



## INFLUENCE OF YOGIC PRACTICES AND AEROBIC EXERCISE ON FORCED VITAL CAPACITY AMONG WOMEN SCHOOL TEACHERS

### KEYWORDS

Yogic practices, Aerobic exercises and Forced vital capacity

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**ABSTRACT** The present study was to investigate the influence of yogic practices and aerobic exercises responses on forced vital capacity parameter among women school teachers. To achieve this purpose of the study sixty (N=30) working women's were selected from school teachers, Karaikudi, Tamil Nadu state, India, during the year 2016-17. The subject's age ranges from 25 to 35 years. The selected subject were divided into three equal groups consists of ten subject each namely two experimental groups and control group from school women teachers. The experimental group I underwent yogic practices group (YPG) and experimental group II underwent aerobic exercise group (AEG) programme for six weeks. The control group was not taking part in any exercise during the course of the study. The dependent variable forced vital capacity parameter selected for the study, it was measured by Spiro meter test unit of ml. Pre-test was taken before the exercise period and post- test was measured immediately after the six weeks exercise period. The data collected from the three groups were statistically analyzed for significance, the analysis of covariance (ANCOVA) was used and the F ratio was found out. The Scheffe's test is applied as post-hoc test to determine the paired mean differences. The level of significance will be fixed at .05 level of confidence for all the cases. These results suggest that both yogic practices group and aerobic exercise group improve forced vital capacity level.

### INTRODUCTION

**Bowman AJ (1992)** said Aerobic exercise refers to exercise that involves or improve oxygen consumption by the body. Aerobic means with oxygen and refers to the use of oxygen in the body's metabolic or energy generating process. The steps that can be choreographed in to an aerobic dance routine can be varied by impact (i.e, high impact versus low impact.) Aerobic exercise (AE) can usually be completed easily by participants of all ages and fitness level. This is one of the unique characteristics of ADE, in that the same step can be modified by the participants to meet the needs of her individual workout. A typical ADE workout fulfils the cardio respiratory training principles (i, e frequency, intensity, duration, and type of activity continuous) and is similar to any cardio respiratory workout classes begins with a warm up of light activity and stretching exercise for 10 minutes, progress to the 20-30 minutes workout phase and then have a gradual cool down period for 10 minutes. Three parts of a typical 60 minutes program. A number of steps have been defined; walk, run, skip, two-steps, march, jog, Jumping jack, step touch, side kicks and touch backs.

Aerobic exercise is a kind of physical exercise which improves the efficiency of the cardiovascular system in absorbing and transporting oxygen. Aerobic means, relating to, involving or requiring free oxygen [Cooper, Kenneth H. (1997)] and it also refers the use of oxygen to adequately meet energy demands during exercise through aerobic metabolism.(McArdle; Katch and Katch (2006)).

Nowadays yoga is becoming more and more popular. It attracts the attention of the whole world. Thousands of people both men and women who are aware of the importance of personal growth has adopted yoga as a part of their life. Gradually, yoga is becoming a life style, almost a fashion of the modern world. People adopt yoga as a tool to keep the body and mind fit, to cure diseases by improving functions of the vital organs of the body. Yoga and yogic practices awaken the inner strength of the body. The health of our body and mind depends upon the soundness of the health of internal organs.

**Table No.1. Analysis of Covariance for the Pre, Post and Adjusted Post Test Means Values for Yogic practices group, Aerobic exercise group and Control group on Forced vital capacity (Forced Vital Capacity mean value measure by ml/min/kg)**

Test	Yogic Practices group	Aerobic exercise group	Control group	Source of variance	Sum of square	df	Mean square	F' ratio
Pre test Mean	1761.23	1761.56	1761.09	Between	1.177	2	0.588	.001
				Within	19785.97	27	732.814	
Post test Mean	1660.02	1647.87	1761.15	Between	77359.33	2	38679.6	46.48*
				Within	22468.59	27	832.170	
Adjusted post test mean	1660.06	1647.72	1761.26	Between	77614.41	2	38807.2	60.15*
				Within	16775.90	26	645.227	

Yoga is universal and benefits people of all ages. Yogic research has proven its efficiency in effectively maintaining and for bringing about the psycho physiological equilibrium and emotional stability and so far as the functional development is concerned, the yogic system is perhaps the best.

### METHODS & MATERIALS

This study was selected sixty (N=30) working women were selected from school teachers, karaikudi, Tamil Nadu state, India, during the year 2016-17. The subject's age ranges from 25 to 35 years. They were divided into three groups namely yogic practices group (Experimental group I), aerobic exercise group (Experimental group II), and control group (group III) each consists of 10 subjects. The experimental groups (I & II) were subjected to six weeks of yogic practices and aerobic exercise training respectively, and the group III acted as control. The experimental groups I used stages of Standing, Sitting, Kneeling, Prone, Supine and Pranayama and experimental group II used exercises v step, turn step, over the top, L step, basic straddle step, side to side, double step side, knee kick, kick forward, kick sideward., but start with smaller number of reps) and the load given were progressively increased from 50%,60%,70% intensity level yogic practices and aerobic exercises drills respectively for one hour per day for three days a week for a period of six weeks. The subjects of all the three groups were tested on forced vital capacity prior to and after the training period.

To ascertain forced vital capacity parameter measured by Spirometer test accordingly the mean value count by ml/min/kg.

### Statistical Technique

The significance of the difference among the means of experimental group was found out by pre-test. The data were analyzed analysis of covariance (ANCOVA) technique was used with 0.05 levels as confidence. Analysis was performed using SPSS 20.0 (SPSS Inc Software).

### RESULTS & INTERPRETATION

\*Table value required for significant at 0.05 level with df 2 and 27 and 2 and 26 are 3.36 and 3.37 respectively.

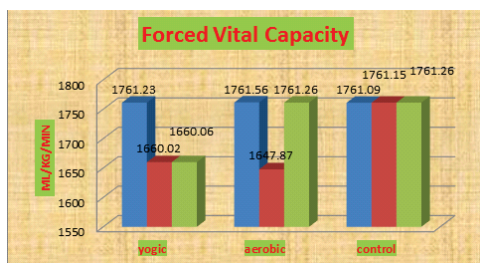
The statistical analysis from the table shows that the pre-test means of yogic practices group, aerobic exercise group and control group are 1761.23, 1761.56 and 1761.09 respectively. The obtained F ratio .001 for pre-test is lesser than the table value of 3.36 for df 2 and 27 required for significance at 0.05 level. The post-test means of yogic practices group, aerobic exercise group and control group are found 1660.02, 1647.87 and 1761.15 respectively. The obtained F ratio 46.48\* for post-test is greater than the table value of 3.36 for df 2 and 27 required for significance at 0.05 level. The adjusted post-test means of yogic practices group, aerobic exercise group and control group are 1660.06, 1647.74 and 1761.26 respectively. The F ratio obtained for adjusted post-test 60.15\* is also greater than the table value of 3.37 for df 2 and 26 required for significance at 0.05 level.

**Table II Scheffe's test for the differences between the adjusted post-test paired means on Forced vital capacity (Forced Vital Capacity mean value measure by ml/min/kg)**

Yogic practices group	Aerobic exercise group	Control group	Mean difference	C.I value
1660.06	1647.72	-	12.336	29.49
1660.06	-	1761.26	101.203*	
-	1647.72	1761.26	113.539*	

\*Significance at 0.05 level.

In the above table, the results of Scheffe's Post hoc test are presented. From the table it can be seen that the mean difference between yogic practices group and the aerobic exercise group was 12.336 (P>0.05) and the calculated C.I value is 29.49\* (P<0.05). The mean difference between yogic practices group and the control group is 101.203\* (P<0.05) and the calculated C.I value was 29.49 (P>0.05). The mean difference between the aerobic exercise group and the control group was 113.539\* (P<0.05) and the calculated C.I value is 29.49 (P>0.05). From that it can be clearly noticed that aerobic exercises group responded to the training with more positive influences of forced vital capacity when compared with the yogic practices group and control group. The yogic practices group responded better when compared with the control group.



**Figure.1. Bar diagram ordered mean values of Forced vital capacity**

**DISCUSSION OF FINDING**

The result of the study supported to the pulmonary function variables in favor of Yoga and aerobic exercise training groups. Yoga is the practice of asana and pranayama with scientific three phases namely puraka (inhalation), Kumbhaka (holding the air in the lungs) and rechaka (exhalation) in a progressive manner works on the breathing mechanism centrally and effect spread to the periphery too. Mainly the Lungs, Intercostals muscles, diaphragm and ribs are highly exercised during the Yoga and aerobic exercise. Thus it enhances the Forced vital capacity among the prepuberty boys significantly. This finding are supported the result of the Birkel D A and Edgren L (2000) Yadav RK and Das S (2001), Joshi L N Joshi VD and Gokhale LV (1992).

**CONCLUSION**

After completion of all work following conclusions were draw by the researcher:

- Aerobic exercise group was possessed reduced forced vital capacity than the yogic practices group and control group.
- Yogic practices group was possessed reduced forced vital capacity than the control group.

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