

Research Paper :

## Effects of suryanamaskar and specific excercises on selected physical fitness variables of college students

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### ABSTRACT

The study consisted of 40 male subjects randomly selected from Dr. Babasaheb Nandurkar College of Physical Education, Yavatmal, between the age range of 18 to 25 years. The selected subjects were divided into two equal groups of 20 subjects in each. One was treated as experimental group; the second one was control group. The experimental group was asked to practice Suryanamaskar and specific excercises of six days in a week for duration of eight weeks. The control group did not participate during the period of eight weeks training programme. The experimental group was administered on the basis of training schedules in Table 1 and 2. The data obtained were statistically analyzed with the help of t' test. The finding of the results concluded that there were significant changes on selected physical fitness variables of experimental group in comparison to control group.

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**Key words :** Suryanamaskar, Physical fitness variables, Exercises

Yoga is a very ancient discipline. It is way of life or science of right living and integrated system of education for body, mind and soul. This art of right living was perfected and practiced in India thousand of years ago but, since yoga deals the universal truths. It works on all aspects of the person physical, mental, emotional and spiritual. Its importance for the spiritual attainment has been recognized throughout the age, by all the Indian philosophy. However, its application in various fields is a new trend (Francis, 2006).

Suryanamaskar is very effective and useful for both physical and mental health development. It helps to keep the internal and external organs of the body strong and healthy. Physical excercises are especially important for individual to develop strong intentions toward living a physically active life style. Physical activity is not only important for children to develop into healthy adolescents and adults. Fitness is very broad term, it includes physical, mental, social and emotional aspects.

There are so many excercises which are important and applied for the development of health and physical fitness. Appropriate form of exercise and Suryanamaskar on a regular basis will be helpful for the development of physical fitness of an individual. Gopal *et al.* (1973) studied the effect of Yogasanas and exercise training on

blood pressure, pulse rate and some respiratory function. Two groups of male volunteers, 20-33 years in age and having the same average height and weight were studied. The experimental group consisted of 14 subjects in yoga asanas and pranayama for a period of six weeks. The control group consisted of 14 normal untrained subjects, who carried out non-yogic exercise to both the groups before and after training. The results of both the groups were compared. The trained persons had grater vital capacity, more tidal volume and less respiratory rate than the untrained group. The prescribed standard exercise increased the respiratory rate in both groups but the increase was less in the trained group who instead a corresponding increase in vital volume.

### Purpose of the study:

The main purpose of the study was to find out the effects of Suryanamaskar and specific excercises on selected physical fitness variables of college students.

### METHODOLOGY

The study consisted of 40 male subjects randomly selected from Dr. Babasaheb Nandurkar College of Physical Education, Yavatmal, between the age range of 18 to 25 years. The selected subjects have been divided

into two equal groups of 20 (twenty) subjects in each. One was treated as experimental group; the second one was control group. The experimental group was asked to practice Suryanamaskar and specific exercises of six days in a week for duration of eight weeks. The control group did not participate during the period of eight weeks training programme. The experimental group was administered on the basis of the following training schedules in Table 1 and 2 and the training was given in the morning.

#### Test administration:

The subjects were tested pre and post on the selected

physical fitness variables as per the following standard procedures:

– Muscular endurance (abdominal muscles) was measured with the help of bent knee sit-ups test and the score was recorded in numbers for one minute.

– Muscular strength was measured with the help of pull-ups and the score was recorded in numbers.

– Cardiovascular endurance was measured with the help of 600 yards run – walk test and the score were recorded to the nearest 0.5 second.

– Flexibility of back and hamstring muscles were measured by using modified sit and Reach test and score

**Table 1: Schedule of Suryanamaskar**

Exercise	Week 1st and 2nd	Week 3rd and 4th	Week 5th and 6th	Week 7th and 8th
Suryanamaskar	3 Repetitions	4 Repetitions	5 Repetitions	6 Repetitions

**Table 2: Schedule for specific exercises**

Exercise	Week 1st and 2nd	Week 3rd and 4th	Week 5th and 6th	Week 7th and 8th
Bajarang Dand	3 Repetitions	4 Repetitions	5 Repetitions	6 Repetitions
Push-ups	2 sets ( 7 repetitions per set)	3 sets ( 9 repetitions per set)	4 sets ( 11 repetitions per set)	5 sets (15 repetitions per set)
Sit-ups	2 sets ( 10 repetitions per set)	3 sets ( 13 repetitions per set)	4 sets ( 16 repetitions per set)	5 sets ( 20 repetitions per set)
Oblique	3 sets	5 sets	7 sets	9 sets
Turn step in 4 beats (Aerobic)	6 Repetitions	8 Repetitions	10 Repetitions	12 Repetitions
Rope skipping	3 sets ( 1 to 30 Turn per set)	4 sets ( 1 to 40 Turn per set)	5 sets ( 1 to 50 Turn per set)	6 sets ( 1 to 60 Turn per set)

N.B:- After every set 10 sec. Rest

**Table 3: The mean differences between the pre and post test of control and experimental groups of the physical fitness variables**

Sr. No.	Variables	Groups	Test	Mean	SD	't' Value
1.	Muscular endurance	Experimental	Pre test	37.5	12.6	*2.21
			Post test	46.7	13.7	
		Control	Pre test	37.7	11.4	0.84
			Post test	40.8	11.8	
2.	Muscular strength	Experimental	Pre test	30.04	9.56	*3.52
			Post test	39.03	6.27	
		Control	Pre test	30.5	9.55	1.03
			Post test	33.6	9.47	
3.	Cardiovascular endurance	Experimental	Pre test	46.5	16.15	*2.53
			Post test	58.3	13.32	
		Control	Pre test	45.7	14.2	0.81
			Post test	49.3	13.7	
4.	Flexibility	Experimental	Pre test	12.89	5.95	*2.45
			Post test	18.6	8.56	
		Control	Pre test	13.4	5.97	1.12
			Post test	15.8	5.67	

\* indicates significance of value at P=0.05

was recorded to the nearest 0.5 inch.

### Statistical analysis:

The data were analyzed by using of  $t'$  test to see whether any significant difference on physical fitness variables exists between pre and post test of the control and experimental group.

### OBSERVATIONS AND DISCUSSION

Table 3 reveals that there was significance differences of mean scores in selected physical fitness variables (Muscular endurance, Muscular strength, Cardiovascular endurance and flexibility) between pre and post test of experimental as the calculated  $t'$  values of 2.21, 3.52, 2.53, 2.45 were, respectively higher than the tabulated value of ' $t'$ ' 2.09 at .05 (19) level of confidence. There was no significant differences found in the control group as the calculated  $t'$  values of 0.84, 1.03, 0.81, 1.12, respectively were lesser than the tabulated value of ' $t'$ ' 2.09 at .05 (19) level of confidence. The data provided significance evidence to ensure that mean scores of all the variables were significantly higher in the experimental group than that the control group.

### Conclusion:

Finally the following conclusions were drawn in the present study:

It was concluded that all the selected physical fitness variables were significantly different in between the experimental and control groups. It was also evident that Suryanamaskar and specific exercises had significant changes on selected physical fitness variables of experimental group in comparison with control group.

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