

EFFECT OF CIRCUIT TRAINING ON LEG EXPLOSIVE POWER BETWEEN SCHOOL LEVEL MEN HANDBALL PLAYERS

Dr.S.Velkumar ., Assistant Professor., Department of Physical Education.
Tamil Nadu Physical Education and Sports University., Chennai-600127

Abstract

The purpose of the study was to find out the effect of circuit training on leg explosive power between school level men handball players. To achieve this purpose of the study thirty (N=30) school boys Handball players in chengalpattu district were selected as subjects at random. Their age ranged between the 14 to 17 years. The selected subjects were divided in two equal groups thirty (N=30) each namely circuit training group and control group (N=30). Group I underwent circuit training for twelve weeks. Weekly three days only training Group II acted as a control group who maintained their daily routine activities and no any type of special training was given to them. The variables namely leg explosive power (vertical jump) was selected as criterion variables. The subjects of the two groups were tested on leg explosive power by using vertical jump at prior and immediately after the training period. The collection of data was analyzed statistically through analysis of covariance (ANCOVA) to find out the significant differences, if between the groups Group I and Group II. The 0.05 level of confidence was fixed to the level of significance which was considered as an appropriate. The result of study showed that there was a significant difference between circuit training group and control group on leg explosive power. And also there was a significant improvement on leg explosive power due to circuit training.

Key Words: *Circuit Training, leg Explosive Power, school boys*

INTRODUCTION:

A circuit consists of a number of different stations or exercise at which the athlete performs a given exercise as many times as possible within a given shortest time period. When the time is completed, the individual moves on to the next station or exercise and performs a different exercise for a similar period of time and so on around the various stations or exercise. The aim of Circuit Training is a progressive development of the muscular respiratory and muscular strength and also achieves all round fitness.

Circuit training is the combination of the two types of training – Aerobic activity and resistance training. Without stopping in each station is Aerobic activity is any form of exercise for which the body requires the use of oxygen to produce energy. Circuit training places a higher workload on the heart than traditional weight training. Excess post- exercise oxygen consumption was shown to be elevated after circuit weight training with a work out that used a minimum amount of The circuits use own body weight, and external weight hopping, sit ups, maximum jumps, on the spot running , jump ropes, and high knee action, Circuit training is the programmed in which an athlete moves from one exercise station to another in a planned sequence and in the shortest possible time. Circuit training is probably the most common training regime used by wide variables of sports activities in order to improve performance.

The circuit training is a workout regimen that consists of multiple exercises completed one after the other with little rest in between. Circuit training helps to keep the heart rate at an elevated level, which offers cardiovascular type of activity benefits. Training can include a

combination of resistance (Strength) and aerobic exercises in to the circuit-training workout for building strength and endurance and also aerobic and anaerobic

METHODOLOGY:

The purpose of the study was to find out the effect of circuit training on leg explosive power between school level men handball players in chengalpattu district were selected as subjects at random. Their age ranged between the 14 to 17 years. The selected subjects were divided in two equal groups fifteen each namely circuit training group ($N=30$) and control group ($N=30$). Group I underwent circuit training for three days per week .Total for twelve weeks, whereas Group II acted as the control group who maintained their daily routine activities and no any special training was given them. The variables namely leg explosive power were selected as criterion variables. The Subjects of the two groups were tested on leg explosive power by using vertical jump at prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out significant differences, if any between the groups. The level of confidence 0.05 was fixed to test the level of significance which was considered as an appropriate.

EXPLOSIVE POWER

The analysis of covariance of leg explosive power of the pre and post test scores of circuit training group and control group show the table

TABLE

Test/Group		Circuit Training	Control Group	Source of variance	Sum of Square	Df	Mean Square	'F' Ratio
Pre Test	Mean	36.60	36.13	Between	1.63	1	1.63	1.29
	S.D	1.08	1.08	Within	35.33	28	1.26	
Post test	Mean	42.53	36.26	Between	294.53	1	294.53	213.42*
	S.D	1.08	1.18	Within	38.66	28	1.38	
Adjusted post test	Mean	38.70	35.35	Between	244.11	1	244.11	787.45*
				Within	8.44	27	0.31	

The table showed that the pre -test mean values on leg explosive power for circuit training group and control group were 36.60 and 36.13 respectively and the obtained 'F' ratio of 1.29 for pre test which was less than the required table value 4.20 with df 1 and 29 at 0.05 level of confidence. The post -test mean values of leg explosive power for circuit training and control group were 42.53 and 36.26 respectively and the obtained 'F' ratio of 213.42 for post test which was greater than the required table values 4.20 with df 1 and 28at 0.05 level of confidence on explosive power for circuit training group were 38.70 and 35.55 respectively. The obtained 'F' ratio of 787.45 for adjusted post test which was greater than the require table value 4.21 with df 1 and 27 for significance at 0.05 level of confidence. Hence, the results of the study showed that there was a significance difference on between circuits training group and control group on leg explosive power.

RESULTS AND DISCUSSIONS:

The experimental group I circuit training was achieved significant improvement in leg explosive power. Significant difference was founded between the experimental group and control group towards improving the selected dependent variables of explosive power. Circuit training was

found to be better improving the selected dependent variables leg explosive power when compared to the control group.

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