

Effect of Yogic Practices on Vital Capacity – A Pilot Study Among University Men Students

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Abstract: Life style changes and urbanization have led to increasing proportions of many lung diseases. In general, with a reduction of regular exercises among young males, the vital capacity tends to decrease. This factor may increase the incidence of obstructive lung disease in the community. Yoga, a tradition, is known to influence lung function tests. The purpose of the present study was to find out the effect of yogic practices on Vital capacity among university men students. The study was conducted on 30 university men students in totally two groups, namely, control & experimental group. Experimental group consisted of 15 university men students. They underwent six weeks of practice in yogic practices whereas the control group did not under go any type of training. Vital capacity was measured before and after the experimentation using the standardized tests. Analysis of Covariance (ANCOVA) analyzed the data and it was concluded that the yogic practices had significant ($P < 0.05$) effect on vital capacity among university men students. we suggest a possible addition of regular yogic practices along with the curriculum among university students.

Key words: lung function, vital capacity, Yoga

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I. Introduction:

Asthma is a common and distressing condition that is characterized by recurrent attacks of spasm of the bronchi of lungs resulting in wheezing, coughing and a sense of suffocation. The nocturnal episodes seem to be higher. There are hereditary factors causing asthma but these do render a cure impossible. Worry, smoking and pollution, the factors of urbanization are major contributing causes. With worsening life style changes, people stay indoors and active exercises have been on the decline. With such unhealthy practices, the lung function tests of individuals in a society tend to decrease in an alarming way¹.

Yoga is the science and art of right living, which is to be incorporated in daily life. It works on all aspects of the person as a wholesome: the physical, vital, mental, emotional, psychic and spiritual. On a more practical level, yoga is a means of balancing and harmonizing the body, mind and emotions. It has been established that regular yogic practices improves lung function tests in patients with bronchial asthma². In this study, we tried to establish the effects of a planned yogic training session and its effects on the vital capacity of young males. The purpose of the study is to find out the effect of Yogic practices on vital capacity among university men students.

II. Methodology

The purpose of the study was to find out the effect of Yogic practices on selected Vital capacity among university men students from Tamilnadu physical education and Sports University. For the purpose of this study thirty-university men students from Chennai, were selected as subjects and their age was ranged from 21 to 24 years. the sampling was a simple continuous sample.

The subjects were randomly divided into two groups of fifteen each by a sealed envelope technique into Experimental group I (yogic practices) and Control group (no training) respectively. The pre tests and posttests was conducted before and after the training. Training would be given for six weeks. The control group did not undergo any training. The data were entered in Excel sheet and analyzed with SPSS 20.0 doc. The effect of Yogic practices on selected Vital capacity variable among university men students was the principal outcome. To estimate the vital capacity, a standardized Spirometer was used. The collected data were statistically analysed by using analysis of covariance (ANCOVA). The training schedule is described in Table 1. As the

study involved interventions like yoga its not possible to blind. Yet the lung function analyst was blinded to the group the students belonged.

Table 1 TRAINING SCHEDULE

Experimental Group : Yogic Practices – I - VI weeks.

NO	NAME OF THE PRACTICES	DURATION
	Preparative Practices	
1.	Pavanamuktasanas series	10 min
2.	Vajrasan series	10 min
3.	Suryanamaskara	10 min
4.	Pranayama Nadishodhana	10 min
5.	Kriya (Jala Neti)	15 min
6.	Yoga nidhra	5 min

III. Results;

All the thirty students completed the study and there were no dropouts. The statistical analysis comparing initial and final means of vital capacity due to yogic practices among university students is presented in Table 2.

**TABLE - 2
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE OF VITAL CAPACITY OF EXPERIMENTAL AND CONTROL GROUP**

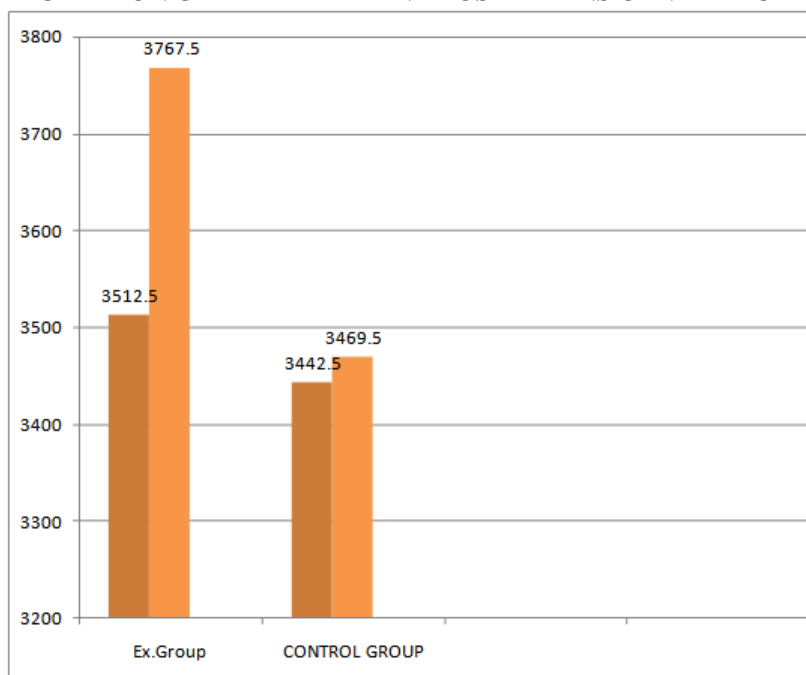
Test	Experimental group	Control group	Source of variance	df	Sum of square	Mean square	F
Pre-test mean	3512.50	3442.50	Between	1	49000.00	49000.00	0.18
			Within	38	10385750.00	273309.21	
Post-test mean	3767.50	3469.50	Between	1	888040.00	888040.00	3.36* P<0.05
			Within	38	10039870.00	264207.11	
Adjusted mean	3742.17	3494.83	Between	1	608857.01	608857.01	4.90* P<0.05
			Within	37	4598418.20	124281.57	

*significant.

Table value for df 1 and 38 was 3.21 Table value for df 1 and 37 was 3.22.

The obtained adjusted mean values were presented through bar diagram in figure 1.

Figure – 1
BAR DIAGRAM ON ORDERED PRE AND POST MEANS OF VITAL CAPACITY



IV. Discussion:

Yoga is a combined spiritual, mental and physical practice. The essence of yoga is to make the journey of life both efficient and enjoyable as possible. In the beginning, we learn not only what the stretches are, but how to stretch, how to relax and how to breathe etc. during a training in yogic practice. There are innumerable uses of Yoga including stress reduction, control of noncommunicable diseases like hypertension, diabetes mellitus etc. Insomnia is one of the common diseases, which is usually well augured by yogic practice³. Combined inclusive games with yoga also have been developed to increase mental skills.⁴ Even though various yogic practices have been described for improvement of lung function, the classical described technique described in Table 1 is usually done in our university. Even with a short duration of yogic therapy, the vital capacity improved from 3.5 litres to 3.75 litres which was very significant. The changes in the control group were almost nil. This clearly established the worth of yoga on lung function. This study was a simple study among healthy young university students. There are a lot of exercises like swimming⁵ which have been described to improve lung function but they need a work out without much mental aspects which were also satisfied with the practice of Yoga. The major limitation of this simple study is the sample size which is too small to comment on the advantages of yoga on the whole. We did not assess any other aspect of yoga in this study.

V. Conclusion:

A six week training on yogic practice improves vital capacity in young males. There were no side effects.

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