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EFFECT OF COMPLEX TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES OF MEN HOCKEY PLAYERS

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ABSTRACT

The purpose of the study was to find out the effect of complex training on selected physical fitness variables of men hockey players. To achieve the purpose 30 hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects and their age ranged from 18 to 24 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent complex training and Group 'B' undergone no training. The complex training group was undergone training for six weeks on alternate days. The physical fitness variables namely speed, agility and flexibility were selected as variables. Analysis of covariance was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance. From the analysis of data it was found that the complex training group showed significant improvement on all selected variables.

KEYWORDS: Complex Training, Physical, Hockey**.**

INTRODUCTION

Complex training, one of the most advanced forms of sports training, integrates strength training, plyometrics, and sport-specific movement. It consists of an intense strength exercise followed by a plyometric exercise. Complex training activates and works the nervous system and fast twitch muscle fibers simultaneously. The strength exercise activates the fast twitch muscle fibers (responsible for explosive power). The plyometric movement stresses those muscle fibers that have been activated by the strength training movement. During this activated state, the muscles have a tremendous ability to adapt. This form of intense training can teach slow twitch muscle fibers to perform like fast twitch fibers.

According to Baechle and Earle (2000) complex training is a combination of high intensity resistance training followed by plyometrics. Ebben (2002) states that complex training alternates biomechanically similar high load weight training exercises with plyometric exercises, set for set in the same workout. An example of complex training would include performing a set of squats followed by a set of jump squats. As in the case of plyometric training, complex training appears to have its origins in Eastern Europe.

METHODOLOGY

The purpose of the study was to find out the effect of complex training on selected physical fitness variables of men hockey players. To achieve the purpose 30 hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects and their age ranged from 18 to 24 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent complex training and Group 'B' undergone no training. The complex training group was undergone training for six weeks on alternate days. The physical fitness variables namely speed, agility and flexibility were selected as variables. Analysis of covariance was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance.

RESULTS AND DISCUSSION

TABLE – I
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE OF AGILITY OF EXPERIMENTAL AND CONTROL GROUPS

	Experimental Group	Control Group	Source of variance	Sum of squares	df	Mean square	F
Pre test mean	18.13	17.69	BG	1.46	1	1.46	0.55
			WG	73.55	28	2.62	
Post test mean	16.97	17.56	BG	2.58	1	2.58	6.08
			WG	11.89	28	0.42	
Adjusted post mean	16.97	17.56	BG	2.58	1	2.58	6.02
			WG	11.88	27	0.44	

* Significant at 0.05 level
Table value for df 1 and 28 was 4.20, 1 and 27 was 4.21

The above table indicates the adjusted mean value of agility of experimental and control groups were 16.97 and 17.56 respectively. The obtained F-ratio of 6.02 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on agility. The above table also indicates that both pre and post test means of experimental and control groups also differ significantly.

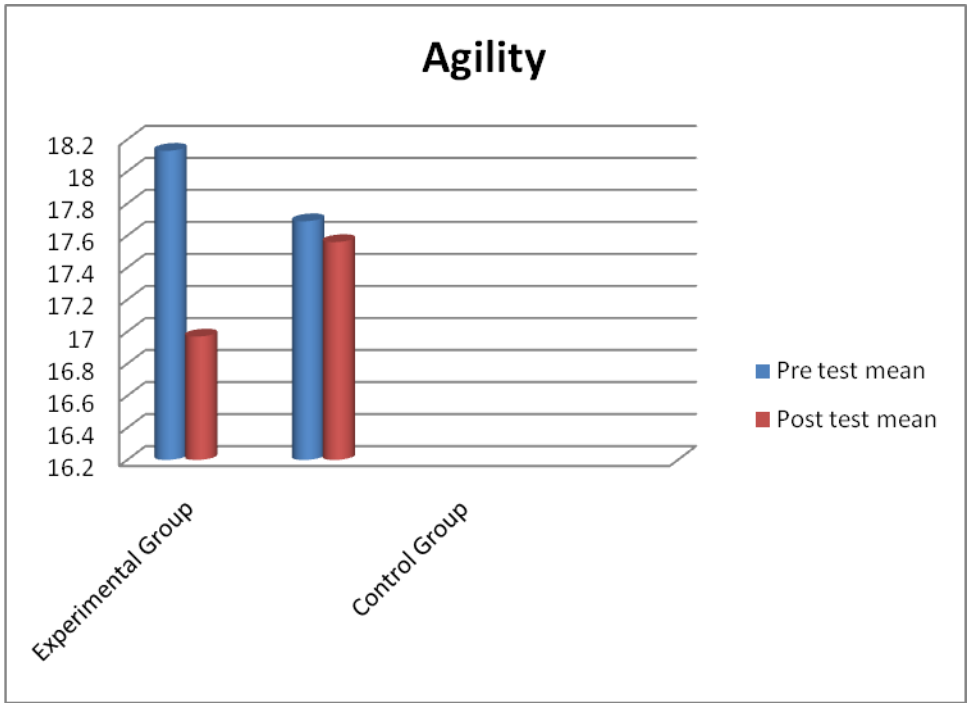


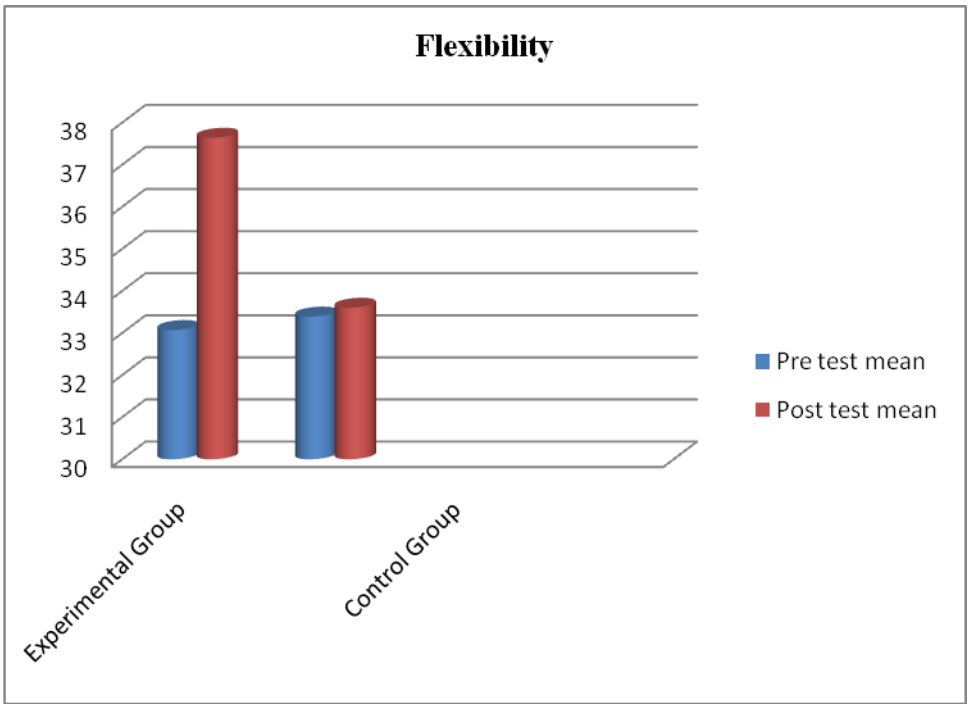
TABLE – II
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE OF FLEXIBILITY OF EXPERIMENTAL AND CONTROL GROUPS

	Experimental Group	Control Group	Source of variance	Sum of squares	df	Mean square	F
Pre test mean	33.07	33.39	BG	0.76	1	0.76	0.03
			WG	608.51	28	21.73	
Post test mean	37.64	33.60	BG	122.41	1	122.41	7.46
			WG	459.03	28	16.39	
Adjusted post mean	37.61	33.62	BG	119.59	1	119.59	7.21
			WG	447.39	27	16.57	

* Significant at 0.05 level
Table value for df 1 and 28 was 4.20

Table value for df 1 and 27 was 4.21

The above table indicates the adjusted mean value of flexibility of experimental and control groups were 37.61 and 33.62 respectively. The obtained F-ratio of 7.21 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on flexibility. The above table also indicates that both pre and post test means of experimental and control groups also differ significantly.



CONCLUSION

From the analysis of data, the following conclusions were drawn.

1. It was found that the complex training group showed significant improvement on all selected variables.
2. It was also found that the experimental group shown significant improvement than the control group.

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