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Original Research Paper

Physical Education

EFFECT OF YOGA PRACTICES AND PHYSICAL TRAINING ON VITAL CAPACITY AMONG COLLEGE MEN PLAYERS

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ABSTRACT Aim of this study was to determine the effect of yoga practices and physical training on Vital Capacity among college men players. The study was conducted on forty five (N=45) men College men players who were studying various affiliated colleges in Alagappa University, Karaikudi and participated various tournaments during the year 2017-2018 were selected as subjects. Subjects were randomly assigned equally into three groups, Group –I underwent Yoga Practices Group (n = 15), Group II underwent Physical Training Group (n=15) and Group-III acted as control Group (n=15). Vital Capacity was selected as a dependent variable and it was assessed by wet spirometer. The data was collected before and after the training period of 12 weeks. The data was collected from the Experimental and Control Groups were statically examined with Analysis of covariance (ANCOVA). Vital Capacity showed significant difference between the groups.

KEYWORDS : Physical Exercises, Yoga Practice, Vital Capacity

INTRODUCTION

Life is made up of physical movements. The advent of industrialization has changed the social economic and cultural dimensions of the society. The modem age has forced man to lead a hectic life. Today's life mostly depends upon the invention of science and technology. In such situations people need more exercise to keep the body and mind fit. Modem science provides us leisure comforts and easier material existence, but it does not give us peace of mind. Scientific advancement are eliminating physical exercise from our day to day life. The automotive and the television are the two key contributors to our sedentary life style. The sedentary way of life has a negative effect on human body and it has been associated with many serious health problems.

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-Mehta, 1994).***

Physical exercise is a capsule for better living. With regular exercise, coronary arteries that supply blood to the heart enlarge and new blood capillaries develop within the organ larger, stronger and more efficient. Exercise increases the strength and efficiency of the muscles of the rib cage and diaphragm. This causes an increase in the lung volume, enabling a person to take in more air and thus absorb more oxygen. A person who exercises regularly breathes more slowly at rest than one who does not work out. But, when required, he or she can breathe deeply and oxygenate a given volume of blood, spending less energy. Exercise increases the size of existing blood vessels and makes them more elastic. It promotes the formation of new blood vessels not only in the heart, but also in the skeletal muscles, thus improving the oxygen supply to all parts of the body. Exercise increases the total blood volume in the body, the density of red blood cells and the haemoglobin content. This increases the efficiency of the body's oxygen transport system as well as the waste disposal mechanism, leading to improved muscular endurance and efficiency. Exercise helps to burn calories not only when exercising, but burns calories at a higher rate even after finished exercising and converts them into muscle tissues. "High levels of blood cholesterol are strongly associated with heart attacks. Regular exercise will lower cholesterol levels. Exercise brings down high blood pressure; reduces body fat and increases muscle mass; helps reduce weight; keeps blood sugar under control; relieves muscle and joint pains; reduce stress; prolongs life; exercise improves feeling of well being ***(Arjun, 1991).***

METHODOLOGY

The study was conducted on forty five (N=45) men College men players who were studying various affiliated colleges in Alagappa University, Karaikudi and participated various tournaments during the year 2017-2018 were selected as subjects. The age of the subjects ranges from 18-21 years. Subjects were randomly assigned equally into three groups, Group –I underwent Yoga Practices Group (n = 15), Group-II underwent Physical Training Group (n=15) and Group-III acted as control Group (n=15). Among various physiological components vital capacity only selected as a dependent variable and it was assessed through wet spirometer. The training period was limited to twelve weeks. The data was collected from the Experimental and Control Groups were statically examined with Analysis of covariance (ANCOVA).

RESULTS AND DISCUSSION

The data collected from the Experimental group and Control group prior and after experimentation on selected variables were statistically examined by analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted post test means on selected criterion variables separately. The level of significance was fixed at 0.05 level of confidence to test the 'f' ratio obtained by analysis of covariance.

TABLE – I THE SUMMARY OF MEAN AND DEPENDENT 'T' TEST FOR THE PRE AND POST TESTS ON VITAL CAPACITY OF YOGA PRACTICES GROUP, PHYSICAL TRAINING GROUP AND CONTROL GROUP

	Yoga Practices Group – (I)	Physical Training Group – (II)	Control Group – (III)
Pre- test mean	40.60	40.73	40.87
Post-test mean	47.07	44.47	41.13
't'-test	12.47*	8.57*	0.41

*** Significant at .05 level.**

(Table value required for significance at .05 level for 't'-test with df 14 is 2.15) From Table-I the dependent't' test values between the pre and post test means of Yoga Practices Group, Physical Training Group and Control Group, were, 12.47, 8.57 and 0.41 respectively. Since the obtained 't'-test value of Experimental groups are greater than the table value 2.15 with df 14 at 0.05 level of confidence, it is concluded that Yoga Practices Group and Physical Training Group had registered significant improvement in performance of Vital Capacity.

The Analysis of covariance (ANCOVA) on Vital Capacity of Yoga Practices Group, Physical Training Group and Control Group, have been analyzed and presented in Table -II.

TABLE – II
ANALYSIS OF COVARIANCE ON VITAL CAPACITY YOG PRACTICES GROUP, PHYSICAL TRAINING GROUP AND CONTROL GROUP

Adjusted Post-test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
Yoga Practices Group-(I)	Physical Training Group – (II)	Control Group (III)					
47.15	44.47	41.05	Between	278.37	2	139.18	101.15*
			Within	56.42	41	1.38	

*** Significant at.05 level of confidence**
(Vital Capacity Scores in ml/kg/min)
(The table value required for Significance at 0.05 level with df 2 and 41 is 3.23)

Table-II shows that the adjusted post test mean value of Vital Capacity for Yoga Practices Group, Physical Training Group and Control Group are 47.15, 44.47 and 41.05 respectively. The obtained F-ratio of 101.15 for adjusted post test mean is more than the table value of 3.23 for df 2 and 41 required for significant at .05 level of confidence.

The results of the study indicate that there are significant differences among the adjusted post test means of Yoga Practices Group, Physical Training Group and Control Group on the development of Vital Capacity.

To determine which of the paired means had a significant difference, the Scheffe's test was applied as Post hoc test and the results are presented in Table-III.

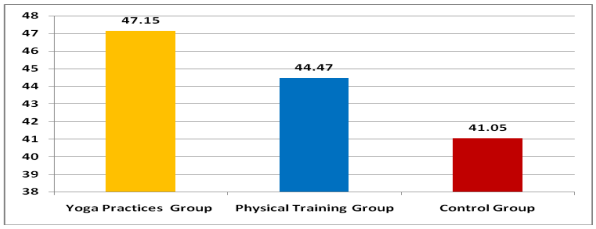
TABLE – III
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON VITAL CAPACITY

Adjusted Post-test means			Mean Difference	Confidence Interval
Yoga Practices Group – (I)	Physical Training Group – (II)	Control Group - (III)		
47.15	44.47		2.68*	1.09
47.15		41.05	6.09*	1.09
	44.47	41.05	3.41*	1.09

*** Significant at.05 level of confidence**
Table -III shows that the adjusted post test mean difference on Yoga Practice, Physical Training Group and Control Group, Yoga are 2.68. 6.09 and 3.41 respectively. The values are greater than the confidence interval value 1.09, which shows significant differences at 0.05 level of confidence.

It may be concluded from the results of the study that there is a significant difference in Vital Capacity between the adjusted post test means of Yoga Practice Group and Physical Training Group, Yoga Practice Group and Control Group, Physical Training Group and Control Group. However, the improvements of Vital Capacity were significantly higher for Physical Training Group than Yoga Practice Group and Control Group.

The adjusted post test means values of Experimental groups and control group on Vital Capacity is graphically represented in the Figure -I.



CONCLUSIONS:

1) The Experimental groups namely, Yoga Practices group and Physical Training group and had significantly improved in Vital Capacity.
2) Significant differences in achievements were found between Yoga Practices group, Physical Training group and Control group in Vital Capacity.
3) The Yogic Practices group was found to have greater impact on the group concerned than the Yogic Practices group, Physical Exercises group and Control group in enhancing the performance of Vital Capacity.

REFERENCES

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