



## EFFECT OF AEROBIC DANCE TRAINING AND PRANAYAMA PRACTICES ON FORCED VITAL CAPACITY AND FORCED EXPIRATORY VOLUME ON HIGH SCHOOL BOYS OF MAHABUB NAGAR DISTRICT

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### Abstract

*The purpose of this study was to find out the effect of aerobic dance and pranayama practices on forced vital capacity and forced expiratory volume on high school boys of mahabub nagar district. The investigator selected thirty (N=30) male school boys from Z.P. High School Dhanwada, Mahabub nagar, Telangana, India. Were selected as subjects at random and their ages ranged from 13 to 16 years. The subjects were divided into two equal groups of fifteen each. Group –I acted as Experimental Group (Aerobic dance and Pranayama Practices) (ADPPG). Group –II acted as Control Group (CG). The dependent variables namely forced vital capacity and forced expiratory volume were selected and measured by digital spirometer test for this study. The data was analysed by the use of paired 't' test. The obtained 't' ratio was tested for significance at 0.05 level of confidence. The analysis of the data revealed that there was a significant improvement on the selected variables namely forced vital capacity and forced expiratory volume by the application of Aerobic dance and Pranayama Practices training.*

**Keywords:** Forced vital capacity, forced expiratory volume, digital Spiro meter, Aerobic dance, and Pranayama Practices.

### INTRODUCTION

Physical education trends have developed recently to incorporate a greater variety of unit. Teaching non-traditional sports to students may also provide the necessary motivation activities besides typical sports. Introducing students to activities like bowling, walking/hiking, or frisbee at an early age can help students develop good activity habits that will continue into adulthood. Some teachers have even begun to incorporate stress-reduction techniques such as yoga, deep-breathing and tai chi. Tai chi, an ancient martial arts form focused on slow meditative movements is a relaxation activity with many benefits for students. Studies have shown that tai chi enhances muscular strength and endurance, cardiovascular endurance, and provides many other physical benefits. It also provides psychological benefits such as improving general mental health, concentration, awareness and positive mood. It can be taught to any age student with little or no equipment making it ideal for mixed ability and age classes. Tai chi can easily be incorporated into a holistic learning body and mind for students to increase their activity, and can help students learn about different cultures. For example, while teaching a unit about lacrosse in, for example, the Southwestern United States, students can also learn about the Native American cultures of the Northeastern United States and Eastern Canada, where lacrosse originated. Teaching non-traditional (or non-native) sports provides a great

opportunity to integrate academic concepts from other subjects as well (social studies from the example above), which may now be required of many P.E. teachers. The four aspects of P.E. are physical, mental, social, and emotional.

### TECHNOLOGY USE IN PHYSICAL EDUCATION

New technology in education is playing a big role in classes. One of the most affordable and effective is a simple video recorder. With the use of a video recorder students can see the mistakes they're making in things such as a throwing motion or swinging form. Studies show that students find this more effective than having someone try to explain what they are doing wrong, and then trying to correct it. Educators also found the use of other technologies such as pedometers and heart rate monitors very successful, using them to make step and heart rate goals for students. Other technologies that can be used in a Physical Education setting would include video projectors, GPS and even gaming systems such as Kinect, Wii Fit and Dance Revolution. Projectors can be used to show students things such as proper form or how to play certain games. GPS systems can be used to get students active in an outdoor setting and active exergames can be used by teachers to show students a good way to stay fit in and out of the classroom setting.

### AEROBIC DANCE

Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and

strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises. Formal aerobics classes are divided into different levels of intensity and complexity. A well-balanced aerobics class will have five components: warm-up (5–10 minutes), cardio vascular conditioning (25–30 minutes), muscular strength and conditioning (10–15 minutes), cool-down (5–8 minutes) and stretching and flexibility (5–8 minutes). Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer a variety of aerobic classes. Each class is designed for a certain level of experience and taught by a certified instructor with a specialty area related to their particular class.

### PRANAYAMA

The word “Prana” stands for life force and this is believed to be the vital energy or life force that encompasses the body. This also serves as the link between the consciousness and the mind. It was believed that once the breath starts to wander, the mind also becomes unsteady. Once the breath is still, your mind is still as well.

Breathing is essential since this is the only way for you to send the “oxygen” inside the body and to other organs. People can survive the months without having a food on their play. But, they cannot do this without water. However, it is good to take note that they cannot “survive” several minutes without breathing. Once you understand the right breathing technique, this can create a huge impact to your thoughts and actions. Bear in mind that every thought can change your breath rhythm. If you are happy, breathing is rhythmic. If you are also stressed, your breathing will most often be interrupted or irregular.

If you master the “art of breathing”, you can easily understand self-healing.(AbhinamYoga 2015)

### METHODOLOGY

For this study, thirty(N=30) male school boys from Z.P. High School Dhanwada, Mahabubnagar, Telangana, India. Were selected as subjects at random and their ages ranged from 13 to 16 years. The subjects were divided into two equal groups of fifteen each. Experimental Group was given 8 weeks (Duration - 8 weeks, Session - 3 days / week, Duration of one session - One hour) of Aerobic dance and Pranayama Practices and the control group was not given any specific training. Experimental Group –I (Aerobic dance and Pranayama Practices (ADPPG).were given to experimental group. The subjects were tested in the selected variables namely forced vital capacity and forced expiratory volume by digital spirometer test for this study. Before and after the training period the data were collected. The collected data was treated by using paired t-test. The level of confidence was fixed at 0.05 Level.

### SELECTION OF VARIABLES

The research scholar reviewed the available scientific literature pertaining to the problem from books, journals, magazines, websites, and research papers which revealed the importance of Aerobic dance and Pranayama Practices. Taking into consideration of feasibility criteria and availability of the instruments the following variables were selected for this study.

### DEPENDENT VARIABLES

1. Forced vital capacity.
2. Force expiratory volume.

### INDEPENDENT VARIABLES

Aerobic dance training and Pranayama Practices.

**TABLE-I**  
**COMPUTATION OF ‘T’-RATIO BETWEEN THE PRE AND POST TESTS ON FORCED VITAL CAPACITY OF EXPERIMENTAL AND CONTROL GROUPS**

Group	Test	M	SD	$\sigma$ DM	DM	t-ratio	‘P’ value
Experimental	Pre Test	2.29	0.27	0.06	0.23	3.63*	0.01
	Post Test	2.52	0.26				
Control	Pre Test	2.23	0.22	0.03	0.02	1.60	0.13
	Post Test	2.19	0.23				

\* significance at 0.05 level.

The table I indicates that there was a significant improvement on the forced vital capacity through

aerobic dance and pranayama practices. It reveals that the obtained t-ratio 3.63 is significant because the ‘p’

value is lesser than the 0.05, there was a significant improvement between pre and posttests on the forced vital capacity. So there was a significant improvement on the forced vital capacity between the pre and post tests of the experimental group, whereas control group

showed no significant improvement. Hence the results indicate that the significant improvement on the forced vital capacity was due to the aerobic dance and pranayama practices the alone.

FIGURE-I

FIGURE SHOWING THE MEAN DIFFERENCE OF PRE AND POST TESTS ON FORCED VITAL CAPACITY OF EXPERIMENTAL AND CONTROL GROUPS

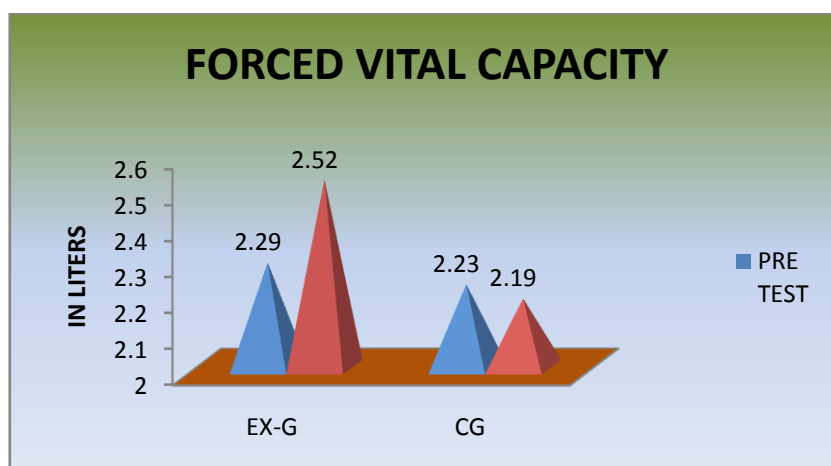


TABLE-II

COMPUTATION OF 'T'-RATIO BETWEEN THE PRE AND POST TESTS ON FORCED EXPIRATORY VOLUME OF EXPERIMENTAL AND CONTROL GROUPS

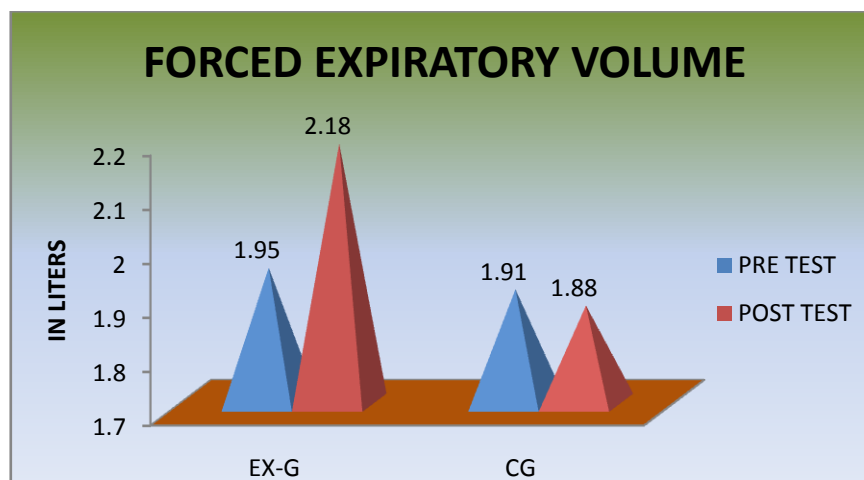
Group	Test	M	SD	$\sigma$ DM	DM	t-ratio	'P' value
Experimental	Pre Test	1.95	0.28	0.08	0.22	2.55*	0.02
	Post Test	2.18	0.18				
Control	Pre Test	1.91	0.24	0.3	0.02	0.70	0.49
	Post Test	1.88	0.23				

\* significance at 0.05 level.

The table II indicates that there was a significant improvement on the forced expiratory volume through the aerobic dance and pranayama practices. It reveals that the obtained t-ratio 2.55 is significant because the 'p' value is lesser than the 0.05, there was a significant improvement between pre and post tests on forced expiratory volume. So there was a significant

improvement on the forced expiratory volume between the pre and post tests of the experimental group, whereas control group showed no significant improvement. Hence the results indicate that the significant improvement on the forced expiratory volume was due to the aerobic dance and pranayama practices alone.

**FIGURE-II**  
**FIGURE SHOWING THE MEAN DIFFERENCE OF PRE AND POST TESTS ON FORCED EXPIRATORY VOLUME OF EXPERIMENTAL AND CONTROL GROUPS**



### DISCUSSION OF FINDINGS

The result of the study reveals that the eight weeks of aerobic dance and pranayama practices on the selected dependent variables. There was a significant improvement on forced vital capacity through the aerobic dance and pranayama practices (ADPPTG). It reveals that the obtained t-ratio 3.63 is significant because the 'p' value is lesser than the 0.05 there was a significant improvement between pre and post tests on forced vital capacity. So there was a significant improvement on the forced vital capacity between pre and post-tests of experimental group, whereas control group showed no significant improvement. Hence the results indicate that the significant improvement on the forced vital capacity was due to the aerobic dance and pranayama practices (ADPPT) training alone.

The result of the study reveals that the eight weeks of aerobic dance and pranayama practices on the selected dependent variables. There was a significant improvement on forced expiratory volume through the aerobic dance and pranayama practices (ADPPTG). It reveals that the obtained t-ratio 3.63 is significant because the 'p' value is lesser than the 0.05 there was a significant improvement between pre and post tests on forced expiratory volume. So there was a significant

improvement on the forced expiratory volume between pre and post-tests of experimental group, whereas control group showed no significant improvement. Hence the results indicate that the significant improvement on the forced expiratory volume was due to the aerobic dance and pranayama practices (ADPPT) training alone.

### CONCLUSIONS

It was concluded that there was a significant improvement on the selected dependent variables namely forced vital capacity and forced expiratory volume by the application of aerobic dance and pranayama practices (ADPPT) training alone.

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