

## EFFECT OF YOGIC EXERCISE ON SELECTED PHYSIOLOGICAL VARIABLES OF VARANASI

Dr.Vaibhav Rai\*

### Abstract

The reason for the review was to examine the impact of Yogic exercise on Selected Physiological Variables. For this concentrate on 20 male understudies from 12-16 years old gatherings were haphazardly chosen as subjects from Varanasi area. Further the subjects were separated into two gatherings for example exploratory gathering and control bunch. Among the exploratory gathering they were managed with Yogic exercise practices and control bunch didn't partake in preparing programme. The quantitative estimations of each subject were taken with the assistance of standard supplies, when the treatment time of about a month and a half. The chose physiological factors were Resting Heart Rate, Resting Respiratory Rate, Positive Breath Holding Capacity and Negative Breath Holding Capacity was regulated. The irregular gathering configuration was taken on with the end goal of the review.

\*Assistant Director U.S.B, B.H.U. Varanasi

### INTRODUCTION

The nature of every yogic practice is psycho physiological and if this conceptual background is not clearly understood, the whole outlook on yogic practices will be disturbed. The relation of yogic practice in terms of anatomy and physiology would remove many misconceptions about them. Prana is breath and dharana is awareness. In any comfortable cross-legged position, like sukhasana, focus your attention on the breath. Just watch your breath flow in and out of the lungs. By being aware of the movement of the breath, the mind is calmed. The way is paved for meditaion. Prana is a Sanskrit word literally meaning “life force” the invisible bio-energy or vital energy that keeps the body alive and maintains a state of good health. Dharana is a Sanskrit word which literally means “to concentrate” or “to deeply focus ones attention”. It is the practice of

intentionally channeling ones thoughts on a certain thing. Whether you are focusing on an important object at work, or you are focusing on every step you take during a run, by concentrating deeply you can reach new levels of awareness in any thing you do. Thus dharana can help to enrich your meditation, and yoga experience.

The nature of prana is light. It is a form of energy existing everywhere, with in us and outside us. It is a force capable of being dispersed as well as concentrated with in the body. Prana has now become one of the most important phenomena to all those concerned with yoga, parapsychology, and other related sciences, such as acupuncture, psychotronics, electro biology, psychometrics and psi-plasmic studies. On the basis of the review of literatures and the study was conceptualize to investigate the effect of yogic exercise on selected physiological variables. hereby It was hypothesized that there would be no significant effect of yogic exercise practice on selected physiological variables.

## **METHODOLOGY**

The subjects for this study were 20 male students of Bundelkhand Region, age ranging from 12-16 years. All the subjects were divided randomly into two groups (10 each) i.e. one experimental group and one control group. The following physiological variables were chosen for the study as Resting heart rate, Resting respiratory rate, Positive breath holding capacity, Negative breath holding capacity.

The selected variables as resting heart rate, resting respiratory rate, positive breath holding capacity and negative breath holding capacity were measured by using stopwatch and nose clip. Instruments were calibrated and tested prior to the collection of data which were considered accurate enough for the purpose of this study. By being aware of the movement of the breath, the mind is calmed. The way is paved for meditation. The scholar organized two day oriental program with the help of Yoga Expert for the groups i.e. (A & B) and after oriental program of two day a pre-test was taken then the treatment was given to group A, Yogic exercise practices respectively continue up to 6 weeks and group B not practiced any type of Yogic exercise meditation. After 6 weeks a post-test was taken and collection of data for the analysis. In order to investigate the effect of Yogic exercise on selected physiological variables, analysis of covariance were applied at 0.05 level of significance.

**RESULT AND DISCUSSION**

The statistical findings were presented in table 1- 4.

**Table 1**  
**Analysis of Covariance Yogic exercise (Resting Heart Rate)**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experimental	control					
<b>Pre test means</b>	78.60	82.50	A.G.	1	76.05	76.05	<b>.740</b>
			W.G.	18	1848.90	102.71	
<b>Post test means</b>	78.40	82.20	A.G.	1	72.20	72.20	<b>.706</b>
			W.G.	18	1842	102.33	
<b>Adjusted post test means</b>	80.334	80.266	A.G.	1	.022	.022	<b>.016</b>
			W.G.	17	23.57	1.38	

\*Significant at .05 level,  $F_{0.05}(1,18) = 4.41$  ,  $F_{0.05}(1,17) = 4.45$

Table-1 of analysis of covariance for resting heart rate for Yogic exercise and control group indicates Insignificant F-ratio of .740 and .706 for the pre test and post test means respectively. How ever, the F-ratio for the adjusted post test means reveals a value of .016 which was not significant for being less than the required F-value of 4.45at 0.05 level of significance.

**Table2**  
**Analysis of Covariance For (Resting Respiratory Rate)**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experimental	control					
<b>Pre test means</b>	17.80	18.80	A.G.	1	5	5	<b>.580</b>
			W.G.	18	155.20	8.62	
<b>Post test means</b>	16.50	18.80	A.G.	1	26.45	26.45	<b>2.799</b>
			W.G.	18	170.10	9.45	

<b>Adjusted post test means</b>	17.008	18.292	A.G.	1	7.99	7.99	<b>13.503*</b>
			<b>W.G.</b>	<b>17</b>	<b>10.06</b>	<b>.59</b>	

\*Significant at .05 level,  $F_{0.05}(1,18) = 4.41$  ,  $F_{0.05}(1,17) = 4.45$

Table 2 of analysis of covariance for resting respiratory rate for Yogic exercise and control group indicates insignificant F-ratio of .580 and 2.799 for the pre-test and post-test means respectively. However, the F-ratio for the adjusted post-test means reveals a value of 13.503 which was significant for being greater the required F-value of 4.45 at 0.05 level of significance.

**Table 3**  
**Analysis of Covariance (Positive Breath Holding Capacity)**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experimental	control					
<b>Pre test means</b>	41.36	43.87	A.G.	1	31.57	31.57	<b>.201</b>
			<b>W.G.</b>	<b>18</b>	<b>2825.01</b>	<b>156.94</b>	
<b>Post test means</b>	41.97	43.78	A.G.	1	16.34	16.34	<b>.101</b>
			<b>W.G.</b>	<b>18</b>	<b>2911.17</b>	<b>161.73</b>	
<b>Adjusted post test means</b>	43.24	42.51	A.G.	1	2.68	2.68	<b>2.963</b>
			<b>W.G.</b>	<b>17</b>	<b>15.37</b>	<b>.905</b>	

\*Significant at .05 level , $F_{0.05}(1,18) = 4.41$  ,  $F_{0.05}(1,17) = 4.45$

Table 3 of analysis of covariance for positive breath holding capacity for Yogic exercise and control group indicates insignificant F-ratio of .201 and .101 for the pre-test means respectively. However, F-ratio for the adjusted post-test means reveals a value of 2.963 which was not significant for being less than the required F-value of 4.45 at 0.05 levels of significance differences from the adjusted post-test means of Yogic exercise and control group in positive breath holding capacity.

**Table 4**  
**Analysis of Covariance (Negative Breath Holding Capacity)**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experimental	control					
<b>Pre test means</b>	21.28	17.18	A.G.	1	83.96	83.96	<b>2.973</b>
			W.G.	18	508.36	28.24	
<b>Post test means</b>	21.41	17.16	A.G.	1	90.31	90.31	<b>3.207</b>
			W.G.	18	506.83	28.15	
<b>Adjusted post test means</b>	19.36	19.20	A.G.	1	.118	.118	<b>1.089</b>
			W.G.	17	1.837	.108	

\*Significant at .05 level,  $F_{0.05}(1,18) = 4.41$  ,  $F_{0.05}(1,17) = 4.45$

Table 4 of analysis of covariance for negative breath holding capacity for Yogic exercise and control group indicates insignificant F-ratio of 2.973 and 3.207 for the pre-test and post-test means respectively. However, the F-ratio for the adjusted post-test means reveals a value of 1.089 which was not significant for being less than the required F-value of 4.45 at 0.05 level of significance. This indicates there were no significant differences from the adjusted post-test means of Yogic exercise and control group in negative breath holding capacity.

In the under taken research study the resting heart rate was not improved by Yogic exercise practice because resting Heart Rate is one of the indicator of person fitness level. Hence it is more dependent on individual’s physical fitness attained in long term rather than breathing efficiency. Whereas Resting Respiratory Rate was improved by Yogic exercise practice because it is some how related to breathing which is easily improved and Yogic exercise being breathing best exercise which might have direct impact on breathing. Further no changes occurred in Positive and Negative Breath Holding Capacity might be due to the fact that Yogic exercise is a

meditation practice that is closely associated with the activity of pray instead of Respiratory System. The hypothesis that there will be no significant effect of Yogic exercise Practice on Selected Physiological Variables was accepted in case of Resting Heart Rate, Positive Breath Holding Capacity and Negative Breath Holding Capacity since no Significant effect of Yogic exercise was found on Resting Heart Rate, Positive Breath Holding Capacity and Negative Breath Holding Capacity.

## CONCLUSION

Within the limitations of the present study it was concluded that Yogic exercise significantly improves resting respiratory rate, but had no significant effect on resting heart rate, Positive breath holding capacity and negative breath holding capacity. So the hypothesis stated earlier as no Significant effect of Yogic exercise Practice on Selected Physiological Variables was not accepted in case of Resting Respiratory Rate since Significant effect of Yogic exercise was found on Resting Respiratory Rate.

## BIBLIOGRAPHY

Gore M.M., Anatomy and Physiology of Yogic Practices , (Lonavla : Kaivalyadham, 1984)  
Rao, Dr. V.S.SM Luthra and Ramesh pal, “ Effect of Breath Holding on Aerobic and Anaerobic Capacity”, Yoga Mimansa XXIV No.3, 1<sup>st</sup> World Congress on Yoga and Ayurveda;(Jun, 1985)  
Sahu R.J and Bhole M.V., “Yogic exercise and Nadanusandhana as Contributing factors to Inner Experience of Yogic Nature”, Yoga Mimansa XXII (Oct 83 & Jan 84)  
SaraswatiSatyamurti Swami, Yoga XVII no.9 ( Bihar School of Yoga Publications, Monghyr, 1979)