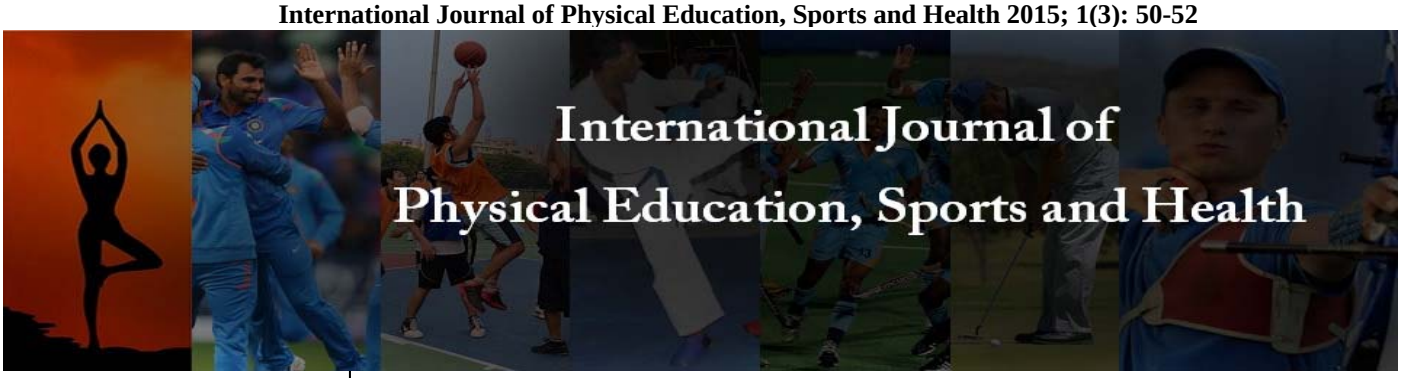
International Journal of Physical Education, Sports and Health 2015; 1(3): 50-52



P-ISSN: 2394-1685
E-ISSN: 2394-1693
IJPESH 2015; 1(3): 50-52

www.kheljournal.com
Received: 08-11-2014
Accepted: 07-12-2014

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Effect of eight weeks yogic training on selected physiological variables

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Abstract
Purpose: The Purpose of the study was to find out the effect of yogic training on selected physiological variables. **Selection of Subject:** For the present study twenty five male students of 9th and 10th standard from Children Senior Secondary School, Azamgarh, Uttar Pradesh were selected randomly as the subjects for the study. The age of the subjects were ranging from 13 - 16 years. **Selection of Variable:** The variables selected for the present study were yogic training (independent variable), resting heart rate and vital capacity (dependent variables). **Methodology:** The data was collected through the pre and post test. For the study single group design was used in which the pre test was taken prior to the yogic training and post test was taken after eight weeks of yogic training. **Statistical Technique:** For comparing pre and post test means of resting heart rate and vital capacity, descriptive analysis and paired t-test were applied at 0.05 level of significant. **Result:** The result of the study showed that there was significant difference between pre and post test of resting heart rate and vital capacity. **Conclusion:** On the basis of the findings it was concluded that the yogic training may be responsible for the improvement of selected physiological variables like resting heart rate and vital capacity.

Keywords: Yogic training, physiological variables, resting heart rate and vital capacity.

1. Introduction
Today in this fast growing world the competencies for the survival have gone up and one have to face lot of competitions. One might be very rich in materialistic sense. But keeping a healthy state of mind is very difficult due to the large number of problem of daily life.

In recent days, most of the people around the world are practicing yoga regularly to get and stay fit and healthy. In modern age, life is becoming very complex that seen and unseen hazards to health and have proliferated to an alarming many ailments like asthma, ulcer, migraine, heart attack, back pain, blood pressure, diabetes etc. Due to the pollution also the health status is disturbed. Many people do not breathe properly and are unaware of this fact. Proper breathing profoundly improves our whole physical and mental wellbeing. The breath is intimately connected with our state of health and improper breathing will often reflect various disturbances of body and mind. The breath is perhaps the only physiological process that can be either voluntary or involuntary. One can breathe with awareness and control the breathing process consciously or one can ignore it and breathe reflexively or unconsciously. If the breath is unconscious, it falls under the control of primitive parts of the brain, where emotions, thoughts and feelings of which we have little or no awareness become involved. In this way the regularity and rhythm of the breath are disturbed and it flows in an uncoordinated way, creating havoc in the body and mind.

Ordinarily when people talk about pranayama they generally mean those yogic practices, which involved some kind of manipulation of the breathing activity. But when one looks at the tradition of the yoga. One finds that the concept of pranayama has much greater width and its techniques include vast array of very subtle elements apart from the simple manipulation of breathing activity.

Yoga is a method of learning that aims to attain the unity of mind, body, and spirit through these three main Yoga structures: Exercise, Breathing, and Meditation. The exercises of Yoga are designed to put pressure on the Glandular Systems of the body, thereby increasing its efficiency and total health. The body is looked upon as the primary instrument that enables us to work and evolve in the world, a Yoga student; therefore, treats it with great care and respect. The Breathing Techniques are based on the concept that breath is the source of life in the body. Yoga students gently increase their breath control to improve the health and the function of

both body and mind. These two systems prepare the body and mind for Meditation, making it easier for students to achieve a quiet mind and be free from everyday stress. Regular daily practice of all three parts of this structure of Yoga produce a clear, bright mind and a strong, capable body.

1.1 Objectives of the study

- To find out the significant difference between pre and post test of resting heart rate.
- To find out the significant difference between pre and post test of vital capacity.

1. Methodology

2.1 Selection of Subjects

For the present study total 25 male students with age ranging between 13-16 years and studying in 9th & 10th standard were randomly selected as subject from Children Senior Secondary School, Azamgarh, Uttar Pradesh.

2.2 Selection of Variables

Keeping the feasibility criterion in mind, the researcher selected the following variables for the present study:

- Independent variables:-
  - Yogic training
- Dependent variables:
  - Resting heart rate
  - Vital capacity

2.3 Criterion Measures

- Resting heart rate was taken by gently pressing over the radial artery for one minute by using stop watch.
- Vital capacity was measured by Dry Spirometer & was recorded in milliliters.

2.4 Experiment Design and Training Schedule

For the study single group design was used in which the pre test was taken prior to the yogic training and post test was taken after eight weeks of yogic training. Selected Yoga Asanas and Pranayam were given to subjects on Six days i.e. (Monday to Saturday) sessions per week. Each yoga session consisted of 10 minutes of pranayamas (breath-control exercises), 10 minutes of dynamic warm-up exercises, 30 minutes of asanas (yoga postures), and 10 minutes of supine relaxation in savasana (corpse pose).

2.5 Statistical Procedure

The data were analyzed by applying descriptive statistical and paired t-test. The level of significance were set at 0.05

2. Result and Findings of the Study

Table 1: Descriptive and comparative statistics of pre and post test of resting heart rate

Variables	Test	N	Mean	Std. Deviation	Std. Error Mean	t-value	p-value
Resting Heart Rate	Pre	25	76.12	5.953	1.19	8.27*	.000
	Post	25	71.36	5.415	1.08		

*significant at 0.05 level, t-value at 24 df =2.06

Table 1 revels that the mean and SD of pre and post test of resting heart rate are 76.12±5.953 and 71.36±5.415 respectively. The obtained t-value 8.27 is more than the tabulated t-value 2.06 for 24 degree of freedom at 0.05 level of significance. This confirms that significant difference exists between the means of pre and post test in relation to resting heart rate.

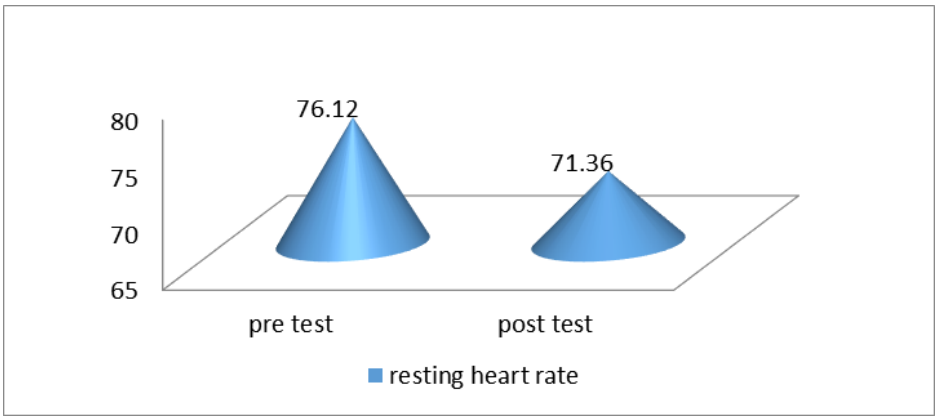

Fig 1: graphical representation mean values of pre and post test in relation to resting heart rate

Table 2: Descriptive and comparative statistics of pre and post test of resting vital capacity

Variables	Test	N	Mean	Std. Deviation	Std. Error Mean	t-value	p-value
Vital Capacity	Pre	25	3.50	0.518	.103	3.22*	.004
	Post	25	3.67	0.527	.105		

*significant at 0.05 level, t-value at 24 df =2.06

Table 2 revels that the mean and SD of pre and post test of vital capacity are 3.50±0.518 and 3.67±0.527 respectively. The obtained t-value 3.22 is more than the tabulated t-value 2.06 for 24 degree of freedom at 0.05 level of significance. This confirms that significant difference exists between the means of pre and post test in relation to vital capacity.

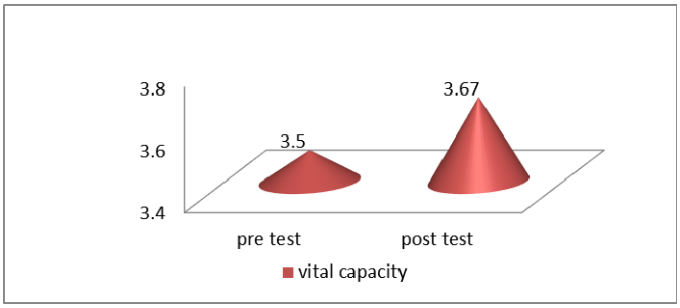

Fig 2: graphical representation mean values of pre and post test in relation to vital capacity

3. Discussion Of Findings

The result of the study revealed significant improvements in the variables such as resting heart rate and vital capacity due to yogic training on the selected group. Participation in yogic training resulted in significant development in selected physiological variables such as resting heart rate and vital capacity on selected group when compared between pre and post test.

Similar study conducted by Susanta Jana in 2013 An Assessment of Force Expiratory Volume and Forced Vital Capacity of Active and Inactive Middle Aged Female to achieve the purpose of the study was to compare the level of Forced Expiratory Volume in One Second and Forced Vital Capacity of active and inactive middle aged female. Thirty eight middle aged female (40-50 years) were selected as subject. Out of thirty eight, nineteen active female were selected randomly from Jana Yoga center, Kolaghat, Purba Medinipur named as active group and another nineteen female staff of a CBSE school, Mechogram, Purba Medinipur named as inactive group. Physiological parameters selected for the study were Forced Expiratory Volume in One Second (FEV1) and Forced Vital Capacity (FVC). Both the parameter i.e. Forced Expiratory Volume in One Second and Forced Vital Capacity were measured by a reputed physician. For the assessment of Forced Expiratory Volume in One Second and Forced Vital Capacity of active and inactive middle aged female, statistical procedure 't' test was used. It was observed that there was significant difference in Forced Expiratory Volume in One Second and Forced Vital Capacity between active and inactive women. Results showed active women have greater Forced Expiratory Volume in One Second and Forced Vital Capacity in comparison to inactive women.

4. Conclusions

On the basis of findings of the study, the following conclusions may be drawn:

1. The results of the study indicate that the significant difference was found in pre and post test of resting heart rate.
2. The results of the study indicate that the significant difference was found in pre and post test of vital capacity.

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