

Research Paper

**INVESTIGATION OF THE CHANGES ON SELECTED BIO-MOTOR PARAMETERS
AFTER TWELVE WEEKS OF YOGA PRACTICES
AMONG MIDDLE AGED MEN****M.Ravi¹, Dr.S.Nagarajan²**

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Tamilnadu.raviroth14@gmail.com**Abstract**

The purpose of this study was to investigation of the Changes on Selected Bio-Motor Parameters after Twelve Weeks of Yoga Practices among Middle aged Men. The study was conducted on thirty (N=30) healthy middle aged men from various places around Vellore District, Tamil Nadu, India, were selected randomly as subjects. The ages were ranged from 35 to 42 years. The subjects selected were divided at random into two groups of fifteen each (n=15). Group I underwent yoga practices, and Group II acted as Control. Among various Bio-motor Parameters Muscular Strength and Cardio Respiratory Endurance were selected as dependent variables. Muscular Strength was assessed by Bent Knee Sit-up test and Cardio Respiratory Endurance was assessed by Cooper's 12 Minutes Run/Walk test. The experimental group underwent Yoga practices for 12 weeks duration and the Control group was not involved any specific training. All the subjects were tested prior to and immediately after the training period of twelve weeks for all the selected variables. The data collected data from the three groups prior to and immediately after the training programme on the selected criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed to test the hypotheses. Muscular Strength and Cardio Respiratory Endurance showed significant difference between the groups. Yogic Practices group showed better performance than Control group.

Key words: Yogic Practices, Muscular Strength, Cardio Respiratory Endurance**Introduction**

Healthy living and physical fitness are closely connected. Being physically fit not only helps people live healthy lives; it also helps people live longer. People who make physical activity and exercise a part of their daily lives when they are young are more likely to keep it in their lives as they grow older and benefit from it throughout their life spans. Physical activity is defined

as any movement that spends energy. Exercise is a subset of physical activity, but it is an activity that is structured and planned (Coakley, 1986). Sports performance is complex mixture of genetic make-up and environment influences like training etc. Performance in cricket is determined by several factors namely skill, technique, tactics, fitness, training, etcetera. Training plays an important role in modern day

Cricket. Hari et al., (1998) opines that Sports training is the physical, technical, intellectual, psychological and moral preparation of an athlete by means of physical exercise. Sports training consist of activities and movements which generally lead to high fatigue. Fatigue is the direct result of the load by physical activity. Load therefore, is of central importance in sports training. Without maintaining the load caused through physical exercise performance cannot be improved, stabilized and maintained because over load results in stagnation of performance (Sultana, 2008). Yoga has been practiced in India for over two millennia. Stories and legends from ancient times testify to the existence of yoga, and to the practitioners and divinities associated with it. Indian literature is a storehouse of knowledge about yoga covering every conceivable level. Roughly in chronological order are the vocals (books of Scriptural knowledge), the Upanishada (philosophical cosmologies), and their commentaries; then the Puranas (ancient cosmologies), and the two epics, the Ramayana and the Mahabharatha. The Mahabharatha contains within itself that masterpiece of Indian scripture the Bhagavad Gita. Towards the end of Vedic period comes the aphoristic literature, with the "Yoga Aphorisms" of Patanjali of special interest to yoga students. These are, besides, whole bodies of works both ancient (Pre-Christian) and more modern dealing with various aspects of yoga and yoga philosophy, testifying to the continued relevance of yoga as a discipline (Mira 1994). Yoga has a hoary past. The importance for the spiritual attainment has been recognized throughout the ages by all the systems of Indian philosophy. There is no doubt that the essence of yoga has been considered in the spiritual upliftment of man. One may question as to how then yoga is related to the physical education and whether yoga will not be pulled down from its highest pedestal in doing this. It is

necessary, therefore, to clear the concepts of yoga and physical education first (Gharote, 1976). In other systems of physical exercises, the internal organs of the body mostly do not get proper exercise, while yogasana gives sufficient exercise to the internal organs of the body. Yogasanas have a greater impact on the mind and the senses than the other physical exercises with the result that yogasanas help to develop one's physical and mental powers to calm the mind and control the senses. Yogasanas make possible not only physical and mental development but also intellectual and spiritual development. Asanas require the least possible use of physical energy. Yogasanas are called a 'non-violent activity' (Sharma, 1984).

Methodology

The purpose of this study was to investigation of the changes on selected bio-motor parameters after twelve weeks of yoga practices among middle aged men. The study was conducted on thirty (N=30) healthy middle aged men from various places around Vellore District, Tamil Nadu, India, were selected randomly as subjects. The ages were ranged from 35 to 42 years. The subjects selected were divided at random into two groups of fifteen each (n=15). Group-I underwent yoga practices, and Group-II acted as Control. Among various Bio-motor Parameters Muscular Strength and Cardio Respiratory Endurance were selected as dependent variables. Muscular Strength was assessed by Bent Knee Sit-up test and Cardio Respiratory Endurance was assessed by Cooper's 12 Minutes Run/Walk test. The experimental group underwent Yoga practices for 12 weeks duration and the Control group was not involved any specific training. All the subjects were tested prior to and immediately after the training period of twelve weeks for all the selected variables. The data collected data from the three

groups prior to and immediately after the training programme on the selected criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed to test the hypotheses.

The Analysis of covariance (ANCOVA) on Muscular Strength and Cardio Respiratory Endurance of Yoga Practices group and Control group have been analyzed and presented in Table -I.

Results and discussion

Table – 1

Analysis of covariance on muscular strength and cardio respiratory endurance of yoga practices group and control group

Certain Variables	Adjusted Post test Means		Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
	Yoga Practices Group-(I)	Control Group (II)					
Muscular Strength	18.64	14.43	Between	132.66	1	132.66	204.00*
			With in	17.56	27	0.65	
Cardio Respiratory Endurance	2459.33	2132.67	Between	800333.33	1	800333.33	70.29*
			With in	307404.71	27	11385.36	

***Significant at .05 level of confidence.**

(The table value required for significance at .05 level with df 1 and 27 is 4.21)

Table-I shows that the adjusted post test mean values of Muscular Strength and Cardio Respiratory Endurance for yoga practices group and Control group are 18.64, 14.43, 2459.33 and 2132.67 respectively. The obtained F-ratios are 165.77 and 88.85 is more than the table value 4.21 for df 1 and 27 required for significance at 0.05 level of confidence. The results of the study indicate

that there is a significant difference exists among the adjusted post test means of experimental groups showing increase of Muscular Strength and Cardio Respiratory Endurance. The adjusted post test mean values of yoga practices group and control group on Muscular Strength and Cardio Respiratory Endurance are graphically represented in the Figure –I and Figure –II.

(SCORES IN NUMBERS)

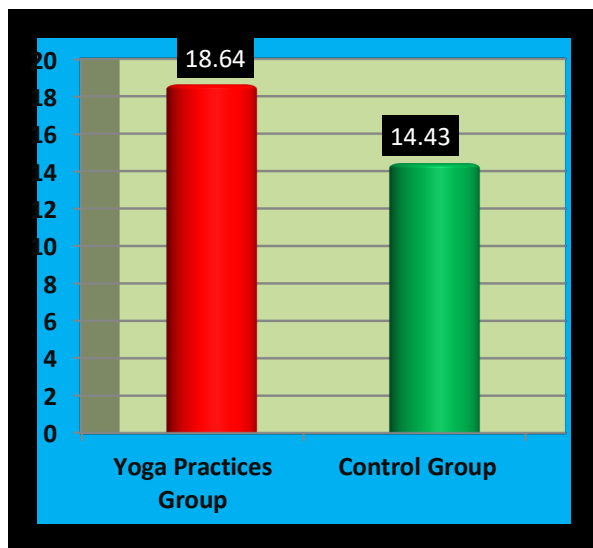


Figure-1
Mean values of yoga practices group and control group on muscular strength

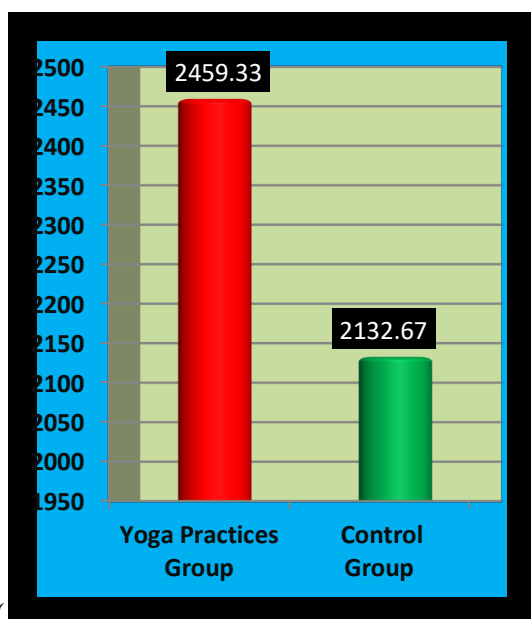


Figure-2:
Mean values of yoga practices group and control group cardio respiratory endurance

From the analysis of the data, the following conclusions were drawn.

The yoga practices group had registered significant improvement on the selected criterion variables namely Muscular Strength and Cardio Respiratory Endurance. It may be concluded that the yoga practices group in improving Muscular Strength and Cardio Respiratory Endurance.

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Conclusion