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Research Article

Effect of physical activity on selected physical fitness variables among school girls

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■ **ABSTRACT**

The purpose of the study was to find out the effect of physical activity on selected physical fitness variables among school girls. To achieve this purpose of the study, thirty girls were randomly selected from Govt. Sr. Sec. School, Patran, Patiala, Punjab, India, as subjects and their age ranged from 14 to 17 years. They were divided into two equal groups of fifteen each, Group I underwent physical activity programme and Group II acted as control and they did not participate in any special training apart from their regular curricular activities. The subjects were tested on selected criterion variables such as speed, muscular endurance and cardio-vascular endurance prior to and immediately after the training period. The selected criterion variables such as speed were measured by using 50 yards dash, muscular endurance was measured by using bent knee sit-ups and cadio-vascular endurance was measured by 8 min run and walk test, respectively. The analysis of covariance (ANCOVA) was used to find out the significant differences if any, between the experimental group and control group on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The result of the present study has revealed that there was a significant difference among the experimental and control group on speed, muscular endurance and cardio-vascular endurance.

■ **Key Words :** Physical activity, Physical fitness, Variables

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Physical exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness. It is performed for various reasons including strengthening muscles and the cardio-vascular system, athletic skills, weight loss or maintenance, as well as for the purpose of enjoyment.

Frequent and regular physical exercise boosts the immune system, and helps prevent the "diseases of affluence" such as heart disease, cardio-vascular disease, Type 2 diabetes and obesity. It also improves mental health, helps to prevent depression, helps to promote or maintain positive self-esteem, and can even augment an individual's sex appeal or body image, which is also found to be linked with higher levels of self-esteem. Childhood obesity is a growing global concern and physical exercise may help to decrease some of the effects of childhood and adult obesity. Health care providers often call exercise the "miracle" or "wonder" drug-alluding to the wide variety of proven benefits that it provides (Dudgeon *et al.*, 2004). Increase in the volume and intensity of leisure-time physical activity is associated with increase in physical fitness in adults. Exercise recommendations to improve and maintain cardio-respiratory fitness suggest exercise that uses large muscle groups, is performed three to five times a week, at intensity of 60–90 per cent of maximum heart rate and for 20–60 minutes at a time. These latest fitness recommendations also include guidelines for enhancing muscular fitness and flexibility. Positive effects on lifestyle behaviours and physical health status measures, ongoing physical activity promotion in schools is recommended at this time (Dobbins *et al.*, 2009). Specific exercises or activities

can be used to predict adoption and maintenance of physical activity (Dishman *et al.,* 1985). Schools are a suitable setting for the promotion of healthy lifestyles although more work, particularly focussed on dietary change, is needed in a variety of schools and social settings (Trish Gorely *et al.,* 2009). The evidence was graded for each health outcome using established criteria based on the quantity and quality of studies and strength of effect. The volume, intensity, and type of physical activity were considered. Physical activity was associated with numerous health benefits. The dose-response relations observed in observational studies indicate that the more physical activity, the greater the health benefit (Janssen and Le Blanc, 2010).

■ METHODOLOGY

The purpose of the study was to find out the effect of physical activity on selected physical fitness variables among school girls. To achieve the objective of the study, thirty girls were randomly selected from Govt. Sr. Sec. School, Patran, Patiala, Punjab, India as subjects and their age ranged from 14 to 17 years. They were divided into two equal groups of fifteen each, Group I underwent physical activity programme and Group II acted as control, which they did not participate in any special training apart from their regular curricular activities. The experimental group underwent the training programme for three days per week for eight weeks. Among the physical fitness variables, the following variables such as speed (50 yards dash), muscular endurance (bent knee situps) and cardio-vascular endurance (8 min run and walk test) were selected as criterion variables. The data were collected at prior and immediately after the training programme for each criterion variable. Analysis of covariance (ANCOVA) was applied for analyze the data. In all the cases, 0.05 level was used to test this significance (Clarke and Clarke, 1988).

■ OBSERVATIONS AND DISCUSSION

The mean and standard deviation scores of pre-test, post-test and adjusted post-test of speed, muscular endurance and cardio-vascular endurance on physical activity and control group are given in Table 1.

'F'ratio test computed in regards to the speed, muscular endurance and cardio-vascular endurance on physical activity and control group in the pre-test, post-test and adjusted post-test are also presented in Table 1.

The findings of the study showed that there was no significant difference between the pre-test of speed, muscular endurance and cardio-vascular endurance.

The results of the investigation showed that there was a significant difference between the post-test and adjusted post-test of speed, muscular endurance and cardio-vascular endurance.

The results of the study have shown that there was a

Table 1: Mean standard deviation and 'F' ratio of physical activity and control group on speed muscular endurance and cardio-vascular endurance

Variables		Physical activity		Control		'F' ratio
		Mean	S.D.	Mean	S.D.	
Speed	Pre-test	10.20	0.52	10.29	0.51	0.78
	Post-test	9.57	0.51	10.22	0.77	7.71*
	Adjusted post-test	9.52		10.27		12.73*
Muscular endurance	Pre-test	5.33	0.68	5.07	0.53	0.98
	Post-test	7.33	1.23	5.20	1.47	14.14*
	Adjusted post-test	7.95		5.58		8.36*
Cardio-vascular endurance	Pre-test	1420.67	112.9	1406.67	134.51	0.69
	Post-test	1443.33	102.68	1405.33	145.45	6.17*
	Adjusted post-test	1441.05		1405.38		30.72*

significant difference among the physical activity training group and control group on speed, muscular endurance and cardio-vascular endurance.

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