



EFFECT OF A FITNESS PROGRAMME ON THE SELECTED CARDIO-VASCULAR EFFICIENCY OF THE HOUSE WIVES OF LAKSHMIBAI NATIONAL INSTITUTE OF PHYSICAL EDUCATION GWALIOR

Dr. Vijay Singh Chaudhary, Assistant Professor
Govt. PG. College Jalesar
Etah, Uttar Pradesh (UP)

Abstract

The purpose of the study was to see the effect of spot running, cycling and step-ups on cardio-vascular fitness of house wives of L.N.I.P.E, Gwalior. The variable selected for this study was, Barach Energy Index Test.

The subjects were 16 (Sixteen) female untrained housewives of L.N.I.P.E Gwalior. The age of the subjects was ranging between 30 to 45 years. The subjects were equally assigned using random sampling procedure to two groups (One experimental and one control group). The experimental group participated in the training programme for a period of ten weeks. Quantitative measurements of the subjects were taken at the beginning and at the conclusion of an experimental period of ten weeks. The significant mean differences between the pre-test and post-test scores in each of the variables among the group were analyzed by the analysis of co-variance. The level of significance chosen was 0.05. The Analysis of Co-variance for Barach Energy Index Test indicated that the resultant F-ration in the case of pre-test and post-test was not significant. The difference between the adjusted post means for two groups was also insignificant. The mean gains made by experimental group showed statistically insignificant differences amongst them. Mean gains made by the Experimental Group were not significantly greater than the control group

in the performance of Barach Energy Index Test.

Keyword: Cardio Vascular Efficiency, Housewives, Cycle Aerogometer Training and Step Ups.

Introduction

There are many traits of major ability which contributes to improve the fitness level of an individual for his athletic performance, particularly reaction time, balance, speed, strength, endurance agility and coordination. Motor ability not only helps us in the selection of capable athletes but also helps in the evaluation of scientific training. Cardio-Vascular fitness is an important factor in the middle and long distance races i.e. 800M, 1500M, 5000M, 10,000M.. Marathan Race and walk Races. The meaning of Cardio-Vascular is heart and lungs, respectively. 'Cardio' means heart, 'Vascular' means lungs. Thus, cardio-vascular fitness is the ability of heart and lungs to perform any type of activity efficiently and for a longer duration of time to overcome any resistance. Any individual having higher level of cardio-vascular fitness can easily perform well in distance races. It is proved by the researchers that anthropometric measurements play a significant role in the performance of an individual. A person with tall height, longer legs and learner body mass, having required abilities and cardio-vascular



fitness will get advantage on his opponent having shorter stature, Strength, flexibility, speed, agility and endurance are most important major abilities which are required in any type of sports activities. Therefore, it was decided to include, Barrow motor ability test for motor ability and Harvard step test to measure cardio-vascular fitness of the subjects. To measure the Cardio-Vascular fitness of the subject S. Harvard step test developed by Brouha and Gallagher (1943) was used. Cardio-Vascular fitness, Cardio-Vascular endurance and aerobic fitness has been defined as the ability of lungs, heart and blood vessels, to deliver adequate amount of oxygen and nutrients to the cells of the body to meet the demands of prolonged physical activity. Generally, it is accepted that the most important components of health fitness are cardio-vascular endurance, body composition, flexibility, and muscular strength and endurance.

The capacity of an individual to do any work efficiently is influenced by one's physical and social environment which includes the factors such as fitness, age, sex, heredity, and nutrition (Astrand 1952 : kansal, 1980 Verma, 1988 and Singh, 1955)

Some of the investigators have used the word Cardio-respiratory and suggested that cardio respiratory endurance is an important factor of physical fitness to achieve better performance, an athlete with higher endurance can work continuously for a longer period of time & can establish a physiological steady state at higher level of work and can recover more quickly (more house & Miller, 1971, Singh 1901, Ednon & Weiner 1982, Shaver 1982). Step aerobic exercise has become much popular exercise in fitness and weight loss programme. (Olson aetal .1991)

Physical fitness and endurance is pre-requisite for the success in early sport. (Letzelter, 1978: Sodhi & Sidhu, 1984, Verma & Mokha 1993, 1994). Without physical fitness sports is meaning less. Some sports scientists explained that step aerobics and providing sufficient energy cost of promoting cardio vascular fitness. Bench stepping exercise has become a fitness modality, particularly among women. Some researchers have tried to find out the relationship between Cardio-Vascular, respiratory and metabolic responses. (Hart 1998, Knight 1999) It is the ability of circulatory and respiratory systems to adjust and recover from the effect of exercise or work. (Johnson & Nelson 1982)

Methodology

For the purpose of this study sixteen middle aged women or house wives of Laxmibai National Institute of Physical Education, Gwalior were selected as subjects at random. The age of subjects was ranged from 30 to 45 years. All the subjects were randomly divided into two groups A & B. The group A was treated as experimental group and was administered progressive fitness programme which included . Spot running, free hand exercise, bicycle aerogometer exercise, step-up, exercise with light weight respectively for 10 weeks. Group B worked as control group. Barach energy Index test was assessed at the beginning and after the training of 10 weeks in terms of pre test and post test scores on the criterion measures.

The experimental group was made to perform. Spot running on "Air Walker", step-up, bicycle aerogometer, rowing exercise, light weight training exercise, sometimes Yoga & Asanas separately. According to the schedule, this was done to judge their maximum working capacity. A pilot study was conducted in order



to select appropriate intensity of load to undertake spot running, step-up, bicycle aerogometer, rowing exercise, light weight training exercise, yoga & Asanas according to schedule. Five different types of training programme (spot running, step-up, bicycle aerogometer, rowing exercise, light weight training exercise) were administered for a period of ten weeks. To find out the effect of fitness programme on Cardio-vascular efficiency of the housewives of LNIPE, Gwalior, Analysis of co-variance was used at 0.05 level of significance.

Findings and Results

To determine whether experimental treatment was effective in bringing about a significant change in Barach Energy Index performance or not, an analysis of co-variance was used and analysis of data pertaining to this study are presented in Table-1. The analysis of co-variance from Table - 1 for Barach Energy Index indicates that F-ratio applied to the pre-test means. The resultant F-ratio is 2.59 which is not significant at 0.05 level. From the above it was clear that the pre-test means does not differ significantly and the random assignment of the subjects two groups was successful. The post-test means of all two groups yielded F-ratio value of 3.46. which is not significant. The differences between the adjusted post-test means was not found significant as the adjusted F-ratio value was 1.808 at 0.05 level of significance)

TABLE - 1
ANALYSES OF COVARIANCE OF THE MEANS OF ON
EXPERIMENTAL GROUP AND THE CONTROL GROUP
IN BARACH ENERGY INDEX PERFORMANCE

	Groups		Sum of Square	df	Mean Squares	F-Ratio
	Exp. Group	Control Group				
Pre-Test Means	144.470	129.395	909.03	1	909.03	2.59
			4909.84	14	350.70	
Post-Test Means	161.572	136.210	2573.06	1	2573.06	3.46
			10388.59	14	742.04	
Adjusted Post Test Means	158.932	138.850	1361.70	1	1361.17	1.808
			9786.181	13	752.78	

*Significant at 0.05 level of significance

The analysis of data using analysis of covariance revealed that one experimental group trained by step-ups, spot running and bicycle aerogometer showed insignificant changes in the Barach Energy Index Test performance score and Cardio-vascular efficiency.

The results of the study indicate the cardio-vascular efficiency was not improved by all different mode of exercises which involve both slow and fast rhythms. Experimental group did not prove to be superior than control group. This might be due to the reason that housewives of control group participated in other physical activities that was not controlled.

This might be also due to the reason that housewives were also having age upto 45 years which takes long duration of time to find out the effect of any programme, this might be also due to the reason that the housewives of LNIPE Gwalior were having different socio-economic status, as well as, they were doing different jobs which could not be controlled. The result of the study might also be affected by the diet of the housewives, because they



were taking different types and quantity of nutrients.

Conclusion

Research has shown that Ten weeks of participation of different modes of training does not produce cardio-vascular efficiency, Ten weeks of participation in different modes of training namely, spot running, cycling and step-ups were not effective in bringing change in cardiovascular efficiency, Among different modes of training, the not development in cardio-vascular efficiency was not achieved by step-up exercise followed by spot running, cycling and rowing exercise.

References:

- Alexander Scot Harway " Effect of conditioning on the motor fitness and Cardio-Vascular condition of college student" Complete research in Health Physical Education and Recreation 7 (1965) 41.
- Baker John A. "Comparison of Rope skipping jogging as method of improving cardio-vascular efficiency of college.
- Bucher, Charles A. Foundation of Physical Education. St Louis the C.V Mosby Company 1976.
- Leady et. al H.E. "Relationship between physical performance items and body composition" Research Quarterly 36 (May 1965) 158.
- Mathew et. al Donald K. " Construction of sub maximal cardio-vascular step test" Research Quarterly 40 (1969) : 153.
- Montoye et. al Henry J. "Heart Rate Response to a modified Harvard Step : Male and Females Age 10-69" Research Quarterly : 115.