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Effect of Circuit Training Programme on Speed and Agility

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Abstract

The purpose of the study was to find out the effect of circuit training programme on speed and agility among women students. To achieve this purpose, 20 women students were randomly selected as subjects from the Department of Physical Education and Sports Sciences, Annamalai University studying in various classes. The age of the subjects were ranged from 18 to 23 years. The subjects were further classified at random into two equal groups of 10 subjects each in which group - I underwent circuit training programme for three days per week for eight weeks and group - II acted as control who were not undergo any special training programme. The selected criterion variables such as speed and agility were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). The speed was assessed by administering 50 meters dash and agility was assessed by administering the shuttle run test. From the results of the study, it was found that there was a significant improvement on speed and agility for circuit training group when compared with the control group.

Keywords: *Circuit Training Programme, Speed, Agility, ANCOVA.*

Introduction

In sports the word "Training" is generally understood to be a synonym of doing physical exercises. In a narrow sense, training is doing physical exercises for the improvement of performance. Sports training is a scientifically based and pedagogically organized process which through planned and systematic effect on performance ability and performance readiness aims at sports perfection and performance improvement as well as at the contest in sports competition. A new concept of circuit training developed in Europe has been adopted recently in the United States and Canada called 'parcourse'. It consists of a series of stations set up over a one to two and a half mile path, to provide a recreational exercise circuit for individuals of all ages and abilities. Speed is the ability to more from one pace to another in the shorted possible time. It is primarily innate yet it can be improved through practice for technique and movement efficiency. Agility is generally defined as the ability to change the direction quickly and effectively while moving as nearly as possible at full speed. It is depended primarily on strength, reaction time, speed of movement and specific muscle co-ordination.

Circuit training is a form of body conditioning or resistance training using high-intensity aerobics. It targets strength building and muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one circuit is complete, one begins the first exercise again for the next circuit. Traditionally, the time between exercises in circuit training is short, often with rapid movement to the next exercise.

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Methodology

The purpose of this study was to find out the effect of circuit training on speed and agility. To achieve the purpose of the present study, 20 college women students who were studying in the Department of Physical Education and Sports Sciences, Annamalai University during the academic year 2013-2014 were randomly selected as subjects. The age of the subjects were ranged from 18 to 23 years. The selected subjects were divided into two groups of ten subjects each. Group I considered as experimental group who underwent circuit training and Group II considered as control that did not undergo any special training programme. The experimental group underwent circuit training programme for 3 days per week for 8 weeks. The control group did not participate in any special training programme on strenuous physical activities apart from their day to day activities. The experimental group underwent their circuit training under the instruction and supervision of the investigators. The data were collected on selected criterion variables such as speed and agility were measured by administering 50 meters dash test and shuttle run test at before and after the eight weeks of circuit training as pre and post test. Analysis of covariance (ANACOVA) was applied to find out

significant difference if any between the experimental and control group.

Results

Table I. Analysis of covariance for speed and agility for circuit training group and control group

Variable Name	Group Name	Circuit Training Group	Control Group	'F' Ratio
Speed (in Seconds)	**Pre-test Mean ± S.D**	8.09 ± 0.00051	8.15 ± 0.003	0.316
	Post-test Mean ± S.D.	7.86 ± 0.0031	8.23 ± 0.0004	8.395*
	Adj. Post-test Mean ± S.D.	7.932	8.206	12.339*
Agility (in Seconds)	**Pre-test Mean ± S.D**	14.883 ± 0.0086	14.73 ± 0.005	0.863
	Post-test Mean ± S.D.	12.869 ± 0.0231	14.86 ± 0.003	5.932*
	Adj. Post-test Mean ± S.D.	12.899	14.857	10.327*

* Significant at 0.05 level of confidence.
(The table values required for significance at 0.05 level of confidence for 1 and 18 & 1 and 17 are 4.41 and 4.45 respectively).

Table-I showed that the results of the study there was a significant difference between experimental and control group on speed and agility. Further the results of the study showed that there was a significant improvement in the performances of speed and agility due to eight weeks of circuit training programme. However the improvement was in favour of experimental group.

Conclusions

1. There was a significant improvement in speed and agility after the circuit training programme. However this improvement was in favour of experimental group due to eight weeks of parcourse training.
2. There was a significant difference between experimental and control groups on speed and agility.

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