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Effect of Complex Training with Core Exercise Programme on Agility Among Male Soccer Players

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ABSTRACT

The present study was undertaken to analyze the effect of Complex training with Core exercise programme on agility among male Soccer players. The investigator has selected sixty inter collegiate Soccer male players at random, from in around of Guntur district of Andhra Pradesh and their age ranged from 18-25 years. The subjects chosen for the study were divided into four equal groups and designated as experimental group 'A' experimental group 'B' experimental group 'C' and control group 'D'. Complex training(CTG) were given to group 'A' Core exercise programme (CEPG) to group 'B' Complex training with Core exercise programme (CTCEPG) to group 'C' and the control (CG) to group 'D' were restricted to participate in any activities. The trainings were given for a period of twelve weeks on alternative days. The data were collected before and after the training period. The obtained data's were analyzed by Analysis of Covariance (ANCOVA). The level of significant was fixed at 0.05 levels. Where ever the 'F' ratio was found significant scheffe's post test was used for find out the significant differences among the adjusted paired mean. The results of the study showed that CTG, CEPG and CTEPG are significantly improved than CG. CTEPG is better than the CTG and CTCEPG.

KEYWORDS : *Complex training, core exercise progromme, Agility*

Introduction

Soccer is the world most popular sports, being played in every nation. In recent years, there has been a remarkable expansion of sports science. Training represents a long term endeavor. Athletes are not developed overnight and coach cannot create miracles by cutting corners through overlooking scientific and methodical theories. (*Bompa, Tudor O.,1989)*

Agility is usually achieved when a person is using their anaerobic power. The ability to change direction and react to different stimuli is a requisite of many sports, particularly team and racket sports *(Young et al., 2002)*. According to *Sporis,G et al.,2010*. In research he had concluded that well known training methods such as resistance training and plyometric training, strength and conditioning professional may efficiently in corporate agility training in to overall conditioning programme of athletes striving to achieve a high level of explosive leg power and dynamic athletic performance. During a soccer match a player frequently perform activities that require rapid development of force, such as sprinting or quickly changing direction *(Bangsbo 1996)*.

Complex training involves performing set of weight training exercise before set of related plyometric exercise is a work out comprising of a resistance exercise. E.g. five set of barbell lunge before five set of box jump *(Docherty et al., 2004)*.Resistance training is a type of exercise that challenges the muscles to move against an unaccustomed force. Plyometric is a quick powerful movement involving a pre stretching of muscles, there by activating the stretch shorting cycle (*Wilk et al., 1993*). Core exercise refers to a set of exercise for set of muscles that surround your stomach and hips.

Statement of the Problem

The purpose of the study was to investigate the "effect of Complex training with Core exercise programme on agility among male Soccer players".

Hypothesis

1. It was hypothesis that there will be a significant improvement in agility after the twelve weeks of Complex training, Core exercise programme and Complex training with Core exercise programme as compared with control group.
2. It was hypothesis that Complex training with Core exercise programme will be a significantly better than the Complex training and Core exercise programme group.

Methodology

The purpose of this study was to find out the influence of effect of Complex training, Core exercise programme and Complex training with Core exercise programme on agility among male Soccer players. To achieve the purpose of this study sixty inter collegiate male Soccer players were selected at random from in and around the Guntur district Andhra Pradesh. Their age ranged from 18 to 25 years. The subjects chosen for study was divided into four groups and designated as experimental group A, experimental group B, experimental group C and control group D. Each groups consisted of fifteen players. Complex training (CTG) was given to group A, Core exercise programme (CEPG) given to group B, Complex training with Core exercise programme (CTCEPG) to group C and control group (CG) D was restricted to participate in any of the training programme other than their regular activities. Training was given three days in a week for twelve weeks. The subject were tested on agility at the beginning (Pre-test) and at the end of the experimental period (Post-test). To measure the agility SEMO test (in seconds) method were used respectively because of their simplicity and availability of necessary facilities, instrument and equipment's.

Result and Discussion

The analysis of data on agility have been examine by ANCOVA to determine the differences if any among the group at pre and posttest when the differences were found to be significant by ANCOVA, the scheffes post hoc test was applied to assess the significant differences between the adjusted means.

Table-1 Analysis of Co variance for pre test, post test and adjusted post test on agility of experimental groups and control group

	CTG	CEPG	CTCEPG	CG	SV	Sum of square	df	Mean Square	'F' ratio
Pre -test									
Mean	13.48	13.56	13.87	13.42	B	1.75	3	0.589	
SD	10.96	0.11	0.91	0.11	W	49.65	56	0.88	0.65
Post-test									
Mean	12.97	13.22	12.84	13.48	B	3.51	3	1.170	
SD	0.94	1.03	0.85	0.77	W	45.94	56	0.820	1.42

Adjusted post-test Mean	13.07	13.24	12.57	13.63	B W	8.38 0.33	3 55	2.79 0.006	462.18*

* Significant at 0.05 level.

F value require d to be significant at 3, 56 d/f and 3, 55=2.77

The Table -1 shows that there is a significant difference in agility among the four groups such as Complex training group (CTG), Core exercise programme group (CEPG), Complex training with Core exercise programme group (CTCEPG) and control group (CG). Since the calculated 'F' value required being significant at 0.05 levels for 3, 56 and 3, 55 degree of freedom is 2.77, but the calculated values of agility of adjusted post test 'F' values is 462.18. This was higher than the tabulated value. Since the obtain 'F' ratio is found significant, Scheffe"s test is used as a post hoc test.

Table-2 The Scheffe's test for the difference between paired means of groups on agility

CTG	CEPG	CTCEPG	CG	MD	CI
13.07	13.24	-	-	0.17*	0.08
13.07	-	12.57	-	0.50*	
13.07	-	-	13.63	0.56*	
-	13.24	12.57	-	0.67*	
-	13.24	-	13.63	0.39*	
-	-	12.57	13.63	1.06*	

*Significant at 0.05 level

The table-2 reveals that there is significant difference among pairs adjusted posttest means between CTG and CEPG, CTG and CTCEPG, CTG and CG, CEPG and CTCEPG, CEPG and CG and CTCEPG and CG in relation to Agility.

Hence it also observed that there is significant differences exist between CTG, CEPG and CTCEPG. It is clearly showed that there is significant improvement in agility due to the influence of as CTG, CEPG and CTCEPG when compared with control group. It also shows that CTCEPG is significantly better than the CTG and CEPG in relation to Agility. The pretest and posttest mean values of the four groups have been graphically presented in figure-1

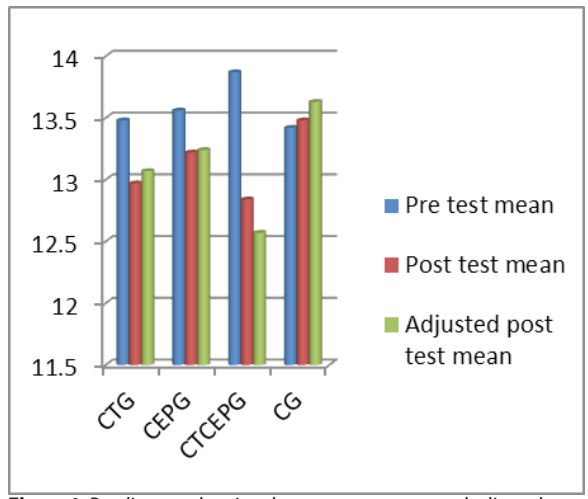

Figure1: Bar diagram showing the pre test, post test and adjusted post test mean of Complex training group (CTG), Core exercise programme group (CEPG), Complex training with Core exercise Programme group (CTCEPG) and Control group (CG) on agility.

Discussion on hypothesis

1. The first hypothesis says that there will be a significant improvement in agility after the twelve weeks of CTG, CEPG and CTCEPG as compared with the control group. The result of the study shows that there was significant improvement in agility after twelve weeks of CTG, CEPG and CTCEPG when compared with control group. Hence research hypothesis has been accepted.
2. The Second hypothesis says that CTCEPG will be significantly better than CTG and CEPG improvement in agility after the twelve weeks of CTG, CEPG and CTCEPG. The result of the study shows that CTCEPG was significantly better than CTG and CEPG. Hence research hypothesis has been accepted.

Discussion and Findings

The result of the study reveals that there are no significant differences between pretest experimental group and control group on agility. But twelve weeks of Complex training, Core exercise programme and Complex training with Core exercise programme result in significant changes in the time of agility for adjusted posttest experimental group than control group. The finding of study were similarly connected on agility are *Alve et al.,(2010), Roopchand and Martin (2010). Shaik and Mallick (2012).*

Conclusion

1. Agility was significantly improved by the Complex training group (CTG), Core exercise programme group (CEPG) and Complex training with Core exercise programme group (CTCEPG) when compared with control group.
2. Complex training with Core exercise programme group (CTCEPG) was significantly better than Complex training group (CTG) and Core exercise programme group (CEPG) in improvement of agility.
3. Complex training group (CTG) is significantly better than the Core exercise programme group (CEPG) in improvement of agility.

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