

Effect of Yoga and Aerobic Training on Selected Physiological Variables among Men Handball Players

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ABSTRACT

The study sought to investigate the effect of yoga and aerobic training on selected physiological variables among men handball players. To achieve the purpose of the study (N=45) forty five men handball players were selected from SKSS Arts College, Thirupanandal, Tamilnadu, India as subjects. The age of the subjects ranged from 19 to 25 years. The selected subjects were divided into three equal groups (N=15). Group I underwent yoga training. Group II underwent aerobic training. Group III acted as control group who did not undergo any specialized training program other than their daily routine. The physiological variables such as vital capacity and breathe holding time. Were selected as dependent variables and they were assessed by spirometer and manual method respectively. The subjects were concerned with their particular training for a period of six weeks, three days per week. The collected data from three groups prior to and immediately after the training programme on selected criterion variables were statistically analyzed with analysis of covariance (ANCOVA). The level of confidence was fixed at 0.05 for all the cases to test the hypothesis. The result of the study reveals that the yoga training and aerobic training groups achieved significant improvement on selected physiological variables such as vital capacity and breathe holding time of college men handball players.

Keywords: Yoga Training, Aerobic Training, Physiological Variables, Vital Capacity and Breathe Holding Time.

INTRODUCTION

Yoga Training

Yoga comes from a Sanskrit term that means, among other interpretations, to “yoke” or “unite”. In yoga, we unite the breath, mind and body. Sometimes, yoga is also used to boost a person’s spirituality. On the other hand, some folks just do yoga because they feel better and notice positive changes in their body. Your own yoga practice can therefore be approached from any number of personal goals or intentions. This is one of the reasons yoga is so uniquely beneficial. It is completely individualized. The silencing of the mental activities which leads to the complete realization of the intrinsic nature of the supreme person is called yoga (Iyenger, 2009).

Aerobic Training

Aerobic exercise involves stimulating heart and lungs for a period sufficient to produce beneficial changes in the body. The main objective of aerobic exercise is to increase the amount of oxygen that the body can process within a given time (aerobic capacity). Changes in physiology resulting from aerobic

exercise are collectively called the training effect. Inducing the training effect involves exercising so that heart rate increases to between 60 and 80 percent of its theoretical maximum (**Rosser, 2001**).

Handball

The game of handball is a fast and physically demanding team sport in which natural moves and basic skills such as running, jumping and throwing are combined with speed, power, coordination and endurance. All major joints of the body (ankles, knees, elbows and wrists) are constantly used to successfully execute a wide range of individual and team actions that are performed with various levels of effort (maximal effort, submaximal, medium alternated with very short break moments) **Felicia and Beatrice, (2015)**.

Objectives

This study was designed to investigate the effect of yoga and aerobic training on selected physiological variables among men handball players.

Methodology

To achieve the purpose of the study (N=45) forty five men handball players were selected from SKSS Arts College, Thirupanandal, Tamilnadu, India as subjects. The age of the subjects ranged from 19 to 25 years. The selected subjects were divided into three equal groups (N=15). Group I underwent yoga training. Group II underwent aerobic training. Group III acted as control group who did not undergo any specialized training program other than their daily routine. The physiological variables such as vital capacity and breathe holding time. Were selected as dependent variables and they were assessed by spirometer and manual method respectively. The subjects were concerned with their particular training for a period of six weeks, three days per week. The collected data from three groups prior to and immediately after the training programme on selected criterion variables were statistically analyzed with analysis of covariance (ANCOVA). The level of confidence was fixed at 0.05 for all the cases to test the hypothesis.

Results

Table II: Analysis of Covariance of Vital Capacity on Experimental and Control Group of Men Handball Players (Scores in Liters)

Test	YTG	ATG	CG	Sum of Variance	Sum of Square	Degree of Freedom	Mean Square	'F' Ratio
Pre Test	3.504	3.506	3.529	Between	.004	2	.001	.936
				Within	.224	42	.005	
Post Test	3.763	3.773	3.523	Between	.566	2	.141	39.81*
				Within	.160	42	.004	
Adjusted Post Test	3.766	3.775	3.517	Between	.588	2	.147	48.98*
				Within	.132	41	.003	

***Significant at 0.05 level of confidence**

The pre, post-test and adjusted post-test mean values of Vital capacity on Yoga Training Group (YTG), Aerobic Training Group (ATG) and Control Group (CG) were 3.504, 3.763, 3.766; 3.506, 3.773, 3.775 and 3.529, 3.523, 3.517 respectively. The obtained F value of adjusted post-test were 48.98 was greater than the table value of 3.23. Hence it was proved that there was a significant improvement on Vital capacity of college men handball players.

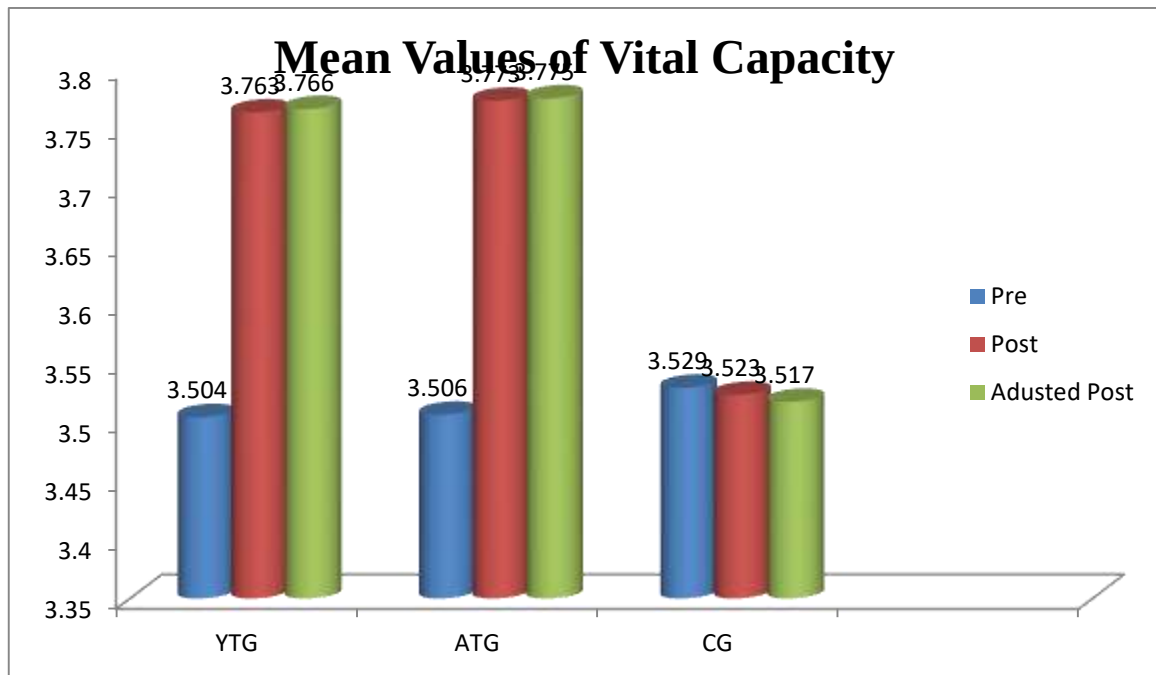


Figure - I: Pre, Post and Adjusted Post Test Means of Yoga Training and Aerobic Training Group and Control Group on Vital Capacity.

Table III: Analysis of Covariance of Breathe Holding Time on Experimental and Control Group of Men Handball Players (Scores in Seconds)

Test	YTG	ATG	CG	Sum of Variance	Sum of Square	Degree of Freedom	Mean Square	'F' Ratio
Pre Test	51.10	52.35	51.00	Between	36.65	2	12.22	0.34
				Within	2735.30	42	35.99	
Post Test	58.80	56.20	52.35	Between	422.44	2	140.81	5.06*
				Within	2113.95	42	27.81	
Adjusted Post Test	59.34	55.66	52.98	Between	427.08	2	142.36	209.67*
				Within	50.92	41	0.68	

***Significant at 0.05 level of confidence**

The pre, post-test and adjusted post-test mean values of Breathe Holding Time on Yoga Training Group (YTG), Aerobic Training Group (ATG) and Control Group (CG) were 51.10, 58.80, 59.34; 52.35, 56.20, 55.66 and 51.00, 52.35, 52.98 respectively. The obtained F value of adjusted post-test were 209.67 was greater than the table value of 3.23. Hence it was proved that there was a significant improvement on Breathe Holding Time of college men handball players

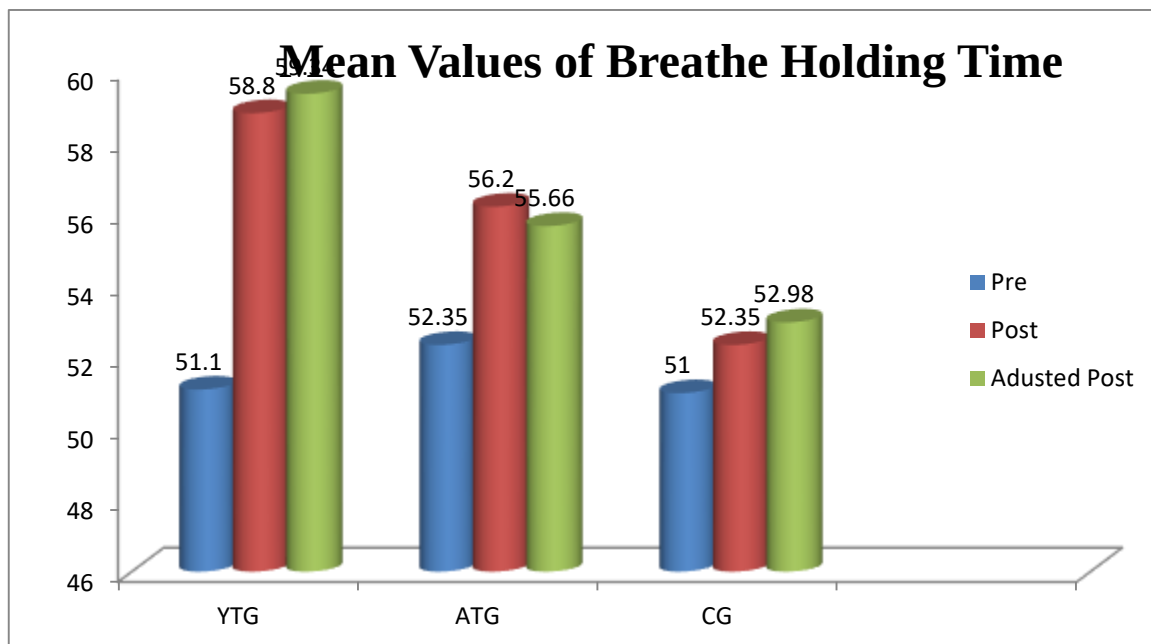


Figure - II: Pre, Post and Adjusted Post Test Means of Yoga Training and Aerobic Training Group and Control Group on Breathe Holding Time.

Discussion of Findings

The result of the study indicates that the experimental group namely as Yoga Training and Aerobic Training had significantly improved in the selected dependent variables namely as vital capacity and breathe holding time. It is also found that the improvement caused by Yoga Training and Aerobic Training was better when compared to control group (Nisha Shantakumari,a et.al.(2013).

Conclusions

The experimental group's namely as Yoga Training and Aerobic Training had achieved significant improvement on selected the physiological variables such as vital capacity and breathe holding time when compared to control group.

It was concluded that Yoga Training as better improvement when comparing to the Aerobic Training groups on selected the physiological variables such as vital capacity and breathe holding time.

It was concluded that college level player should practice both Yoga Training and Aerobic Training for positive enhancement of playing.

References

1. Iyengar BKS. Light on Yoga: Yoga dipika. New Delhi: Harper Collins, 2009.
2. Rosser, M. (2001). Body Fitness and exercises. (2nd edition), pp.32.
3. Felicia Lidia Radu and Beatrice Aurelia Abalasei., 101 Team Handball. Blooms bury Publishing. 2015, p.15-16.
4. Mann S; Beedie C; Jimenez A, "differential effects of aerobic exercise, resistance training and combined exercise modalities on cholesterol and the lipid profile: review, synthesis and recommendations". Sports Med. 2014; 44(2):211-21
5. Ministry of Ayush, Common yoga protocol 2018,p.1-42.

6. Nisha Shantakumari,a et.al.(2013), "effects of a yoga intervention on lipid profiles of diabetes patients with dyslipidemia", Indian Heart J. 2013 Mar; 65(2): 127– 131.