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Effect of yogic practice on health related fitness among school boys

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Abstract
The objective of the study was to assess the effect of yogic practice on health related fitness among school boys. For this study 200 subjects were selected, in which 100 of experimental group and 100 of control group. All the samples selected from Govt. Boys Senior Secondary School, Baprola (New Delhi) India. The age group of the selected subjects between 12 to 16 years and all the samples selected on random basis. The regular yogic training was provided to the experimental group and there was no treatment given to the control group. To measure the health related fitness of the selected subjects, AAPHER Health related fitness test was used. This test includes body composition, Cardio respiratory endurance, flexibility and Abdominal and low back hamstring musculoskeletal function etc. The duration of the training period was limited to twelve weeks and practice daily from Monday to Saturday. The subjects were performed the activities for the duration of 75 minute from 4.30 pm to 5.45 pm in a training session during this period. The results of the study found that there is significant difference was observed between pre test and post test of Body composition, Cardio respiratory Endurance, Flexibility and Abdominal & low back hamstring musculoskeletal function of school going male children of the experimental group. No significant difference was found between pre test and post test of selected variables of health related fitness of school going boys of control group.

Keywords: Body composition, cardio respiratory endurance, flexibility and abdominal & low back hamstring musculoskeletal function etc.

Introduction

The World Health Organization defined health as a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity and fitness as the ability to perform muscular work satisfactorily and the Centers for Disease Control define it as a set of attributes that people have or achieve that relates to the ability to perform physical activity.(Kapur and Batiga, 1994) A recent consensus conference also defined fitness, in a broad sense, so as to include both physical fitness and physiological fitness, which extends to biological systems influenced by the level of habitual physical activity. (Gutin, 1992).The American Alliance for Health, Physical Education, Recreation and Dance had published two standardized tests for the schools: The health - related physical fitness test and the youth fitness test. According to AAHPERD- Physical fitness is a multifaceted continuum extending from birth to death. Affected by physical activity, it ranges from optimal abilities in all aspects of life through high and low levels of different physical fitness, to severely limiting disease and dysfunction. (Safrit, 1986). It is concerned with the development and maintenance of the fitness components that can improve health through prevention and remediation of disease and illness. Health related physical fitness improves one's ability to function efficiently and maintain a healthy lifestyle. Thus health related fitness is important for all humans throughout life. Health related physical fitness is based on the assumption that an adequate level of body development is required for health. There are five components of health related physical fitness namely muscular endurance, muscular strength, cardio respiratory endurance, body composition and flexibility.

Health - related physical fitness is important to everyone and should be stressed by physical educators, coaches and medical people alike. Health related physical fitness is defined as the ability to perform strenuous activity without excessive fatigue showing evidence of traits that limit the risks of developing diseases and disorders which affect a person's functional capacity. Components of health related physical fitness are identified as muscular strength, endurance, flexibility, cardio-respiratory endurance and body composition (Nichols, 1986)

To enjoy an optimum state of health and physical fitness, exercises are very important. Physical exercises are helpful in maintaining the sound body throughout one's life. Health and fitness provide the individual an opportunity to live longer and they add to the quality of everyday life. (Greenberg and Pargnam, 1986)

According to present thinking in the physical education and sports profession, physical fitness is either heath related or performance related. In keeping with wellness trend today and an emphasis on all aspects of healthful living in addition to stressing performance or motor skill related to fitness. This aspect of physical fitness concerns the development of qualities necessary to function efficiently and maintain a healthy life style. Each of the components of health related fitness cardio vascular endurance, muscular strength, muscular endurance, body composition and flexibility (Bucher and prentice (1985).

Methodology

Subjects

For this study 200 subjects in which 100 of experimental group and 100 of control group. All the samples selected from Govt. Boys Senior Secondary School, Baprola (New Delhi) India. The age group of the selected subjects between 12 to 16 years and all the samples selected on random basis.

Tools
To measure the health related fitness of the selected subjects, AAPHER Health related fitness test was used. This test includes body composition, Cardio respiratory endurance, flexibility and Abdominal and low back hamstring musculoskeletal function etc.

Statistical analysis
To assess the effect of yogic exercises on health related physical fitness of school going boys
"t" test was used.

Results and discussion
Descriptive statistics are presented in the following tables:-

Table 1: Showing mean values between pre test and post test score on selected Health related fitness component i.e. Body Composition (Triceps Skin fold)

Variable	Group	Pre-test		Post-test		't' value
		Mean	Sd	Mean	Sd	
Body Composition (Triceps skin fold)	Experimental	10.15	2.17	7.56	1.23	4.57*
	Control	10.28	2.36	10.77	2.35	0.14

't'(0.05)=1.98

From table no 01 results show that the mean values of pre test and post test of experimental group in body composition (triceps skin fold) were 10.15 and 7.56 respectively. The obtained't' ratio was 4.57, which is greater than the required value 1.98 at 0.05; so it was found statistically significant. The mean values of pre test and post test on control group in body composition (triceps skin fold) were 10.28 and 10.77 respectively. The obtained't' ratio was 0.14 which is less than the table value of 1.98 at 0.05 level; so it was found statistically insignificant.

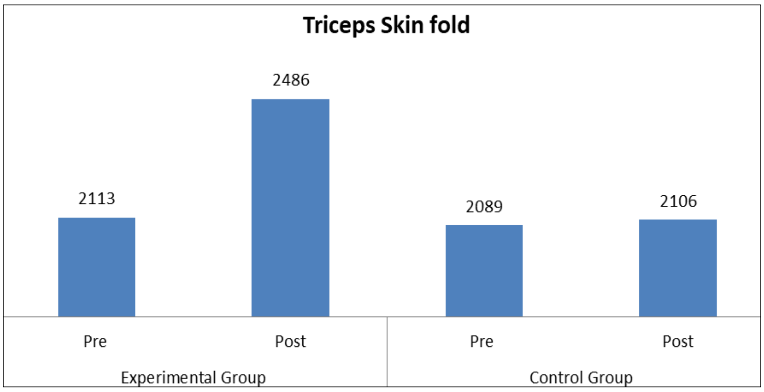

Fig 1

Table 2: Showing mean values between pre test and post test score on selected Health related fitness component i.e. Body Composition (Sub scapularis Skin fold)

Variable	Group	Pre-test		Post-test		't' value
		Mean	Sd	Mean	Sd	
Body Composition (Sub scapular Skin fold)	Experimental	10.36	2.03	8.31	1.43	2.49*
	Control	9.82	1.99	9	1.96	0.12

't'(0.05)=1.98

From table no 02 results show that the mean values of pre test and post test of experimental group in body composition (subscapularis skin fold) were 10.36 and 8.31 respectively. The obtained't' ratio was 2.49, which is greater than the required value 1.98 at 0.05; so it was found statistically significant. The mean values of pre test and post test on control group in body composition (subscapular skin fold) were 9.82 and 9 respectively. The obtained't' ratio was 0.12 which is less than the table value of 1.98 at 0.05 level; so it was found statistically insignificant.

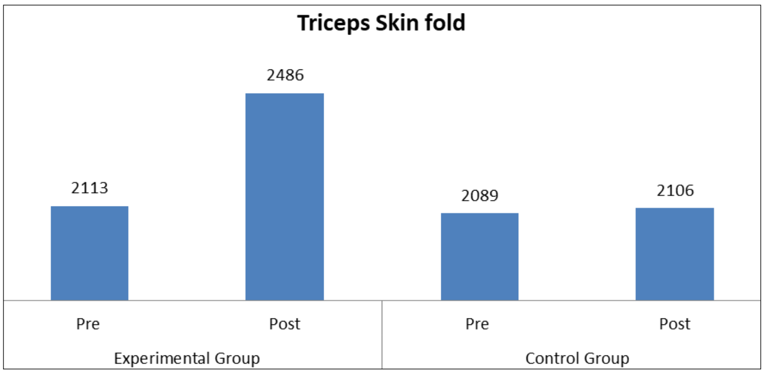

Fig 2

Table 3: Showing mean values between pre test and post test score on selected Health related fitness component i.e. Cardio Respiratory Endurance

Variable	Group	Pre-test		Post-test		't' value
		Mean	Sd	Mean	Sd	
Cardiorespiratory Endurance	Experimental	2113	330.48	2486	460.42	3.08*
	Control	2089	351.13	2106	341.51	0.73

't'(0.05)=1.98

From table no.03 results show that the mean values of pre test and post test of experimental group in Cardio respiratory Endurance were 2113 and 2486 respectively. The obtained 't' ratio was 3.08, which is greater than the required value 1.98 at 0.05; so it was found statistically significant. The mean values of pre test and post test on control group in Cardio-respiratory Endurance were 2089 and 2106 respectively. The obtained't' ratio was 0.73 which is less than the table value of 1.98 at 0.05 level; so it was found statistically insignificant.

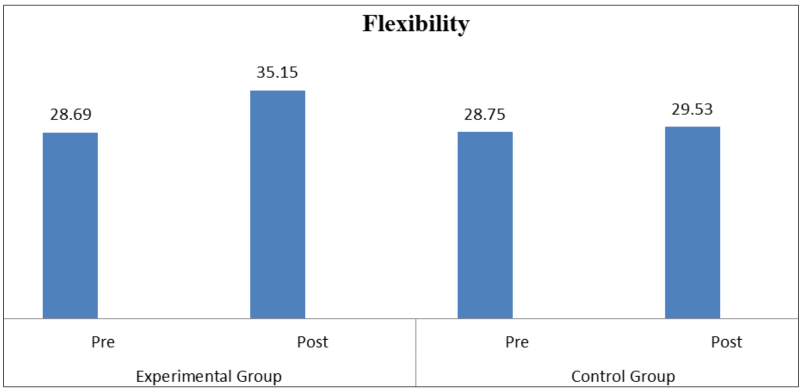

Fig 3

Table 4: Showing mean values between pre test and post test score on selected Health related fitness component i.e. Flexibility

Variable	Group	Pre-test		Post-test		't' value
		Mean	Sd	Mean	Sd	
Flexibility	Experimental	10.47	3.04	12.94	3.20	7.76*
	Control	9.89	3.24	9.86	2.72	0.94

't'(0.05)=1.98

From table no.04 results show that the mean values of pre test and post test of experimental group in Flexibility were 10.47 and 12.94 respectively. The obtained 't' ratio was 7.76, which is greater than the required value 1.98 at 0.05; so it was found statistically significant. The mean values of pre test and post test on control group in Flexibility were 9.89 and 9.86 respectively. The obtained't' ratio was 0.94 which is less than the table value of 1.98 at 0.05 level; so it was found statistically insignificant.

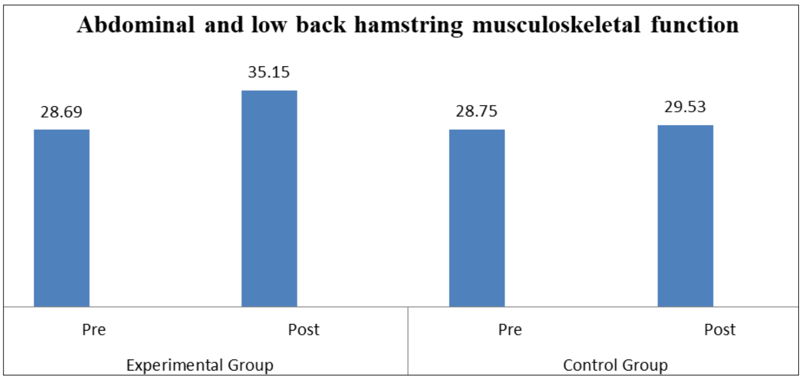

Fig 4

Table 5: Showing mean values between pre test and post test score on selected Health related fitness component i.e. Abdominal and low back hamstring musculoskeletal function

Variable	Group	Pre-test		Post-test		't' value
		Mean	Sd	Mean	Sd	
Abdominal strength and Endurance	Experimental	28.69	5.87	35.15	7.67	2.32*
	Control	28.75	6.51	29.53	6.70	0.40

't'(0.05)=1.98

From table no.05 results show that the mean values of pre test and post test of experimental group in Abdominal and low back hamstring musculoskeletal function were 28.69 and 35.15 respectively. The obtained 't' ratio was 2.32, which is greater than the required value 1.98 at 0.05; so it was found statistically significant. The mean values of pre test and post test on control group in Abdominal and low back hamstring musculoskeletal function were 28.75 and 29.53 respectively. The obtained't' ratio was 0.40 which is less than the table value of 1.98 at 0.05 level; so it was found statistically insignificant.

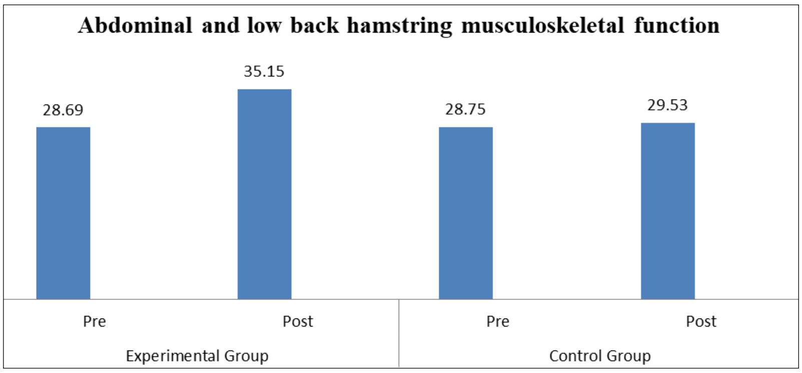

Fig 5

Conclusions

On the basis of the above discussion it may be concluded that

1. There is significant difference was observed between pre test and post test of Body composition of school going male children of the experimental group. No significant difference was found between pre test and post test of body composition of school going boys of control group.
2. There is significant difference was observed between pre test and post test of Cardio respiratory endurance of school going male children of the experimental group. No significant difference was found between pre test and post test of Cardio respiratory endurance of school going boys of control group.
3. There is significant difference was observed between pre test and post test of flexibility of school going male children of the experimental group. No significant difference was found between pre test and post test of flexibility of school going boys of control group.
4. There is significant difference was observed between pre test and post test of Abdominal and low back hamstring musculoskeletal function of school going male children of the experimental group. No significant difference was found between pre test and post test of Abdominal and low back hamstring musculoskeletal function of school going boys of control group.

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