



International Journal of Physical Education, Sports and Health

P-ISSN: 2394-1685

E-ISSN: 2394-1693

Impact Factor (ISRA): 5.38

IJPESH 2020; 7(6): 160-162

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www.kheljournal.com

Received: 30-08-2020

Accepted: 12-10-2020

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Effect of complex training on selected physical fitness variables among football players

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Abstract

Physical fitness is one of the components of the total fitness of the individual, which also includes mutual, social and emotional fitness. It is one of the basic requirements of life broadly speaking it means the ability to carry out daily tasks without under fatigue. Strength endurance is required in all sports movement, whether fast or slow, movements have to be done under lesser or higher conditions of fatigue. Agility is a combination of several athletic traits such as strength, reaction time, speed of movement, power and co-ordination. It's display becomes essential in such movements as dodging, zigzag running, stopping and starting and changing body positions quickly. The purpose of the study was to find out the effect of complex training on selected physical fitness variables among football players. To achieve this purpose, thirty male football players were selected as subjects, their aged between 18 to 25 years, they are studying in the Kongu Arts and Science College, Erode, Tamil Nadu. The selected subjects were divided into two equal groups of fifteen subjects each, namely Complex training group and control group. The complex training group trained for three sets per exercise per session at 60 to 80% with a progressive increase in load with the number of weeks. Strength endurance and agility were selected as criterion variables and they were tested by using sit-ups and shuttle run respectively. ANCOVA was used to find out the significant difference if any between the groups. The results of the study showed that there was a significant difference on strength endurance and agility between complex training group and control group.

Keywords: Complex training, physical fitness, strength endurance, agility

Introduction

Physical fitness is one of the components of the total fitness of the individual, which also includes mutual, social and emotional fitness. It is one of the basic requirements of life broadly speaking it means the ability to carry out daily tasks without under fatigue. Strength endurance is required in all sports movement, whether fast or slow, movements have to be done under lesser or higher conditions of fatigue. Agility is a combination of several athletic traits such as strength, reaction time, speed of movement, power and co-ordination. It's display becomes essential in such movements as dodging, zigzag running, stopping and starting and changing body positions quickly. Complex is a method of developing explosive power, an important component of the athletic performance as Complex movements are performed in a wide spectrum of sports. In football, it can be played more skillfully when players have the power that combines with strength and speed to develop explosive power for participating in various sports activities. The Complex exercises improve significantly in developing physical fitness variables of football players.

Methodology

The purpose of the study was to find out the effect of Complex training on selected physical fitness variables such as strength endurance and agility among college men football players. To achieve this, thirty male football players are studying in the Kongu Arts and Science College, Erode, Tamil Nadu in the age group of 18 to 25 years were selected as subjects at random. The selected subjects were divided into two equal groups of fifteen subjects each namely Complex training group and control group. The selected criterion variables such as strength endurance and agility were assessed using standard tests and procedures, before (pre test) and after (post test) training regimen for both experimental and control groups by using

sit-ups and shuttle run respectively. The selected subjects had undergone the Complex training for eight weeks, with three days per week in alternate days. After 10 to 15 minutes of warm-up the subjects underwent their respective Complex training programme and the subjects performed Complex exercises. The control group did not participate in any specialized training during the period of study.

Experimental design and statistical procedure

The experimental design used for the present investigation was random group design involving 30 subjects for training effect. Analysis of Covariance (ANCOVA) was used as a statistical technique to determine the significant difference, if any, existing between pretest and posttest data on selected dependent variables separately and presented in Table-I.

Table 1: F-ratio for pre-test and post-test among the complex training group and control group on strength endurance and agility

Variables	Test		Complex Training Group	Control Group	Source of Variance	SS	df	Mean Square	"F" Ratio
Strength Endurance	Pre test	Mean	47.00	47.27	Between	0.533	1	0.533	0.112
		S.D	1.93	2.40	Within	132.92	28	4.75	
	Post test	Mean	52.92	47.52	Between	218.700	1	218.7	48.344
	S.D	2.16	2.10	Within	126.67	28	4.53		
	Adjusted Post test	Mean	52.94	47.52	Between	233.785	1	233.785	112.55
				Within	56.081	27	2.077		
Agility	Pre test	Mean	10.93	10.99	Between	0.033	1	0.033	0.742
		S.D	0.252	0.162	Within	1.259	28	0.04495	
	Post test	Mean	10.73	10.96	Between	0.385	1	0.385	22.049
	S.D	0.123	0.141	Within	0.489	28	0.0175		
	Adjusted Post test	Mean	10.73	10.96	Between	0.336	1	0.336	20.307
				Within	0.446	27	0.01653		

Significance value 0.05 level

The post test mean of complex training group and control group on strength endurance (52.92 ± 2.16 Vs 47.52 ± 2.10) resulted in a F' ratio of 48.344. The adjusted posttest mean of complex training group and control group on strength endurance (52.94 Vs 47.52) resulted in a F' ratio of 112.55. The results of the study indicate that there was a significant difference between complex training group and control group on strength endurance.

The posttest mean of complex training group and control group on agility (10.73 ± 0.123 Vs 10.96 ± 0.141) resulted in a F' ratio of 22.049. The adjusted posttest mean of complex training group and control group on agility (10.73 Vs 10.96) resulted in a F' ratio of 20.307. The results of the study indicate that there was a significant difference between complex training group and control group on agility.

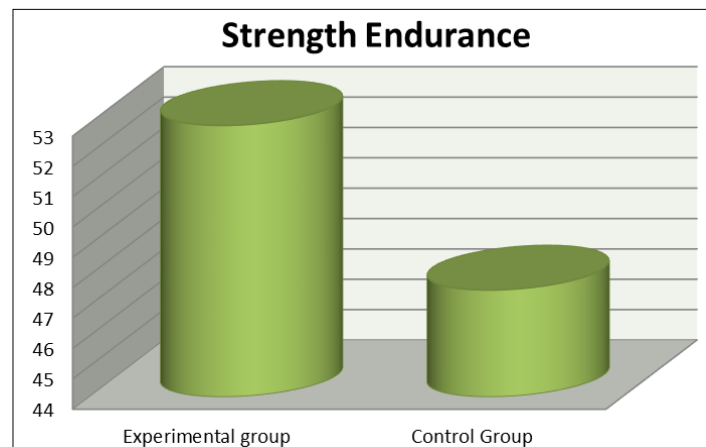


Fig 1: Adjusted mean values of strength endurance of experimental group and control group

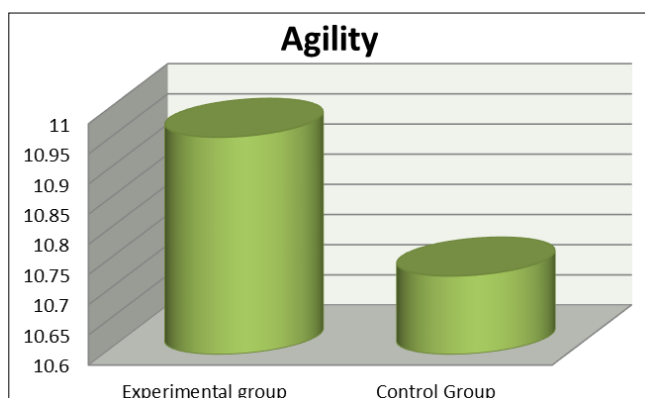


Fig 2: Adjusted mean values of agility of experimental group and control group

Conclusion

Strength endurance is required in all sports movement, whether fast or slow, movements have to be done under lesser or higher conditions of fatigue. Agility is a combination of several athletic traits such as strength, reaction time, speed of movement, power and co-ordination. It's display becomes essential in such movements as dodging, zigzag running, stopping and starting and changing body positions quickly. The purpose of the study was to find out the effect of complex training on selected physical fitness variables among football players. To achieve this purpose, thirty male football players were selected as subjects, their aged between 18 to 25 years, they are studying in the Kongu Arts and Science College, Erode, Tamil Nadu. The selected subjects were divided into two equal groups of fifteen subjects each, namely Complex

training group and control group. The complex training group trained for three sets per exercise per session at 60 to 80% with a progressive increase in load with the number of weeks. Strength endurance and agility were selected as criterion variables and they were tested by using sit-ups and shuttle run respectively. ANCOVA was used to find out the significant difference if any between the groups. The results of the study showed that there was a significant difference on strength endurance and agility between complex training group and control group. Based on the results of the study, it was concluded that the complex training program has resulted in significant increase in selected physical fitness variables such as strength endurance and agility.

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