

Effect of 20 Minutes Specific Exercise Plan on Health Related Fitness of School Children

***Shazia Rashidi **Prof. Sushma Ghildyal ***Veena Tripathi**

*Research Scholar, Department of Physical Education, Banaras Hindu University, Varanasi

**Supervisor, Department of Physical Education, Banaras Hindu University, Varanasi, UP

***Instructor, Centre Court Sports Academy, New Jersey, U.S.A.

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Abstract

The purpose of the study was to assess the effect of 20 minutes specific exercise plan (independent variable) on health related fitness (dependent variable) of school children. For this study 30 (Boys & Girls both) students of 10 years age were randomly selected as subjects from Primary School Sirwa, Block Thekma, District, Azamgarh. The subjects were divided into two equal groups of 15 subjects i.e. experimental group and control group. Experimental group was followed 20 minutes specific exercise plan and the control group was not participated in the training programme. The training schedule and criterion measures were derived from 'Draft on National Physical Fitness Programme for School Children' prepared by Ministry of Youth Affairs and Sports, Government of India'. The significance of mean difference between the pre-test and post test scores each of the criterion variables between the groups were analysed by using descriptive statistics and Analysis of Co-variance. The significance level was set at 0.05. The result of the study prescribed that 20 minutes exercise plan is effective in bringing about improvement in health related fitness of school children.

Key words: exercise plan, health related fitness.

INTRODUCTION

Health and fitness have a vital role in the life of human from time immemorial. The progress of the Nation lies in the hands of the people, who are healthy and physically fit. Every individual should develop physical fitness for a successful adjustment with environment. The current scenario defines Physical Education in a prominent goal as "All-round development", means overall development of personality. Bucher (1972) has defined the goal of Physical Education as, "the development of physically, mentally, emotionally, and socially fit citizens through the medium of physical activities that have been selected with a view to realizing these outcomes". Nixon and Cozen said, "Physical education have a goal of making the maximum contribution to the development of an individual's potentialities in all aspects of life which can be done by placing him in an environment to promote such muscular and related responses as will contribute to this purpose successfully." With this perspective the study configured to delimit on Sarva Shiksha Abhiyan (SSA) schools and Above Poverty Line (APL) status of economical category group's children of rural areas. The results of the study showed high demand of improvement in health related fitness of school children.

Objective of the Study

To assess the impact of 20 minutes specific exercise plan on health related fitness of school children.

METHODOLOGY

Pre test-Post test Randomized Research Design was applied for the study. Total 30 subjects of 10 years from above poverty line group were randomly selected from Primary School Sirwa, Thekma, Azamgarh and divided into two equal groups, i.e. experimental and control group, consisting of 15 subjects each. Where the experimental group administered to 20 minutes specific exercise plan for 45 school days. Control group was not exposed to the exercise programme. Both the groups were following MDM and MNS Programs with their daily routine. The data was collected two times starting and end of the training session with the help of selected criterion measures derived by the “Draft on National Physical Fitness Programme for School Children” prepared by Ministry of Youth Affairs and Sports, Government of India, Cardio-Vascular Endurance measured by Harward Step test modified by Brouha & Ball and Muscular Strength by Kraus Weber test, for both the groups under similar conditions. In order to determine the significant difference between experimental and control group the data was analysed by applying descriptive statistics and Analysis of Co-variance. The level of significance was set at 0.05.

ANALYSIS AND RESULTS OF THE STUDY

Table A: Descriptive Statistics and Analysis of Co-Variance of the Means of Control and Treatment Group in relation to Health Related Fitness Components

Dependent variable	Session	Means of different groups ± SD				Adjusted Post Mean		ANCOVA	
		Exp. Group	% of Gain/Loss	Control Group	% of Gain/Loss	Exp.	Con	F	P
Cardio-Vascular Endurance	Pre-Test	55.84±8.07	0.36	55.54±7.89	0.70	56.48	55.97	.034	.855
	Post-Test	56.23±6.57		55.74±8.60					
Muscular Strength	Pre-Test	40.60±10.47	2.32	40.13±11.02	12.34	44.71	46.14	.998	.592
	Post-Test	46.80±10.37		41.06±10.22					
Muscular Endurance	Pre-Test	22.13±5.50	7.06	21.67±8.18	22.76	27.71	24.62	2.74	.109
	Post-Test	27.17±3.34		23.20±6.47					
Body Composition	Pre-Test	13.97±1.56	0.57	13.95±1.14	0.28	14.68	14.64	.023	.882
	Post-Test	14.01±1.27		14.03±1.12					
Flexibility	Pre-Test	7.77±2.97	5.63	7.10±2.79	15.31	8.20	8.47	1.05	.377
	Post-Test	8.96±3.45		7.50±2.66					

Significant at the level 0.05 (df=27, 1) = 4.21

Table-A reveal that the obtained Mean values have insignificant difference between Pre-test and Post-test of both, the experimental and control groups in relation to 20 minutes specific exercise plan on health related fitness of school children. The same table indicates that the obtained ‘F’ value of Cardio-Vascular Endurance, Muscular Strength, Muscular Endurance, Body Composition and Flexibility were insignificant at 0.05 level with (1, 27) df as the tabulated value 4.21 was required to be significant. It also shows that there were improvement (% of gain/ loss) in all the five variables, because the rate of impact was higher between pre-test to post-test of experimental group in comparison to the control group. There were insignificant difference between adjusted means of experimental group and control group related to all the five variables.

Figure A: Means of Pre-Test and Post-Test and Adjusted Post Mean of Experimental and Control Group in relation to Cardio-Vascular Endurance and Muscular Strength

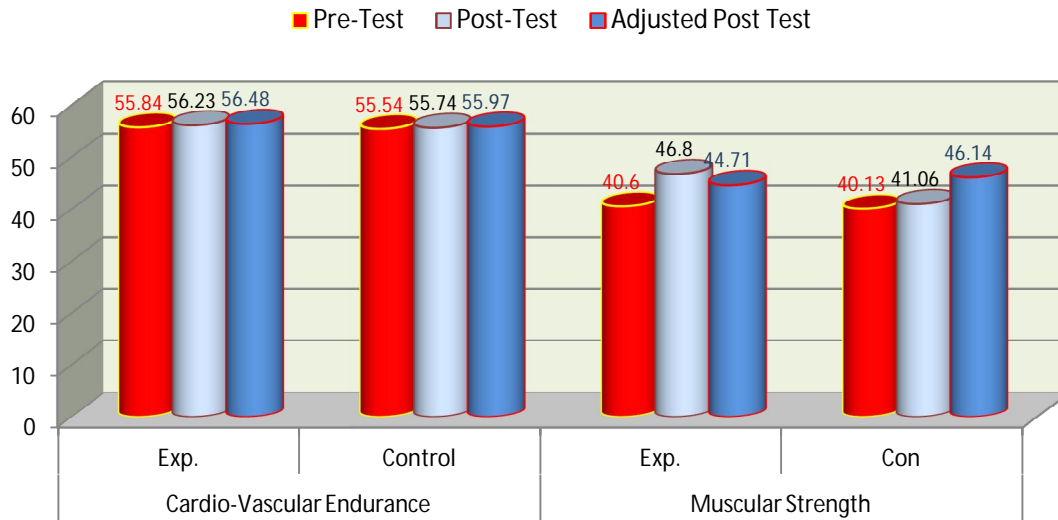
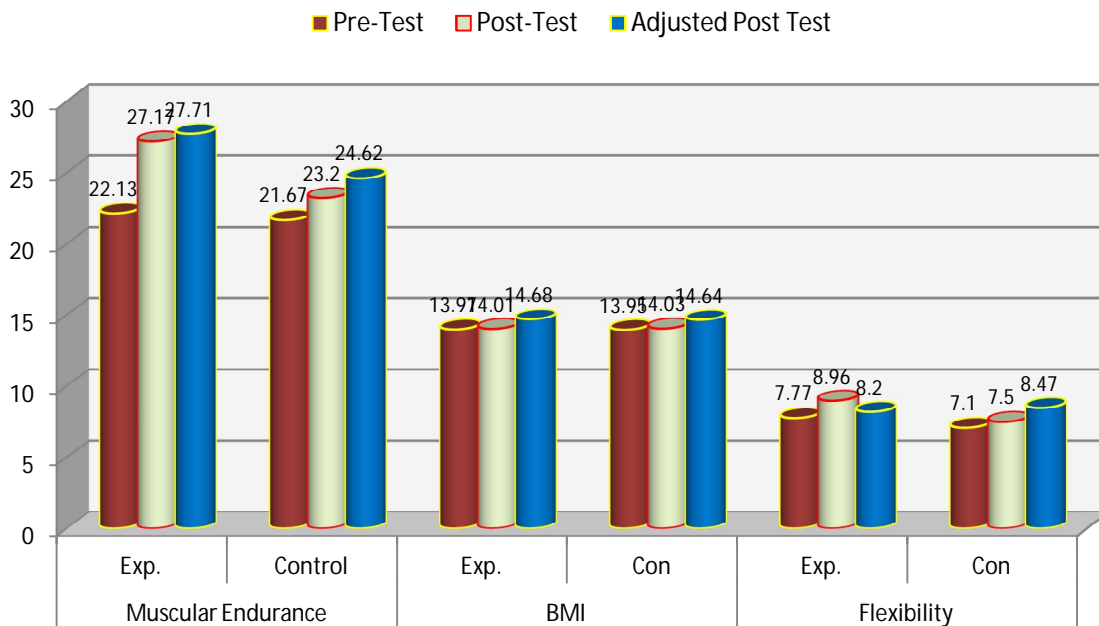


Figure A (a): Mean of Pre-Test and Post-Test and Adjusted Post Mean of Experimental and Control Group in relation to Muscular Endurance, Body Composition and Flexibility



DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The results show that the participants who followed 20 min exercise plan have positive but not satisfactory (statistically insignificant) impact on health related fitness of school children. In specific exercise Suryanamaskar, jumping jack, jogging, jumping, twisting and drill are the most effective physical activity for children (Basch, 2010), and multiple studies have confirmed that health related fitness benefits are associated with physical activity, including cardio-vascular and muscular fitness, flexibility, physiological status, and growth (Strong et al., 2005). Decrease rate of BMI may be due to insufficient nutritional intake which caused weight loss.

The lack of participation in physical activity has contributed to a greater prevalence of a decrease in fitness (e.g., flexibility, muscular strength, cardiorespiratory capacity), and a greater risk for disease (Boreham and Riddoch, 2001; Eisenmann, 2003; Malina, 2007; Steele et al., 2008). Sergio et al. (2016) reported that short-duration high-intensity neuromuscular exercises are an effective option to improve the health-related physical fitness of school children.

It is concluded that 20 min specific exercise plan have positive effect on health related fitness of SSA school children. But there is high demand of nutrition for better output. The results pointed that the selected subjects already had below to normal condition of weight, height and components of health related fitness. (Brouha & Ball 1952), (Draft on National Physical Fitness Programme for School Children by Ministry of Youth Affairs and Sports, Government of India 2012)

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