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## Effect of selected yogic exercises on selected physiological variable of secondary school children

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### Abstract

The purpose of the present investigation is to find out the effect of selected yogic exercises on cardiovascular endurance of secondary school children. To achieve this purpose, 60 secondary school students were selected from Government High School, Thondoti, Madhugiri Taluk, Tumkur District, Karnataka as subjects. Their age ranged from 13-16 years. They were divided into two groups of 30 subjects each and assigned to experimental group and control group. In a week the experimental group underwent selected yogic exercises and control group was not given any specific training. All the subjects underwent Cardiovascular Endurance Test. They were assessed before and after the training period of six weeks. The 't' test was used to analyze the data. The study revealed that cardiovascular endurance has significantly improved due to the influence of six weeks of yogic exercises on cardiovascular endurance of secondary school students.

**Keywords:** Yogic Exercises, cardiovascular endurance, secondary school

### Introduction

The aim of yoga is to develop the human consciousness from lower level to a higher level. For this purpose various yogic practices are offered at different levels to train the body and mind. This brings about positive changes and harmonious functioning in the body mind complex. The practices of asana bring purity in tabular channels firmness to the body and vitality to the body and the mind. (Sharma, 1984) <sup>[1]</sup>. Yoga and yogic practices and their contributions towards the wellbeing of human beings are gaining momentum and have attracted worldwide attention. Yoga is a way of life. It has its own significant impact positively in developing the human beings physically, mentally and spiritually. Through various modes of yogic practices the society can overcome the physical fitness components and physiological variables that are required for day to day life especially the school going students. The purpose of the present study is to find out the effect of yogic practice on cardiovascular endurance of secondary school children.

### Statement of the Problem

The purpose of the present investigation is to find out the effect of selected yogic exercises on cardiovascular endurance of secondary school children and the topic entitled on "Effect of Selected Yogic Exercises on Selected Physiological Variable of Secondary School Children"

### Objectives of the Study

To find out the significant difference in Cardiovascular Endurance of the subjects by practicing yogic exercises among experimental group.

### Hypotheses

It was hypothesized that there would be a significant difference in Cardiovascular Endurance of the subjects by practicing yogic exercises among experimental group.

### Methodology

To achieve the purpose of the study 60 secondary school students were selected from Government High School, Thondoti, Madhugiri Taluk, Tumkur District, Karnataka as subjects.

Their age ranged from 13 to 16 years. They were divided into two equal groups of 30 subjects each and assigned to experimental group and control group. In a week the experimental group underwent selected yogic exercises namely Tadasana, Vakrasana, Padahasthasana, Trikonasana, Padmasana, Paschimothanasana, Vajrasana, Ustrasana, Shasankasan, Gomukhasana, Mathsyasana, Sarvangasana, Salabasana, Halasana, Dhanurasana, Shavasana and Suryanamaskar and control group was not given any specific training. All the subjects underwent Cardiovascular Endurance (Harvard Step Test). They were assessed before and after the training period of six weeks. The analysis of ‘t’ test was used to analyze the data. The study revealed that the

above said criterion variables were significantly improved due to the influence of Asana and Suryanamaskar asana on selected physiological variables among secondary school children.

**Training Program and Schedule**

**Training Schedule for Yogic Exercise Training Group**

The exercises programme was imparted systematically from simple to complex manner; they were practiced as per the subject’s individual need.

**A) I to IV Weeks**

Sl. No.	Name of the Yogasanas	Repetitions	Duration in Minutes
1	Warming-Up and Stretching Exercises	-	15 minutes
2	Suryanamaskara	5 Rounds	10 minutes
3	Aradakati Chakrasana	Both Side Two rounds	4 minutes
4	Parivrutha Trikonasana	Both Side – Two rounds	5 minutes
5	Padahasthasana	Three Rounds	4 minutes
6	Vajrasana	-	3 minutes
7	Bujangasana	Two Rounds	3 minutes
8	Shavasana	-	8 minutes
9	Pranayama & medication	-	8 minutes
	Total		60 minutes

**V to VIII Weeks**

Sl. No.	Name of the Yogasanas	Repetitions	Duration in Minutes
1	Warming Up and Stretching Exercises	-	15 minutes
2	Suryanamaskara	4 Rounds	10 minutes
3	Aradakati Chakrasana	Both Sides – Two Rounds	3 minutes
4	Parivrutha Trikonasana	Both Sides –Two round	4 minutes
5	Veerabardrasana	Both sides - One Round	3 minutes
6	Padahasthasana	Two Rounds	3 minutes
7	Paschimottanasana	Two Rounds	3 minutes
8	Vajrasana	-	3 minutes
9	Bujangasana	Two Rounds	3 minutes
10	Shavasana	-	8 minutes
11	Pranayama & medication	-	5 minutes
	Total		60 minutes

**C) IX to XII Weeks**

Sl. No.	Name of the Yogasanas	Repetitions	Duration in Minutes
1	Warming Up and Stretching Exercises	-	15 minutes
2	Suryanamaskara	3 Rounds	12 minutes
3	Aradakati Chakrasana	Both Sides - One Round	2 minutes
4	Parivrutha Trikonasana	Both Sides – One Round	3 minutes
5	Veerabardrasana	Both sides – One Round	3 minutes
6	Padahasthasana	Two Rounds	2 minutes
7	Paschimottanasana	Two Rounds	2 minutes
8	Vakrasana	Both sides – One Round	3 minutes
9	Vajrasana	-	2 minutes
10	Ustrasana	Two rounds	3 minutes
11	Bujangasana	One Round	2 minutes
12	Dhanurasana	One Round	2 minutes
13	Navasana	Two Rounds	3 minutes
14	Shavasana	-	6 minutes
15.	Pranayama and Medication		5 minutes
	Total		60 minutes

**Results and Discussions**

After the six weeks of yogic exercises there would be significant improvement on cardiovascular endurance. The data on Cardiovascular Endurance before and after the yogic training of experimental and control groups are analyzed and presented in Table-1.

**Hypothesis-1**

It was hypothesized that there would be a significant difference in Cardiovascular Endurance of the subjects by practicing yogic exercises among experimental group.

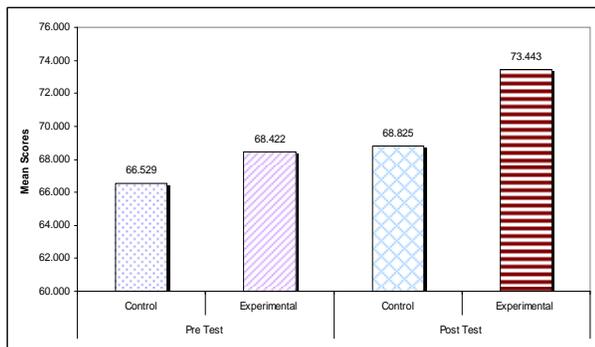
**Table 1:** Significance of differences between pre test and post test scores of Cardiovascular Endurance among experimental and control groups (N=30 each group).

Group	Test	Mean	Standard Deviation	Mean Difference	't' value	Level of Significance
Pre Test	Control	66.529	9.739	1.893	0.876	Not Significant
	Experimental	68.422	6.734			
Post Test	Control	68.825	8.085	4.168	2.132	Significant at 0.05 level
	Experimental	73.443	8.676			

From the above table, it can be observed that the obtained 't' value 0.876 is less than Table value 2.00 at 0.05 level of significance in the pre test scores. Hence it was not significant on cardiovascular endurance among control and experimental groups of pre test scores. It was assumed that the two groups started out with equivalent mean scores.

It can also observed from the above table that the obtained 't' value 2.132 is greater than Table value, 2.00 at 0.05 level of significance in the post test scores. Hence the stated hypothesis is accepted that there was a significant effect of yogic exercises on Cardiovascular Endurance among control and experimental groups. Hence, the hypothesis is statistically proved and stated hypothesis accepted.

The comparison of cardiovascular endurance mean scores of pre and post tests among groups is shown in graphical representation in Fig.2



**Fig 1:** Bar graph showing comparison of cardiovascular endurance pre and post test mean scores among experimental and control groups.

**Conclusion**

1. There was a significant difference between control and experimental group on Cardiovascular Endurance.
2. There was significant improvement noticed on Cardiovascular Endurance due to six weeks practice of yogic exercises among secondary school children.

The result emphasizes the change of cardiovascular endurance. This may be attributed to the fact that selected yogic exercises enhance the cardiovascular endurance of children keeping them physiologically fit.

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