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Effect of Resistance Training With and Without Swiss Ball Training on Explosive Power of Male Basketball Players

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Abstract – The purpose of this study was to find out the effect of Resistance training with and without swissball training on Explosive power of male basketball players .To achieve the purpose of the study, To achieve the purpose of the study, thirty male basketball players were randomly selected as subjects from Kalinga University Naya Raipur during the Inter- University basketball Camp held at Kalinga University in 2019. The age of the subjects were ranged between 18 to 25 years. There were three equal groups of 30 patients each in the before and post test random group design. The RT Group (n=10) was used as an experimental group in this study. Swiss ball resistance training (SBRT) was used in the second experimental group (n=10). Control group (n=10; CG) did not undergo any specific training programmed but there practiced the regular game. The following physical fitness parameters are explosive power. The analysis of covariance was used to analyze the significant difference, if any among the groups. Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post test was found to be significant, the Scheffe's test to find out the paired mean differences, if any. The 0.05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate. The result of the study indicates due to training on explosive power has been improved significantly.

Key words – Resistance, Swiss Ball Training, Explosive Power, ANACOVA

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INTRODUCTION

Since the 1960s, Swiss-ball core training has been a popular trend in physiotherapy and strength and conditioning programmes in gyms around the country. Spinal stability and balance may be achieved with Swiss-ball core training activities, which have been hailed by researchers as a cost-effective and pleasant method of preventing lower back injury and discomfort. [1,2,3,4,5,]

Soccer players who need to undertake rapid and forceful runs and cutting movements rely on strength and power [6]. Therefore, pre-season training should focus on building strength and power. It is critical to measure the lower-limb power of soccer players in order to evaluate their performance [7]. The player's ability to leap higher improves as a result of an increase in lower-limb strength, which in turn raises the player's chances of winning an aerial ball strike [8].

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effect of effect of Resistance training with and without Swissball training on Explosive power of male basketball players.

METHODOLOGY

Selection of Subjects

Thirty male basketball players were randomly selected as subjects from Kalinga University Naya Raipur during the Inter- University basketball Camp held at Kalinga University in 2019. The age of the subjects were ranged between 18 to 25 years.. This experimental study was administered to only two experimental groups and one control group of 10 subjects each. The age of subjects ranged from 18 to 25 years only.

EXPERIMENTAL DESIGN

This experimental study was administered to only two experimental groups and one control group of 10 subjects each. For this purpose Group I underwent Resistance Training, Group II underwent Swiss ball

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resistance training in three alternative days for twelve weeks. Group III acted as control group.

Exeperimental group - 1 – (Resistance Training)

The Exercises as Follows

Training Period is 6 Week, Duration In Between 55 To 60 Sec. Repetition 3 to 6 , Intensity – 60% To 80.5%, Rest Time 2 Min To 6 Min.

Exeperimental group - 1 – (Swiss Ball Resistance Training)

The Exercises as Follows

Training Period is 6 Week, Duration In Between 55 To 60 Sec. Repetition 3 to 6 , Intensity – 60% To 80.5%, Rest Time 2 Min To 6 Min.

Weight Training Exercise	1-week	2-week	3-Week	4-Week	5-Week	6-Week
Pac Fly	‡ 5*6 (60%) 60	‡3*5 (60.5%) 55	‡3*4 (70%) 50	‡3*3 (70.5%) 45	‡3*2 (80%) 40	‡3*2 (80.5%) 35
Abs Crunches	‡ 5*6 (60%) 60	‡3*5 (60.5%) 55	‡3*4 (70%) 50	‡3*3 (70.5%) 45	‡3*2 (80%) 40	‡3*2 (80.5%) 35
Bench press	‡ 5*6 (60%) 60	‡3*5 (60.5%) 55	‡3*4 (70%) 50	‡3*3 (70.5%) 45	‡3*2 (80%) 40	‡3*2 (80.5%) 35
Squat	‡ 5*6 (60%) 60	‡3*5 (60.5%) 55	‡3*4 (70%) 50	‡3*3 (70.5%) 45	‡3*2 (80%) 40	‡3*2 (80.5%) 35
Dynamic lunges	‡ 5*6 (60%) 60	‡3*5 (60.5%) 55	‡3*4 (70%) 50	‡3*3 (70.5%) 45	‡3*2 (80%) 40	‡3*2 (80.5%) 35
Standing Calf raise	‡ 5*6 (60%) 60	‡3*5 (60.5%) 55	‡3*4 (70%) 50	‡3*3 (70.5%) 45	‡3*2 (80%) 40	‡3*2 (80.5%) 35

‡ SETS*REPS AT (PERCENTAGE OF 1RM) REST TIME BETWEEN SETS

Stastical Technique

The data was analysed by using A**NACOVA** find out the significance of the mean difference between the groups. The **repeated analysis of variance** was used to find out the significance of the mean difference between the pre and posttest.

ANALYSIS OF COVARIANCE OF PRE-TEST, POST-TEST AND ADJUSTED POST-TEST ON EXPLOSIVE POWER OF EXPERIMENTAL GROUPS AND CONTROL GROUP

(Scores in Meter)

	Resistance Training	Swiss ball Ball Training	Control Group	Source of Variance	Sum of Square	DF	Mean Square	F
Pre Test	1.87	1.88	1.87	Between Within	00.00 0.72	2 57	7.17 0.01	0.006
Post Test	2.00	1.93	1.90	Between Within	0.12 0.70	2 57	0.06 0.01	4.71
Adjusted PostMean	2.00	1.93	1.90	Between Within	0.11 0.17	2 56	0.06 0.003	18.06

F Value 3.16

ORDERED SCHEFFE'S POST HOC TEST MEAN DIFFERENCES ON EXPLOSIVE POWER AMONG THREE GROUPS

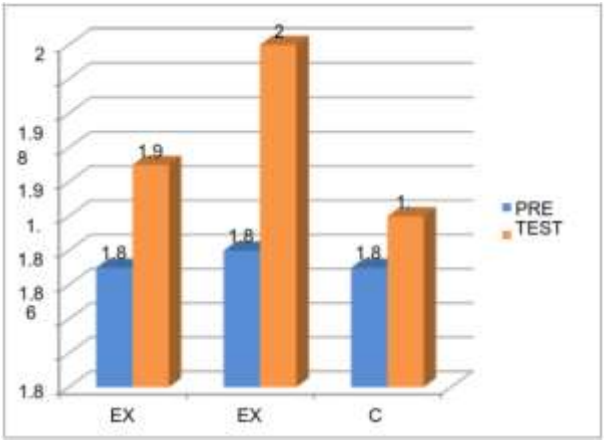
(Scores in Meter)

Resistance Training	Swiss Ball Training	Control Group	Mean Difference	Confidence Interval Value
2.00	1.93	-	0.07*	0.03
2.00	-	1.90	0.10*	
-	1.93	1.90	0.03*	

Table I (a) shows the Scheffe's post –hoc test result .The ordered adjusted final mean difference for Muscular strength of experimental groups I,II and control group were tested for significant at 0.05 level of confidence against confidential interval value.

The mean difference between experimental group I, experimental group II, I and control group were 30.58, 11..44 and42.02 respectively and it were seen to be greater than the confidential interval value of 7.73 Hence the above comparisons were significant

Graphical Representation



CONCLUTION

The Resistance training and Swiss ball resistance training has produced significant improvement on explosive power greater than control group of college male basketball players.

The explosive power favored to Resistance training greater than Swiss ball resistance training and control group of college male basketball players.

Control group did not produce any significant improvement on explosive power of college male basketball players.

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