



EFFECT OF RESISTANCE TRAINING ON SHOOTING PERFORMANCE OF BASKETBALL PLAYERS

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ABSTRACT: The purpose of the study was to find out the effect of resistance training on shooting performance among college basketball players. To achieve this purpose of the study, thirty college students were selected as subjects who were from Trivandrum. The selected subjects were aged between 18 to 22 years. They were divided into two equal groups of fifteen each, Group I underwent resistance training and Group II acted as control that did not participate in any special training apart from their regular curricular activities. The subjects were tested on selected criterion variable such as shooting performance prior to and immediately after the training period. The selected criterion variable such as shooting performance was determined through malty shooting test. The analysis of covariance (ANCOVA) was used to find out the significant differences if any, between the experimental group and control group on selected criterion variable. In all the cases, level of confidence was fixed to test the significance, which was considered as an appropriate. The result of the present study has revealed that there was a significant difference among the experimental and control group on shooting performance.

Keywords: resistance training; basketball; shooting performance.

INTRODUCTION

Training and conditioning are the best known ways, to prepare the players for efficient performance and healthful living. Efficient performance is possible only through a carefully planned programme of progressive practice which will perfect the co-ordination, eliminate unnecessary movements and accomplish result at the expense of minimum energy as well as conditioning the muscle structure and the circulation to withstand without harming the intensive demands made upon them. Fitness is the ability to meet the demands of a physical task [1-3]. Basic fitness can be classified in four main components: Strength, Speed, Stamina and Flexibility. However, exercise scientists have identified nine components that comprise the definition of fitness: Strength, Power, Agility, Balance, Flexibility, Local Muscle Endurance, Strength Endurance and Co-ordination. All the nine elements of fitness Cardiac Respiratory qualities are the most important to develop as they enhance all the other components of the conditioning equation [4, 5]. Resistance training should be an integral part of an adult fitness program and of a sufficient intensity to enhance strength, muscular endurance and maintain fat-free mass (FFM). Resistance training should be progressive in nature, individualized



and provide a stimulus to all the major muscle groups. “adding strength training to a program of regular physical activity will help to decrease the risk of „chronic diseases” while improving quality of life and functionality, allowing people of all ages to improve and maintain their health and independent life style. Resistance training involves exercise in which the muscles exert a force against an external load. It is most commonly referred to as weight training. It is perhaps the most common method of training program should be individualized, progressive and specific in terms of the way the muscles are likely to be used in the chosen sport. The primary goals of resistance training as improving muscular strength and endurance, while other health related benefits derived from resistance training include increases in bone mass, reduced blood pressure, increase muscle and connective tissue cross-sectional area (CSA), reduced body fat and it may relieve low back pain. Although modern technology has reduced much of the need for high levels of force production during activities of daily living, it is recognized in both the scientific and medical communities that muscular strength is a fundamental physical trait necessary for health, functional ability and enhanced quality of life. The development of an athletic profile requires a detailed battery of testing to thoroughly analyze all the components of athletic performance. (e.g., strength, anaerobic power, speed, agility, maximal aerobic capacity and endurance, and body composition). Test results help determine the relevance and importance of each fitness component to a particular sport and permit the appropriate emphasis on that variable in the athlete’s training program. Resistance-training program has different goals, exercises, and variables. The first step for training is to determine personal needs. The second step is to find a training program to meet those needs. This requires a “needs analysis” and the development of training goals. Body builders, like fitness enthusiasts, are training for general muscular development. On the other hand, body builders are looking to develop larger muscles with symmetrical balance. The only real difference between fitness enthusiasts and body builders is that body builder’s train with greater loads, volumes, and at higher intensities.

The game of basketball is very complicated in terms of skills and team work. In this game, everyone should mastery over fundamental skills like Dribbling, passing, shooting, rebounding, defense etc. When one has mastered the fundamental skills of the games, he gets a feeling of well being. High level of performance otherwise known as playing ability in basketball depends upon proficiency over the fundamental skills. High level of performance of a basketball player depends upon fundamental skills. It is recognized that among the fundamentals, ability to dribble the ball, ability to shoot , ability to passing , ability to rebounding , ability to shoot are of primary importance for high level of performance. How to shoot a basketball correctly is the most important skill you need to master in order to play the game. Using the right form helps you score more points, so take the time to learn how to shoot before you hit the court. Read about the fundamentals, and then find a basketball and practice, practice, practice.

METHODOLOGY

The purpose of the study was to find out the effect of resistance training on shooting performance among college basketball players. To achieve the purpose of the study, thirty basketball players were selected as subjects who were from the various department in Mar Baselios college of engineering and technology, Trivandrum. The selected students in the age of 18-22 years were chosen as sample for the study. The selected participants were divided into two groups. Group I



underwent resistance training and group II act as control group. The experimental groups underwent eight weeks of training in their particular workout. For this study dependent variable is shooting performance. The data were collected at prior and immediately after the training period. Analysis of covariance (ANCOVA) was applied for analyze the data. In all cases, 0.05 level was used to test this significance.

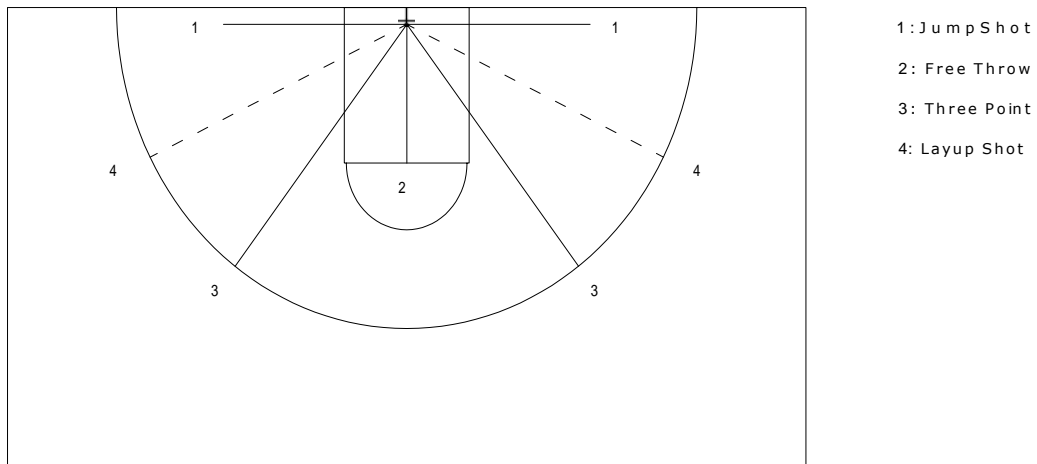
TRAINING SCHEDULE

RESISTANCE TRAINING PROTOCOL OF THE STUDY

S NO	Name of the Exercise	Week	I-II	III-IV	V-VI	VII-VIII
		Load	65 % 1 RM	70 % 1 RM	75 % 1 RM	80 % 1 RM
1	Machine Chest Press	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
2	Leg Press	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
3	Incline Bench Press	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
4	Leg Extension	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
5	Lateral Pulldown	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
6	Abdominal Curls	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
7	Seated Row	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
8	Shoulder Press	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
9	Biceps Curls	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
10	Triceps Pushdown	Sets	1-2	1-2	2-3	2-3
		Reps	15-20	12-15	10-12	8-10
		Rest	30-45 sec	45-60 sec	60-90 sec	1-2 min

TEST ADMINISTRATION

MALTYSHOOTING



The chair positions, four chairs at 3 points Shooting Area two chairs right side two at left side at 45 Angle. One chair at free-throw line other two chairs at zero angle the distance will be 4.50mts from both sides. The distance for sports A, B, C, D, E & F distance for center for grade 16 to19 Years Students. There will be 3 trials of 30sec each. The first is a practice trail and the next two are recorded. the performer may stand at the three point shooting line above the chair at 45 angle for supervisor will start from right side of the 3 point shooting next lay-up shoot next zero angle 4.50mts shooting next free-0 throw shooting same as right for the left side shooting up to 30sec for both side. Ball handling (traveling doubles dribble etc shot following violation scored as zero points.The test administration must record the sport at which shot are take Three point are awarded for 3 points shot 2points are awarded for lay-up shot inside the 3 points shoot one point is awarded for an unsuccessful shoot.

RESULTS

Findings: The statistical analysis comparing the initial and final means of shooting performance due to resistance have been presented in Table I.



TABLE I
COMPUTATION OF ANALYSIS OF COVARIANCE ON SHOOTING PERFORMANCE

TEST	RESISTANCE TRAINING	CONTROL GROUP	F
PRE TEST	10.93	10.47	1.07
POST TEST	14.98	10.37	5.70*
ADJUSTED	15.07	10.38	7.35*

Table I shows the analyzed data of shooting performance. The shooting performance pre means were 10.93 for the resistance training group and 10.47 for the control group. The resultant „F“ ratio of 1.07 was not significant at .05 levels indicating that the two groups were no significant variation. The post-test means were 14.98 for the resistance training group and 10.37 for the control group. The resultant „F“ ratio of 5.70 at .05 level indicating that was a significant difference. The difference between the adjusted post-test means of 15.07 for the resistance training group and 10.38 for the control group yield on „F“ ratio 7.35 which was significant at .05 level. The results of the study indicate that there is a significant difference among resistance training and control groups on the shooting performance.

DISCUSSION/CONCLUSIONS

The results of the study proved that there were significant differences between control group and resistance training group. The eight weeks of experimental treatment significantly influence on shooting performance in college students. The above results are supported by Haehn and Hopkins.

RECOMMENDATIONS

1. It was recommended that adequate steps may be taken to include resistance training in the physical education curriculum as these exercises significantly improves the shooting performance of the subjects.
2. Similar study may be conducted on a larger population.
3. Similar study may be undertaken and its influence on psychological and biochemical parameters may be assessed.



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