

Effect of Circuit Training on Agility of College Male Students

Ab Raof Bhat^{2*}, Javaid Ahmad Sheikh¹ and M Kalimuthu¹

¹Department of Physical Education and Sports Sciences, Annamalai University, India

*Corresponding author: Ab Raof Bhat, Department of Physical Education and Sports Sciences, Annamalai University, Tamil Nadu, India

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Abstract

The purpose of this investigation was to find out the influence of circuit training on agility among college students. Thirty male college students (n=30) were randomly selected as subjects and their age ranged between 18 and 22 years. The selected subjects were randomly assigned into two equal groups such as circuit training group (CTG), and control group (CG) with fifteen subjects each (n=15). The experimental group underwent their respective experimental treatment for eight weeks three days per week and a session on each day. Control group was not undergone any specific training apart from their regular activities. Agility was taken as dependent variable for this study and it was measured by shuttle run. The collected data was analyzed by using analysis of covariance (ANCOVA). The result revealed that the circuit training group produced significant improvement ($p \leq 0.05$) on agility as compare to control group.

Keywords: Circuit training; Agility; College male students

Introduction

The term circuit training describes the way a workout is structured rather than the type of exercise performed. It typically consists of a series of exercises or stations completed in succession with minimal rest in between. Circuit routines allow the athlete or coach to create an endless number of workouts and add variety to routine training programs. Through circuit training the athletes may increase their strength and endurance by increasing the repetitions of exercise at each station or by doing the required frequencies of exercise in a shorter length of form. If the work load is kept constant, the athletes can develop strength and endurance by gradually decreasing the time taken to go through the circuit [1].

Circuit training is a program in an athlete moves from one exercise station to another planned sequence and in the shortest possible form. In planning a circuit training programme exercise are chosen to fit the needs of the individuals each of these exercise them numbered and assigned to a certain area called station [2]. According to Moses [3] agility is the ability to change body position in space efficiently and easily. Agility is necessary for the hurdlers, divers, gymnasts etc. Specifically in sports, agility is characterized by fast feet, body coordination during change of direction, sports skill performance and reaction time. A variety of performance enhancing agility drills, and items of equipment are available to the students of physical education of today and their teachers or coaches. The science of agility (speed and power) training has made rapid strides recently, especially in terms of accessibility to the mainstream of sporting world [4].

Procedure

The present study was to determine the effect of polymeric training on agility of college men volleyball players. Twenty male students (n=30) were randomly selected as subjects from the Department of Physical Education, Annamalai University, Tamil Nadu. The age was ranged between 18 and 24 years. The selected subjects were randomly assigned into two equal groups such as training group (TG) and the control group (CG) for the strengths of fifteen (n=15) each. Experimental training group underwent respective circuit training programme for eight weeks for five days per week and a session on each day. The control group did not involve in any special training apart from their regular activities. The agility was taken as a criterion variable for the present study and it was measured by shuttle run. The collected data were statistically examined by analysis of covariance (ANCOVA). The confidence level was fixed at 0.05 levels, which is appropriate to the present study.

Data Analysis

Mean, Standard deviation analysis of covariance (ANCOVA) were used for the analysis of data, and statistical significance was fixed at 0.05 levels. The analysis of covariance on agility among experimental and control group were described in Table 1. The pre test mean values of agility of training and control groups were 9.42 and 9.51. The obtained 'F' value of 1.63 was lesser than the table value of 4.20, there was insignificant among the groups in pre test

result of agility. The post test means of the groups were 9.23 and 9.58 respectively, and the obtained 'F' value of 25.22 was greater than the table value, and there was a significant difference in agility between the training and control groups in agility among the male college volleyball players. The obtained adjusted post test F value

Table 1: Analysis of covariance on agility between the training group and the control group.

Test		Training Group	Control Group	SOV	SS	df	MS	F
Pre test	Mean	9.42	9.51	B	0.04	1	0.04	1.63
	SD	0.19	0.09	W	0.44	18	0.25	
Post test	Mean	9.23	9.58	B	0.61	1	0.61	25.22*
	SD	0.18	0.11	W	0.43	18	0.02	
Adjusted Post test	Mean	9.59	9.33	B	0.13	1	0.131	75.13*
				W	0.03	17	0.002	

*Significant at 0.5 level of confidence

(The table value required for significance at 0.05 level of confidence with df 1 and 18 and 1 and 17 are 4.41 and 4.45 respectively)

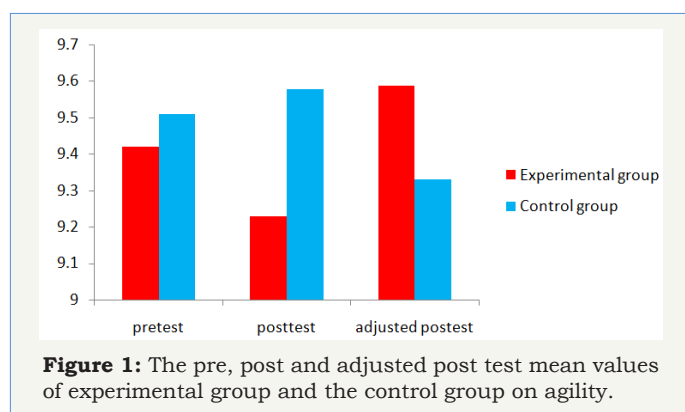


Figure 1: The pre, post and adjusted post test mean values of experimental group and the control group on agility.

Discussion

The result of the present study pointed out that there was a significant difference in agility due to eight weeks of circuit training. The current study also utilized twelve weeks programme duration with five sessions per week and found that agility increases due to plyometric training. The findings are also in agreement with the findings of Brown [5] that plyometric exercises improve the agility. Renfro [6] measured agility using the T-test with plyometric training while; Robinson & Owens [7] used vertical, lateral and horizontal plyometric jumps and showed improvements in agility. From the results of the present study and literature, it is concluded that dependent variable such as agility was significantly improved due to the circuit training.

also greater the table value of 4.21 for df 1 and 17 required for significant at 0.05 level. The pre, post and the adjusted post test mean values of the experimental and control groups on agility were graphically represented in Figure 1.

Conclusion

The result of the study revealed that the training group has significant improvement in agility among college male cricket players after the circuit training protocol. It was also concluded that the circuit training is one of the best training methods for improving the agility as well as the physical fitness of young men.

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