of the two groups were taken as experimental group who were given Pranayamas and Shatkarmas for the training. At the beginning of training session all the groups were tested on Physiological variables selected for training (Pre-Test session) and training program at least two session of fifty minutes of duration was planned to provide training of specific Pranayamas to the students under this study. 't' ratio was employed to find out effect of Yogic Exercises training in each groups.

RESULT AND DISCUSSION:

The findings pertaining to experimental group and controlled group for Physiological variables on secondary school students have been presented in the tables by applying Mean, SD,'t' ratio, ANOVA.

Table No .1 This table refers to Pre-test scores of experimental group A on physiological variables. Physiological variables indicating systolic, diastolic blood pressure resting heart rate, maximum heart rate, respiration rate and lungs vital capacity have provided the mean values ranging from 121.49 - 2.39 with SD 8.76 - 0.56 respectively.

Analysis of pre - test mean scores of experimental group Aon Physiological Variables.

S.NO.	Variables	Mean	SD	SEM	SKEWNESS	KURTOSIS
01	Systolic B.P	121.49	8.76	0.68	0.42	2.23
02	Diastolic B.P	82.40	10.18	1.32	1.36	1.89
03	Resting Heart Rate	73.31	3.49	0.66	0.01	2.12
04	Maximum Heart Rate	177.35	10.53	1.92	0.90	3.30
05	Respiration Rate	21.37	3.47	0.63	0.82	2.50
06	Lungs Vital Capacity	2.39	0.56	0.14	0.82	2.71

P<0.05Table no. 2

This table Indicates on the Physiological variables i.e. systolic, Diastolic B.P, Resting, maximum heart rate, respiration rate, lungs vital capacity with their mean values ranging from 118.10 - 2.59 respectively showing Standard Deviation with 10.27 - 0.66 respectively.

Analysis of Pre - Test mean scores of experimental group Bon Physiological Variables.

S.NO.	Variables	Mean	SD	SEM	SKEWNESS	KURTOSIS
01	Systolic B.P	118.10	10.27	0.80	1.20	4.89
02	Diastolic B.P	76.20	10.72	1.25	0.20	2.34
03	Resting Heart Rate	72.89	5.21	1.38	0.13	2.49
04	Maximum Heart Rate	177.42	11.82	1.14	0.80	2.14
05	Respiration Rate	21.42	3.86	0.13	0.04	2.02
06	Lungs Vital Capacity	2.59	0.66	0.12	0.13	2.52

Table No. 3 This table indicates on the Physiological variables i.e.Systolic, Diastolic B.P, Resting, maximum heart rate, respiration rate, lungs vital capacity with their mean values ranging from 116.80- 2.33 have indicated Standard Deviation 10.04 - 0.63 respectively.

Analysis of Pre - Test mean scores of Controlled group on Physiological Variables.

S.NO.	Variables	Mean	SD	SEM	SKEWNESS	KURTOSIS
01	Systolic B.P	116.80	10.04	0.34	0.10	2.11
02	Diastolic B.P	77.70	8.32	0.61	0.71	2.69
03	Resting Heart Rate	73.76	5.72	0.12	0.12	2.68
04	Maximum Heart Rate	177.84	11.34	0.86	0.11	3.01
05	Respiration Rate	19.72	4.92	0.95	0.09	2.19
06	Lungs Vital Capacity	2.33	0.63	0.13	0.08	2.46

Table no. 4 Significance of difference between pre-test and post-test mean scores of experimental group A on physiological variables after 12 week yogic exercise training.

		Pre-test	Pre-test	Post-test	Post-test	
S.NO.	Variables	Mean	SD	Mean	SD	'T' value
01	Systolic B.P	121.49	8.76	98.80	1.52	6.02**
02	Diastolic B.P	82.40	10.18	66.86	2.23	10.04**
03	Resting Heart Rate	73.31	3.49	72.21	5.45	10.65**
04	Maximum Heart Rate	177.35	10.53	175.87	10.42	3.80**
05	Respiration Rate	21.37	3.47	19.12	3.83	3.86**
06	Lungs Vital Capacity	2.39	0.56	3.55	1.04	4.32**

Experimental group A have shown statistical improved results on physiological variables, respiration rate, lungs vital capacity, systolic, diastolic, blood pressure, resting, maximum heart rate are indicating statistically significant 't' ratio which is 3.86 - 3.80 respectively but yogic exercises group A regular have shown higher posttest mean scores on vital capacity i.e. 3.55 and respiratory rate , systolic , diastolic BP, resting & maximum heart rate have indicated lower posttest mean scores with the values ranging from 19.12 - 175.87 respectively. It reveals better physiological variables improvement on experimental group A

Table No. 5 Significance of differences between pre test and post test mean scores of experimental group B on physiological variables after twelve weeks yogic exercise training.

S.NO.	Variables	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	'T' value
01	Systolic B.P	118.10	10.27	98.82	3.40	8.54**
02	Diastolic B.P	76.20	10.72	67.89	2.28	9.82**
03	Resting Heart Rate	72.89	5.21	72.84	5.47	9.06**
04	Maximum Heart Rate	177.42	11.82	177.92	9.81	2.40**
05	Respiration Rate	21.42	3.86	19.94	3.96	9.86**
06	Lungs Vital Capacity	2.59	0.66	3.42	0.94	2.24**

*P< 0.05

**P<0.01

Experimental group B has shown statistical improved scores on physiological variables, respiration rate, systolic and diastolic BP, resting heart rate, maximum heart rate, lungs vital capacity are found statistically significant with 't'ratio values ranging from 9.86 - 2.24 whereas

respiration rate systolic & diastolic BP, resting heart rate, maximum heart rate have recorded decrease in post test mean score i.e. 19.94 - 177.92 respectively. Which can be treated as statistically significant at P<0.05 level. On the other hand scores of vital capacity in post testmean score is little bit increased giving the impression of better respiratory functioning. Which is essential for physiological improvement.

Table No. 6 Significance of differences between pre test and post test mean scores of controlled group on physiological variables after twelve weeks yogic exercise training.

S.NO.	Variables	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	'T' value
01	Systolic B.P	116.80	10.04	99.85	1.62	0.68**
02	Diastolic B.P	77.70	8.32	71.46	9.44	0.43**
03	Resting Heart Rate	73.76	5.72	74.12	5.71	1.52**
04	Maximum Heart Rate	177.84	11.34	178.76	10.64	1.31**
05	Respiration Rate	19.72	4.92	20.01	4.67	1.98**
06	Lungs Vital Capacity	2.33	0.63	2.54	0.62	0.35**

*P< 0.05

**P<0.01

In this table significance of differences among pre &post test mean scores of third group which is termed as controlled group on all the physiological variables, Respiration rate, systolic & diastolic BP , Resting heart rate , maximum heart rate are not showing statically significant 't' values ranging from 1.98 - 1.31 respectively. Whereas on vital capacity in control group has recorded increased post test mean scores i.e. 2.54 which is having very little impact on

physiological effect on this group. The results indicate that Experimental group A and Experimental B have shown significantly improved after the training of their particular yogic exercises although statistical significant differences have not been found between pre and post test mean scores of controlled group.

CONCLUSION:

On the basis of the findings of the study it has been observed that experimental group A is the highest in its level on respiration rate resting & maximum heart rate with all the other group. Experimental group B indicates lower level then experimental group A on respiration rate, resting heart rate, maximum heart rate. While controlled group have shown lowest scores on this variables. It revealed that two yogic exercises Group A &B with respect to other variables are similar. In this study yogic exercise group have been termed as better and improved group on physiological variables. The impact of yogic exercises and its training is not only visible during normal activities but find valuable contribution.

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