Research Paper Physical Education

Isolated And Combined Effect of General And Specific Fitness Training on Eye-Hand Coordination Among Cricket Players

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ABSTRACT

Purpose of this study was to find out the isolated and combined effect of general and specific fitness training on Eye-hand Coordination among cricket players. For this study sixty beginner cricket players selected from Subu's cricket academy, Puducherry. The age of the subjects ranged from 12 to 17 years. The selected sixty subjects were divided into four equal groups (n-15), Experimental Group I named as General fitness training group, experimental groups II named as Specific fitness training group, experimental groups III named as combined fitness training group, and Group IV acted as control group. Pre-test and post-test were conducted before and after the twelve weeks training period on alternate hand wall toss test conducted for the four groups. The collected pre and post-test data from the four groups were statistically analyzed by analysis of covariance. Whereas the 'F' ratio was found to be significant for adjusted post-test mean, Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. The level of significance was fixed at 0.05 level of confidence. The result revealed that the significant improvement on Eye-hand Coordination.

KEYWORDS General fitness training, specific fitness training, hand-eye coordination.Introduction

Introduction

Training is a program of exercises designed to improve skills and to increase the energy capacity of an athlete for a particular event, therefore training is essential for the development of skill related fitness components based upon the specific requirements. The training could be prepared by the expert to attain the fitness level. The present study is considered with skill related fitness variable so as to compile the physical characteristics of various game players. Eye-hand Coordination plays vital role on the performance in sports. In order to develop the obtained eye-hand coordination, general and specific fitness training plays major role for sports participants. The Greek physician Galan (AD 129 - 210) is generally accepted to be the originator or sports specific training.

Hypothesis

There would be a significant improvement on Eye-hand Coordination among cricket players due to the influence of general, specific and combined fitness training compared with control groups.

METHODOLOGY

Selection of Subjects

The main purpose of this study was to find out the isolated and combined effect of general and specific fitness training on Eye-hand Coordination among cricket players. For this study sixty beginner cricket players selected from Subu's cricket academy, Puducherry. The age of the subjects ranged from 12 to 17 years. The selected sixty subjects were divided into four equal groups (n-15), Experimental Group I named as General fitness training group, experimental groups II named as Specific fitness training group, experimental groups III named as Combined fitness training group, and Group IV acted as Control group. Pre-test and post-test were conducted before and after the twelve weeks training period on Eye-hand Coordination of alternate hand wall toss test conducted for the four

Table - I
Analysis of Covariance on Eye-hand Coordination of Pre Test, Post Test and Adjusted Post Test Data of Experimental and Control Groups (in counts)

		General fitness training	Specific fitness training	Combined fitness training	Control group	Source of variance	Sum of squares	df	Mean square	'F' ratio
Pre test	Mean	18.87	20.00	19.60	20.07	B	13.68	3	4.56	0.29
	S.D	3.40	3.76	3.89	4.57	W	864.27	56	15.43	
Post test	Mean	22.73	28.20	25.80	20.60	B	504.00	3	168.00	11.18*
	S.D	3.06	3.43	3.59	5.11	W	841.33	56	15.02	
Adjusted mean		23.39	27.89	25.83	20.23	B	488.92	3	169.97	41.67*
						W	215.13	55		

Significant at 0.05 level of confidence
(Required table value at 0.05 level of significant with df 3 and 56 and 3 and 55 is 2.77)

Table I shows that the pre-test mean on Eye-hand Coordination of general fitness training, specific fitness training, combined fitness training and control groups are 18.87, 20.00, 19.60 and 20.07 respectively and obtained 'F' ratio is 0.29 for the pre-test mean on Eye-hand Coordination is lesser than the required table value 2.77, so it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom.

The post-test means on Eye-hand Coordination of general fitness training, specific fitness training, combined fitness training and control groups are 22.73, 28.20, 25.80 and 20.60 re-

spectively and the 'F' ratio is 11.18 for the post-test mean on Eye-hand Coordination is greater than the table value 2.77, so it is found to be significant at 0.05 level of confidence for 3 and 56 degrees of freedom.

The adjusted post-test means on Eye-hand Coordination of general fitness training, specific fitness training, combined fitness training and control groups are 23.39, 27.89, 25.83 and 20.23 respectively and obtained 'F' ratio is 41.67 for adjusted post-test means on Eye-hand Coordination is higher than the required table value of 2.77, so it is found to be significant at 0. 05 level of confidence for 3 and 55 degrees for freedom.

Therefore it was concluded that there is significant difference among the post-test and adjusted post- test means of general fitness training, specific fitness training, combined fitness training and control groups on Eye-hand Coordination.

To determine which of the paired means had a significance difference the Scheffe's test used as post-hoc test and the results presented in the table – II

Table - II
Scheffe's test for significance difference between paired adjusted mean of Eye-hand Coordination

ADJUSTED MEAN				Mean differences	CI
General fitness training	Specific fitness training	Combined fitness training	Control group		
23.39	27.89			4.5*	2.07
23.39		25.83		2.44*	
23.39			20.23	3.16*	
	27.89	25.83		2.06	
	27.89		20.23	7.66*	
		25.83	20.23	5.6*	

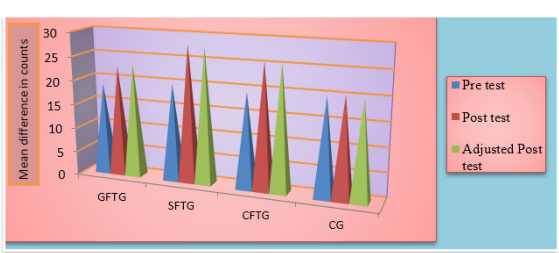
Significant at 0.05 level.

Table II shows that the mean difference between general fitness and specific fitness, general fitness and combined fitness, general fitness and control groups, specific fitness and control groups, combined fitness and control groups were 4.5, 2.44, 3.16, 7.66 and 5.6 respectively on Eye-hand Coordination which are greater than the confidence interval value 2.07, shows significant difference at 0.05 level of confidence.

The mean difference between specific fitness and combined fitness was 2.06 on Eye-hand Coordination which is lesser than the confidence interval value 2.07, shows insignificant difference at 0.05 level of confidence.

The pre, post and adjusted post-test mean values of general, specific, combined fitness and control groups, on Eye-hand Coordination are graphically represented in the figure – 1

Figure-1
Pyramid Diagram showing the Main scores of Pre-Test, Post-Test and Adjusted Post -Test Mean on Eye-hand Coordination of Experimental and Control Groups



Discussion
The result of the study indicated that there is statistically significant difference of adjusted post-test mean among experimental groups with control group on Eye-hand Coordination.

Conclusions
Eye-hand Coordination was significantly improved by all the three experimental groups when compared with control group.

Further Eye-hand Coordination was significantly improved by specific fitness training group when compared with general and combined fitness training groups.

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