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Effects of Health –Related Physical Fitness Programme on Blood Pressure on Sedentary Students

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Abstract

*The Primary aim of the study was to determine the effects of Health –related Physical fitness programme on **Blood Pressure** on Sedentary Students. Seventy five sedentary students from various colleges of Marathwada region of Maharashtra, has been selected for the study. Exclusion criteria were the presence of chronic disease such as asthma, heart disease or any other condition that would put the subjects at risk when performing the experimental tests. The subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs during the programmers. The age, height, weight, and **Blood Pressure**, of all subjects were measured. All 75 acted as experimental group and two times tests were taken namely before and after health related physical fitness, no control group had include in the study. The training programme was planned as 05 days a week and 60 minutes a day. Exercises that use large muscles groups were given to the students. Result reveals that . Result reveals that no significant effects of Health related physical fitness programme on systolic blood pressure on sedentary students. However, significant effects of Health related physical fitness programme on Diastolic blood pressure on sedentary students.*

Introduction

The blood pressure is the pressure of the blood within the arteries. It is produced primarily by the contraction of the heart muscle. A sedentary lifestyle can contribute to, many preventable causes of death. A lack of physical activity is one of the leading causes of preventable death worldwide. Many studies have proven sedentary lifestyles and lack of physical activity to be the risk factors for high blood pressure, obesity,. Health-related physical fitness programme increase is currently under study as a possible prevention strategy for blood pressure and cardiovascular disease. In scientific studies it is revealed that participation to physical activities is rapidly decreased especially in the periods of high school and university education (Kwak et al., 2009; Sinclair et al. 2005). In the light of the above, the investigators become interested in determining the effects of health related physical fitness on blood pressure on sedentary students.

Methods :

Seventy five sedentary students from various colleges of Marathwada region of Maharashtra , voluntary to participate in this study. Exclusion criteria were the presence of chronic disease such as asthma, heart disease or any other condition that would put the subjects at risk when performing the experimental tests. The subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs during the programmers. The age, height, weight, blood pressure of all subjects were measured. All 75 acted as experimental group and two times tests were taken namely before and after health related physical fitness ,no control group had include in the study. The training

programme was planned as 05 days a week and 60 minutes a day. Exercises that use large muscles groups were given to the students. These exercises includes walking, jogging, dancing, stair climbing, jumping rope and cross country.

Warm - up period was approximately 10 min., this was combine callisthenic – type stretching, exercise and progressive physical activity. However cool down period was 5 to 10 min. Electronic Blood pressure Device was used to measure Blood pressure.

Range of Blood Pressure

Blood pressure chart reflects categories defined by the American Heart Association.

Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Normal	less than 120	and	less than 80
Prehypertension	120 – 139	or	80 – 89
High Blood Pressure (Hypertension) Stage 1	140 – 159	or	90 – 99
High Blood Pressure (Hypertension) Stage 2	160 or higher	or	100 or higher
Hypertensive Crisis (Emergency care needed)	Higher than 180	or	Higher than 110

Results and discussion

The results and discussion have been represented in concise and comprehensive manner that is easy to comprehend starting with selected physiological parameters.

Table – 1

Morphological Characteristics of sedentary students

Sr. No.	Components	Means Scores	Standard Deviations
	Age (Year)	22.43	7.44
	Weight (Kg)	67.30	13.21
	Height (cm)	169.04	20.33

Table-1, shows that the mean scores and standard deviations of sedentary students. Mean Score (S.Ds.) age of sedentary students was 22.43 (7.44) years, mean score (S.Ds.) weight was 67.30 (13.21) Kg., mean score (S.Ds.) height was 169.04 (20.33) cm.,

Table -2

Statistical comparison of Blood Pressure (Diastolic) in before and After-test of sedentary students.

Variable	Test	Number	Mean	S.D.	t-ratio
B. P. Diastolic	Before Test	75	84.67	4.66	5.33*
	After Test	75	80.88	4.12	

** Significant at .05 level.*

Table -2 illustrates the statistical comparison of **Blood Pressure (Diastolic)** of sedentary students in before and after health related physical fitness programme. With regards to **Blood Pressure (Diastolic)** of before and after health related physical fitness programme sedentary students obtained the mean value of **84.67** and **80.88** respectively which are given in the Table – 2 reveals that there was insignificant effects of health related physical fitness programme was found in **Blood Pressure (Diastolic) in sedentary students** .

Table 3
Statistical comparison of Blood Pressure (Systolic) in before and After-test of sedentary students.

Variable	Test	Number	Mean	S.D.	t-ratio
B. P. systolic	Before Test	75	122.45	8.30	1.73NS
	After Test	75	120.14	8.03	

NS= Not Significant

Table -3 illustrates the statistical comparison of **Blood Pressure (Systolic)** of sedentary students in before and after health related physical fitness programme.

With regards to **Blood Pressure (Systolic)** of before and after health related physical fitness programme sedentary students obtained the mean value of **122.45** and **120.14** respectively which are given in the Table – 3 reveals that there was insignificant effects of health related physical fitness programme was found in **Blood Pressure (Diastolic)**.

Discussion

The normal range of Systolic blood pressure is 120-139 mm hg and the normal range of diastolic blood pressure is 80-89 mm Hg . The importance of physical fitness programmes is linked to a higher quality of life as well as blood pressure. It is well- documented that regular physical activity in childhood and adolescence improve strength & endurance, health build, healthy bones & muscles, hips control weights, reduce anxiety and stress, increases self- esteem and may improve cardio reparatory function. Physical fitness is recognized as an important component of health (limb et.al 1998; Twisk et.al. 2002) and it may be important for the performance of functional activities and quality of life (Noreau and Shepherd 1995; Stewart et.al. 1994). Low physical fitness may result in high physical strain during the performance of activities (Bruining et. al. 2007). As a consequence, activity levels may decrease due to fatigue and discomfort, exacerbating low physical fitness.

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