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Effect of Yogasanas practices on endurance of college students

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Abstract

The purpose of the present study was to examine the effect of 12 weeks yogic asanas practices on cardiovascular endurance and abdominal muscles endurance of college male student. To achieve the purpose of the study 20 male college student were randomly selected from Ashramik Chhatrabas boys hostel of Seva Bharati Mahavidyalaya in Jhargram district, West Bengal. Age ranges of the subjects were 19 to 23 years. Pre test and post test experimental group design was applied in this study and the asanas practices administered for period of 12 weeks as per scheduled. Prior and after the 12 weeks experiment pre test and post test data of cardiovascular endurance and muscular endurance were collected by Harvard Step Test and bend knee sit-up. The paired t-test was analysed to find out the significant of the study and level of significant was set at 0.05 levels. The result of the study was 12 weeks yogic asanas practices significantly improved cardiovascular endurance and abdominal muscles endurance of college students.

Keywords: Asanas, cardiovascular endurance, abdominal muscles endurance, college students

Introduction

Physical exercise is any bodily activity where involve body calorie burn and that maintains physical fitness and overall health and wellness. Individuals engaged in physical exercise for various reasons, such as to increasing growth and development, strengthening muscles and to develop cardiovascular endurance, athletic skills, weight loss or management and also enjoyment. The yoga is the spiritual concept but now days it becomes very popular form of physical exercises. Every stages individual motivates toward yogic exercises, specially the pranayama, asanas and meditations. The major health problems in modern society are obesity, due to sedentary life style. The cardiovascular Endurance is the ability of the cardiovascular heart, lungs and blood vessels to supply a sufficient amount of oxygen and nutrients to the cells to meet demands of activities, characterized by moderate contraction of large muscle group over prolonged or longer period of time. The beneficial effect of exercise on the cardiovascular system is well documented. There is a direct correlation between physical inactivity and cardiovascular efficiency. Regular physical exercise showed beneficial effect on vo2 max and physiological parameters of school children (Khodnapur, 2012) [6]. The study showed pranayama and suryanamas separately improved lungs function of medical students and at same time combined pranayama and suryanamaskar program also showed better effects than separate (Condam, 2014). The exercises aerobic and hatha yoga improved vital capacity of adult females (Khatun, 2016) [5].

Objective of the study

The purpose of the present study was to investigate the effect of 12 weeks yogic asanas practices on cardiovascular endurance and abdominal muscles endurance of college students.

Methodology

Subjects: 20 male college students were randomly engaged. Age ranged 19 to 23 years. All subjects were the hostellers of Ashramik Chhatrabas boys hostel of the Seva Bharati Mahavidyalaya in Kapgari, Jhargram district, West Bengal. Subjects were voluntarily participated in this study.

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Experimental Design

Pre test and post test group design was applied in the present study. Pre test data was collected initial day and post data was just after twelve weeks asanas practices.

Critical Measurement

Cardiovascular Endurance was measured by used of Harvard Step Test. A bench of 20 inches high, stopwatch and metronome were used in this test. The subjects performed step up and down exercise into the bench for 5 minutes duration with cadence 30 steps per minutes followed by metronome. If subjects feels very exhaustion before 5 minute duration, immediate stopped the exercise and seated in a chair. The pulse was counted up to 1 to 1.3, 2 to 2.3 and 3 to 3.5 minutes after exercise. The efficiency index was calculated by following formula

$$PEI = \frac{\text{Duration of Exercise in Second} \times 100}{2 \times \text{Sum of Pulse Counts in Recovery}}$$

Abdominal Muscles Endurance was measured by bend knee sit-up, exercise continued as many times as possible. The numbers of perfect repetitions counted as score.

Administration of Yoga Asanas Practices

Table 1: Asanas practices Schedule

Asanas	Duration
Suryanamaskar	7 min
Utkatasana	3 min
Vrikshasana	3 min
Paschimottanasan	3 min
Bhujangasan	3 min
Halasana	3 min
Dhanurasan	3 min
Naukasana	3 min
Gomukhasan	3 min
Mayurasana	3 min
Shavasana	6 min

The asanas were practices continued to 12 weeks, 4 days per weeks. The duration of each sessions were 40 minutes, conducted in afternoon session at Ashramik Chhatrabas boys hostel of Seve Bharati Mahavidyalaya, Kargari.

Statistical Analysis

For calculating the collected data Mean and SD were measured and paired t-test was applied to find out the significant. The level of significant was set at 0.05 levels.

Result and Discussion

On the basis of collected data result of cardiovascular endurance and abdominal endurance were presented in table: 2.

Table 2: Descriptive statistic of cardiovascular endurance and abdominal muscles endurance

Variables	Pre Test		Post Test		t-value
	Mean	SD	Mean	SD	
Cardiovascular Endurance	76.62	2.79	87.38	5.00	8.92
Sit-up (Bend knee)	20.76	2.54	26.42	3.66	12.29

The level of significant 0.05

Table-2 showed per test and post test mean, SD and calculated t values of cardiovascular endurance and

abdominal muscles endurance of selected subjects. The pre test means of cardiovascular endurance and abdominal endurance were 76.62 and 20.76, the post test means were 87.38 and 26.42 respectively. The calculated t-value of cardiovascular endurance was 8.92 and abdominal muscles endurance was 12.29. The calculated t-values 8.92 and 12.29 both were greater than the required table value of 2.84 for 0.05 level of confidence.

The aim of the present study was to find out the effect of twelve weeks asanas practices effect on cardiovascular endurance and abdominal muscles endurance of college student. The results of the present study represents after twelve weeks asanas practices cardiovascular endurance and abdominal muscles endurance were significant improved of college student. The result of the study same as previous studies of (Kant, & Mastram, 2015) [4] showed yoga training improved the physiological variables heart rate, systolic blood pressure, diastolic blood pressure, respiratory rate of school students. The eight weeks yoga practice improves Psycho-physiological variables of residential school students (Jayachandran, 2014) [2]. The study also proved six weeks yogic exercises improved cardiovascular endurance and lungs capacity (Sivakumar, 2016) [8].

Conclusion

On the base of result of present study, it was concluded that twelve weeks yogic asanas significantly improved the cardiovascular endurance and abdominal muscles endurance of college student.

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