ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Impact of Physical Exercises on Selected Physical Fitness Variables among Hockey Players

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Received 20th August 2016, Accepted 10th September 2016

Abstract

The purpose of the study was to investigate the effect of physical exercises on selected physical fitness variables among hockey players. It was hypothesized that there would have been a significant effect of physical exercises on selected physical fitness variables among hockey players. For the present study the subjects were 30 male hockey players from Thanjavur district, Tamilnadu were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent physical exercises and Group 'B' underwent no training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of physical exercises on selected physical fitness variables among hockey players. The level of significance was set at 0.05. Significant effect of physical exercises was found on muscular strength and flexibility.

Keywords: Physical Exercises, Muscular Strength, Flexibility, Hockey.

Introduction

Today, there is a growing emphasis on looking good, feeling good and living longer. Increasingly, scientific evidence tells us that one of the keys to achieving these ideals is fitness and exercise. Exercise is not just for Olympic hopefuls or supermodels. In fact, you are never too unfit, too young or too old to get started. Regardless of your age, gender or role in life, you can benefit from regular physical activity. If you are committed, exercise in combination with a sensible diet can help provide an overall sense of well-being and can even help prevent chronic illness, disability and premature death. A general physical deterioration which is also with our present day patterns of living and neglect of basic fitness habits. Physical training is any bodily activity that enhances or maintains physical fitness and overall health. Physical fitness is the functioning of the heart, blood vessels, lungs, and muscles to function at optimum efficiency. In previous years, fitness was defined as the capacity to carry out the day's activities without undue fatigue. It is performed for many different reasons. These include, strengthening muscles and the cardiovascular system, honing athletic skills, and weight loss or maintenance. Frequent and regular physical exercise boosts the immune system, and helps prevent diseases. A moderate to high level of fitness reduces the incidence of "hypo kinetic" diseases. Hypo kinetic basically means a lack of movement or too little movement. When the body doesn't move enough, it slowly deteriorates and becomes vulnerable to disease. In essence, a sedentary lifestyle can contribute to or increase the severity of such problems as hypertension (high blood pressure), obesity (excess fat), adult-onset diabetes, osteoporosis (brittle bones), depression, and low back pain. Individuals who are poorly fit often end up with one or more of these conditions, which impairs the individual's quality of life (Raju et al. 1994).

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Methodology

The purpose of the study was to investigate the effect of physical exercises on selected physical fitness variables among hockey players. It was hypothesized that there would have been a significant effect of physical exercises on selected physical fitness variables among hockey players. For the present study the subjects were 30 male hockey players from Thanjavur district, Tamilnadu were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent physical exercises and Group 'B' underwent no training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of physical exercises on selected

physical fitness variables among hockey players. The level of significance was set at 0.05.

Results

The findings pertaining to analysis of co-variance between experimental group and control group on selected bio-chemical variables among hockey players for pre-post test respectively have been presented in table I to III.

Table I. ANCOVA between experimental group and control group on muscular strength of hockey players for pre, post and adjusted test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	10.23	11.11	BG	0.11	1	0.11	1.45
			WG	2.12	28	0.07	
Post Test Mean	13.43	11.23	BG	0.68	1	0.68	48.82*
			WG	0.39	28	0.01	
Adjusted Post Mean	13.42	11.22	BG	0.84	1	0.84	50.40*
			WG	0.45	27	0.01	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table I revealed that the obtained 'F' value of 50.40 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of muscular strength of hockey players between experimental group and control group. The graphical representation of data has been presented in figure I.

Figure I. Comparisons of pre – test means post – test means and adjusted post – test means for control group and experimental group in relation to muscular strength

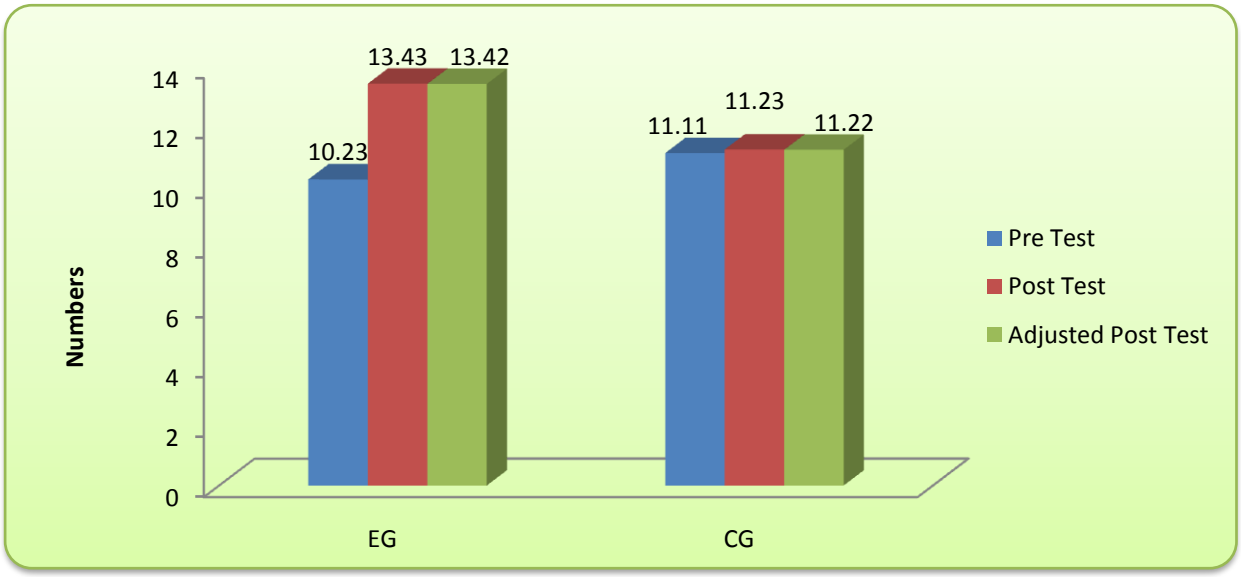


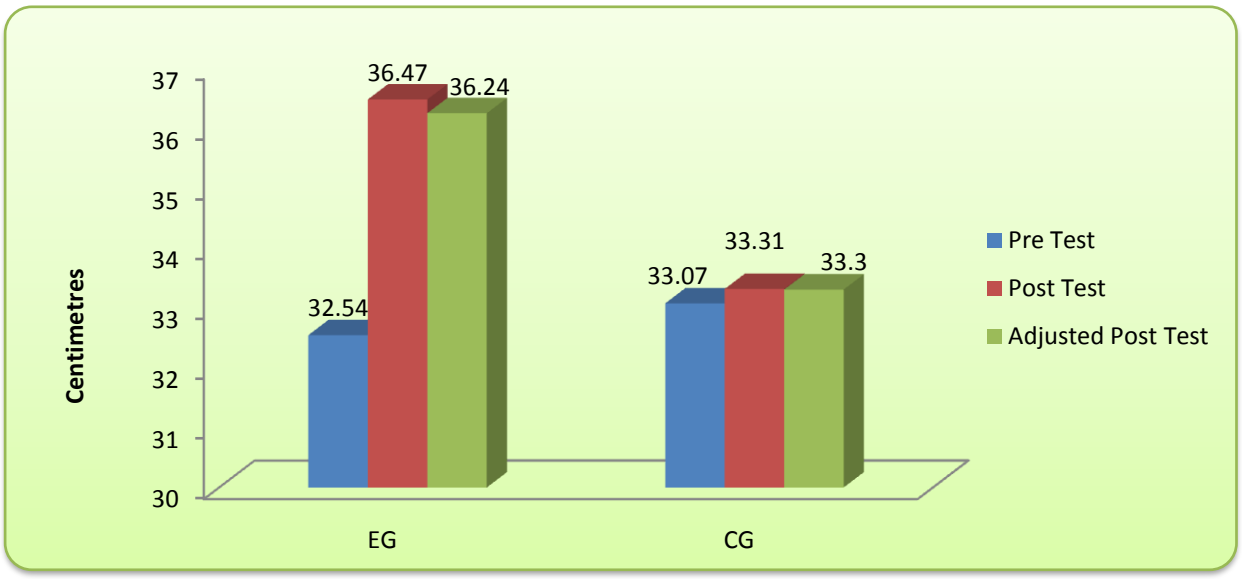
Table II. ANCOVA between Experimental Group and Control Group on flexibility of Hockey Players for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	32.54	33.07	BG	1.17	1	1.17	2.30
			WG	14.19	28	0.50	
Post Test Mean	36.47	33.31	BG	2.19	1	2.19	6.42*
			WG	9.55	28	0.34	
Adjusted Post Mean	36.24	33.30	BG	4.81	1	4.81	10.95*
			WG	11.85	27	0.43	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table II revealed that the obtained 'F' value of 10.95 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of flexibility of hockey players between experimental group and control group. The graphical representation of data has been presented in figure II.

Figure II. Comparisons of pre – test means post – test means and adjusted post – test means for control group and experimental group in relation to flexibility



The findings of the present study have strongly indicates that physical exercises of twelve weeks have significant effect on selected physical fitness variables i.e., muscular strength and flexibility of hockey players. Hence the hypothesis earlier set that physical exercises programme would have been significant effect on selected physical fitness variables in light of the same the hypothesis was accepted.

Conclusions

On the basis of findings and within the limitations of the study the following conclusions were drawn: Significant effect of physical exercises was found on muscular strength and flexibility.

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