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Research Paper

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Effect of Selected Yogic Exercises on Cardio - Respiratory System and Body Composition

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A B S T R A C T

The purpose of the study was to investigate the effect of selected yogic exercises on cardio-Respiratory system and Body Composition. The male students (n=30) of K.V.No.1 Kanpur (U.P.) were selected as a participants for this study. The age of the participants ranging from 13 - 17 years. For the purpose of study following yogic asanas were selected - Shavasana, bhujangasana, padmasana, sharvangasana and vajrasana In order to study the effect of selected yogic exercise on Cardio Respiratory system & Body Composition, Analysis of covariance was applied. The level of significance was set at 0.05.

INTRODUCTION :- Today yogic practices have become popular throughout the world. But there are great many misconceptions about these practices due to the lack of scientific information about them. Yogic practices are generally looked upon as exercise physiology. The physiology of yogic practices differs greatly from exercise physiology. The scientific nature of yogic practices was first revealed from when late swami kuvyalyanandji started his scientific research in the field of yoga in 1924. These research findings could remove several misconceptions about yoga and remove the mystical sheath over it. He showed that a logical and scientific explanation could be possible for traditionally described technique of various practices. The purpose of the study was to investigate the effect of selected yogic exercises on cardio-Respiratory system and Body Composition.

METHODS-: Participants The male students (n=30) of K.V.No.1 Kanpur (U.P.) were selected as a participants for this study. The age of the participants ranging from 13 - 17 years. All the participants were divided into two groups i.e. one Experimental Group and one Control Group.

Selection of Variables - Following Cardio-Respiratory and Body Composition Parameters were selected for the purpose of this study.

2. Lean Body Weight Yogic Asanas For the purpose of study following yogic asanas were selected - Shavasana, bhujangasana, padmasana, sharvangasana and vajrasana. The

Criterion Measures 1. Vital Capacity was measured in liters by dry Spiro meters. 2.Resting Pulse Rate was measured in number for one minute.3.Breath Holding Time was measured with the help of stopwatch and was recorded in seconds. 4.Blood Pressure was measured with the help of sphygmomanometer and it was recorded in mm/hg. 5. Body Composition was measured with the help of skin fold caliper and it was measured in percentage.

Statistical Analysis - In order to study the effect of selected yogic exercise on Cardio Respiratory system & Body Composition, Analysis of covariance was applied. The level of significance was set at 0.05.

Cardio Respiratory Parameters	Body Composition Parameters
1. Vital Capacity 2. Resting Pulse Rate 3. Breath Holding Time 4. Blood Pressure	1. Total Body Fat Percentage

RESULTS -:

Table-1 Analysis of Covariance for Vital Capacity

	Groups			Sum of squares	df	Mean sum of squares	F ratio
	Experimental	Control	A	0.015	01	0.015	
Pre test means	3.33	3.36	W	14.84	58	0.26	0.06
			A	0.683	01	0.683	
Post test means	3.57	3.36	W	17.44	58	0.30	2.28
			A	0.62	01	0.62	
Adjusted post test means	3.57	3.36	W	15.91	57	0.28	2.21

N = 60, A = among means variance W = within group variance F - Ratio needed for Significance at 0.05 level of confidence = 4.00

In order to determine the significant difference between Experimental and Control group, pre and post

test were collected before administering the training schedule. The initial and final test scores of the subjects has been analyzed using analysis of covariance. The results presented in table-6

Table-2 Analysis of Covariance for Resting Pulse Rate

	Groups			Sum of squares	df	Mean sum of squares	F ratio
	Experimental	Control	A	28.01	01	28.01	
Pre test means	70.43	69.06	W	5398.24	58	93.07	0.30
			A	2.02	01	2.02	
Post test means	68.76	69.06	W	614.57	58	10.60	0.20
			A	54.98	01	54.98	
Adjusted post test means	68.76	68.40	W	1798.67	57	31.56	1.74

Table-3 Analysis of covariance for Breath Holding Time

	Groups			Sum of squares	df	Mean sum of squares	F ratio
	Experimental	Control	A	3.75	01	3.75	
Pre test means	44.93	44.43	W	7967.24	58	137.37	0.30
			A	147.27	01	147.27	
Post test means	48.13	45.00	W	7797.47	58	134.43	1.10
			A	150.88	01	150.88	
Adjusted post test means	48.13	56.74	W	7793.85	57	136.70	1.74

Table-4 Analysis of covariance for Systolic Blood Pressure

	Groups			Sum of squares	df	Mean sum of squares	F ratio
	Experimental	Control	A	0.27	01	0.27	
Pre test means	117.20	117.30	W	1059.53	58	18.27	0.01
			A	8.07	01	8.07	
Post test means	116.50	117.20	W	49.38	58	49.38	0.16
			A	8.15	01	8.15	
Adjusted post test means	116.50	117.20	W	51.62	57	51.62	0.15

Table-5 Analysis of covariance for Diastolic Blood Pressure

	Groups			Sum of squares	df	Mean sum of squares	F ratio
	Experimental	Control	A	54.98	01	54.98	
Pre test means	72.80	71.20	W	1798.67	58	31.56	1.74
			A	11.27	01	11.27	
Post test means	72.40	71.50	W	472.67	58	8.15	
			A	147.27	01	147.27	1.38
Adjusted post test means	70.90	73.00	W	7797.47	57	134.43	1.10

Table- 6 Analysis of covariance for Body Composition

	Groups			Sum of squares	df	Mean sum of squares	F ratio
	Experimental	Control	A	15.58	01	15.58	
Pre test means	18.87	17.87	W	758.52	58	13.08	1.19
			A	36.70	01	36.70	
Post test means	18.90	18.04	W	601.97	58	10.37	3.48
			A	1.88	01	1.08	
Adjusted post test means	18.51	17.43	W	587.10	57	10.30	0.10

DISCUSSION AND CONCLUSION The analysis of covariance was used for finding out the effect of selected yogic asanas on Cardio Respiratory system and Body Composition on male students of K.V.no.1 Kanpur (U.P.) It was observed that there was no significant difference in Vital Capacity, Resting Pulse Rate, Breath Holding Time, Blood Pressure and Body Composition.Moreover, the Duration of training period was six weeks might be too short period for bringing any significant change in the Cardio Respiratory system and Body Composition of subjects. Another reason may be the Quantum of exercise, which is required for bringing significant changes, was less. The findings of the effects of yoga training on body composition seem to depend greatly on the demographics of the participants who yoga trained and the frequency and duration of the yoga training program. Gharote and Ganguly (1979) and Ray, Sinha et al. (2001)

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