



IMPACT OF CONCURRENT TRAINING ON SELECTED MOTOR ABILITY VARIABLES AMONG SCHOOL LEVEL HOCKEY PLAYERS

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ABSTRACT

The purpose of the study was to investigate the effect of concurrent training on selected motor ability variables among school level hockey players. For the present study 30 school boys from Coimbatore district were selected as subjects at random and their age ranged from 15 to 17 years. For the present study pre test – post test randomized group design which consists of experimental group and control 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 concurrent training and Group 'B' underwent no training. The data was collected before and after twelve weeks of concurrent training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of concurrent training on selected motor ability variables among school level hockey players. The level of significance was set at 0.05. The findings of the present study have strongly indicates that concurrent training have significant impact on selected motor ability i.e., agility and leg explosive power of school boys. Hence the hypothesis earlier set that concurrent training would have been significant effect on selected motor ability variables in light of the same the hypothesis was accepted. Significant effect of concurrent training was found on agility and leg explosive power.

Keywords: Concurrent Training, Agility and Leg Explosive Power, School Boys.

INTRODUCTION

Training is the total process of training of sportsman, through different means and forms for better performance. Training aims at improving the fitness of persons. It is a programme of exercise designed to improve the skill and increase the energy capacities of an athlete for a particular event (Edward, 1981). The physical training brings about local changes in the muscles, improved neuromuscular co-ordination of activities and a series of more general cardio respiratory changes (Thomas, 2001).

Concurrent training programs involving strength and endurance exercises are commonly performed by the athletes to achieve adaptation specific to both forms of exercises. Research investigating the effects of concurrent training has typically compared changes in strength and endurance variables after strength training, endurance training or concurrent strength and endurance training. Concurrent training studies investigating endurance and strength performance to date have shown mixed results. Nelson et al. (1990) reported that improvements in maximal oxygen uptake ($\text{VO}_2 \text{ max}$) during the second half of a twenty week programme were compromised when strength training was implemented in to an endurance programme. In contrast, a number of studies have found no interference to strength or endurance development as a consequence of concurrent training (Sale et al. 1990, Bell et al. 1991 & McCarthy et al. 1995).

The name hockey is thought to have originated

from the French word 'hocquet', meaning a crooked stick or shepherd's crook. Field hockey is a popular sport for men and women in many countries around the world. In most countries, especially those in which ice hockey is not very prominent, it is simply known as hockey. Field hockey has several regular and prestigious international tournaments for both men and women. These events include the Olympic Games, the quadrennial World Hockey Cups, the annual Champions Trophies, and World Cups for juniors.

OBJECTIVE OF THE STUDY

The purpose of the study was to investigate the impact of concurrent training on selected motor ability variables among school level hockey players. It was hypothesized that there would have been a significant impact of concurrent training on selected motor ability variables among school level hockey players.

PROCEDURE AND METHODOLOGY

For the present study 30 school boys from Coimbatore district were selected as subjects at random and their age ranged from 15 to 17 years. For the present study pre test – post test randomized group design which consists of experimental group and control 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 concurrent training 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 concurrent training on selected motor ability variables among school level hockey players. The level of significance was set at 0.05.

RESULTS AND DISCUSSIONS ON FINDINGS

The findings pertaining to analysis of co-variance between experimental group and control group on selected motor ability variables among school level hockey players. for pre-post test respectively have been presented in table No.I & II.

TABLE – 1
ANCOVA BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP
ON AGILITY OF SCHOOL BOYS FOR PRE, POST AND ADJUSTED TEST

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	17.74	17.65	BG	0.66	1	0.83	0.16
			WG	21.11	28	0.50	
Post Test Mean	16.97	17.59	BG	11.56	1	5.78	11.02*
			WG	22.05	28	0.52	
Adjusted Post Mean	16.93	17.60	BG	11.08	1	5.54	14.45*
			WG	15.72	27	0.38	

** Significant at 0.05 level.

df: 1/27= 4.21

Table No. I revealed that the obtained 'F' value of 14.45 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 agility of school level hockey players between experimental group and control group.

TABLE – II
ANCOVA BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ON LEG EXPLOSIVE POWER OF
SCHOOL BOYS FOR PRE, POST AND ADJUSTED TEST

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	1.58	1.60	BG	0.03	1	0.01	0.35
			WG	2.53	28	0.04	
Post Test Mean	1.80	1.63	BG	2.05	1	3.02	35.81*
			WG	4.32	28	0.08	
Adjusted Post Mean	1.81	1.63	BG	2.02	1	2.01	31.50*
			WG	5.32	27	0.08	

** Significant at 0.05 level.

df: 1/27= 4.21

Table No. II revealed that the obtained 'F' value of 31.50 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 leg explosive power of school level hockey players between experimental group and control group.

In case of motor ability variables i.e. agility and leg explosive power, the results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group. Concurrent training is more effective in improving athletic performance than either endurance or strength training separately. This is contrary to previous studies, which found combined training inhibits muscle and

power improvements (Michael et al, 2003).

Concurrent training is the training modules of the present and future. Sports specific training can help to improve strength, flexibility and stamina whereby the player can improve his performance in specific sports. Hence the present study aimed at developing different training to enhance the performance one aimed at developing physical conditioning; and second aimed at performance by enhancing technical and tactical aspects of hockey players. So far, a few have investigated this training approach scientifically. Hence, this research may contribute to the sports person.

The findings of the present study have strongly indicates that concurrent training have significant impact on selected motor ability variables i.e., agility and leg

explosive power of school level hockey players. Hence the hypothesis earlier set that concurrent training would have been significant impact on selected motor ability variables in light of the same the hypothesis was accepted.

CONCLUSION

On the basis of findings and within the limitations of the study the following conclusions were drawn: Significant effect of motor ability was found on agility and leg explosive power.

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