

The Effect of Resistance Training Program on the selected Physical Fitness Variables of female Basketball players

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Abstract- The purpose of the present study was to find out the effect of nine weeks resistance training program on selected physical fitness variables of Basketball players. For this purpose twenty female basketball players from Delhi University were selected to act as subjects for the study, the age of the subjects ranged from 17 to 21 years. The minimum level of participation was Inter-University. The subjects were further divided into two groups i.e. Control and Experimental group, group-I underwent resistance training and group-II acted as control and continued with their regular physical activity. The training period for the study was three days in a week for nine weeks. Pre data of both the groups were taken prior to the training period; the subjects were tested for speed, back strength and abdominal strength. The dependent's test and analysis of covariance was applied as statistical tool. In all cases 0.05 level was fixed as significance. It was concluded from the results of the study that training groups had improved on back strength, and had no significant improvement on the speed and abdominal strength.

Index Terms- Resistance Training, Physical Fitness

I. INTRODUCTION

Training is not recent discovery in ancient times, people systematically trained for military and Olympic endeavours. Today athletes prepare themselves for a goal through training physical training endeavours. The objectives of physical training are to increase the athlete's physiological potential and to develop bio-motor abilities to the highest standards. A program of resistance training develops strength. The basis of all gains in any type of fitness endeavour is the over load principle, which means providing a greater stress or load on the body. For the greatest gain muscular strength and power, the level of resistance should be at or near maximal as the competitive season nears. Prior to this, training should approach maximal resistance in a gradual progressive, organized manner. Resistance, strength and weight training all have become popular form of recreation as well as method of condition athletes. The term strength, which requires the body's musculatures to move against some type of opposing force presented by various types of equipment. We use the term resistance training in order to encompass a wide range of training modalities rather than weight training, which really refers to a performance characteristic mesal function and will be defined as the maximal force a muscle or muscle group can generate at a specified velocity. Resistance training is fast becoming in most popular exercise in the world today. Moderate

intensity resistance training has been shown in order to confer health benefits such as favourable changes in body composition and blood lipids related to heart disease. Moderate such resistance training may also help to prevent and treat some type of lower back pain and other conditions such as arthritis and osteoporosis.

A more accurate definition of speed is this: speed is the ability to as fast as possible, through the optimal range of motion, in a deliberate and intentional manner, in particular deflection. Speed is not just measured on how fast a person is either; there are several components of measurement that give a complete picture of a player's speed. The benefits of abdominal strength and endurance are similar to strength and endurance in other skeletal muscles. Greater abdominal strength increases the amount of force that your abdominal contraction can generate against resistance. Flexing your abs repetitively or sustaining abdominal contractions for longer periods of time required greater abdominal endurance. The unique benefits of abdominal strength and endurance derive from the function of this muscle group. Leg strength is possibly the most neglected and undervalued component of physical fitness. Lack of leg strength can be a cause of poor performance and inefficient technique can be a possible underlying cause for many of the strain and tear type muscle injuries found in sports.

II. OBJECTIVES OF THE STUDY

- To find out the effect of Resistance training on the back strength of University level female basketball players.
- To find out the effect of Resistance training on the abdominal strength of University level female basketball players.
- To find out the effect of Resistance training on the speed of University level female basketball players.

III. HYPOTHESIS OF THE STUDY

- There would be a significant effect of Resistance training on the back strength of University level female basketball players.
- There would be a significant effect of Resistance training on the abdominal strength of University level female basketball players.

- There would be a significant of the effect of Resistance training on the speed of University level female basketball players.

IV. PROCEDURE AND METHODOLOGY

By applying random sampling 20 female basketball players, with minimum Inter-University level participation were selected from Delhi University to act as subjects for the study. The groups were divided into two groups i.e. control and experimental, the experimental group underwent nine weeks physical fitness training program and the control group continued with their regular physical activity. The physical fitness variables selected for the study were speed, back strength and abdominal strength. The data was collected for both the groups before the nine week training program and then after the training program. The collected data was analyzed by computing Descriptive analysis followed by Paired 't' test

V. RESULTS AND DISCUSSION

The appropriate statistical techniques were employed; the results have been presented in the following tables:

Table No. 1: Paired Sample 't' test for the pre and post test values of Back Strength for Experimental and Control group

	Experimental Group	Control Group
Pre Test Mean	23.10	21.30
Post Test Mean	27.10	22.45
't'	3.30*	0.47

*Significant at 0.05 level

Table No.1 depicts the values for Paired Sample 't' test for the pre and post test values of Back Strength for Experimental and Control group, which shows that the pre test mean for experimental and control group is found to be 23.10 and 21.30, whereas the post test mean of the experimental and the control group is found to be 27.10 and 22.45 respectively. Further the table shows that a significant difference is found in the pre and post values of the experimental group as the value is found to be 3.30, which is significant at 0.05 level and no significant difference is found in the values of the control group. The graphical representation has been shown in fig no. 1

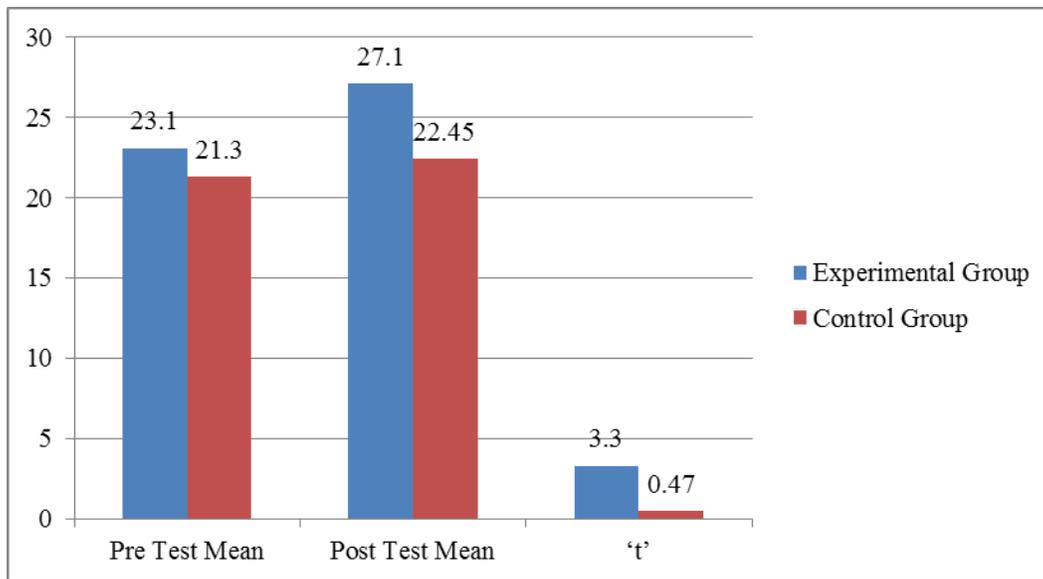


Fig No.1: Graphical representation of Paired Sample 't' test for the pre and post test values of Back Strength for Experimental and Control group

Table No.2: Paired Sample 't' test for the pre and post test values of Abdominal Strength for Experimental and Control group

	Experimental Group	Control Group
Pre Test Mean	41.60	39.60
Post Test Mean	44.80	40.66
't'	4.02*	0.93

*Significant at 0.05 level

Table No.2 depicts the values for Paired Sample 't' test for the pre and post test values of Abdominal Strength for Experimental and Control group, which shows that the pre test

mean for experimental and control group is found to be 41.60 and 39.60, whereas the post test mean of the experimental and the control group is found to be 44.80 and 40.66 respectively. Further the table shows that a significant difference is found in

the pre and post values of the experimental group as the value is found to be 4.02, which is significant at 0.05 level and no

significant difference is found in the values of the control group. The graphical representation has been shown in fig no. 2

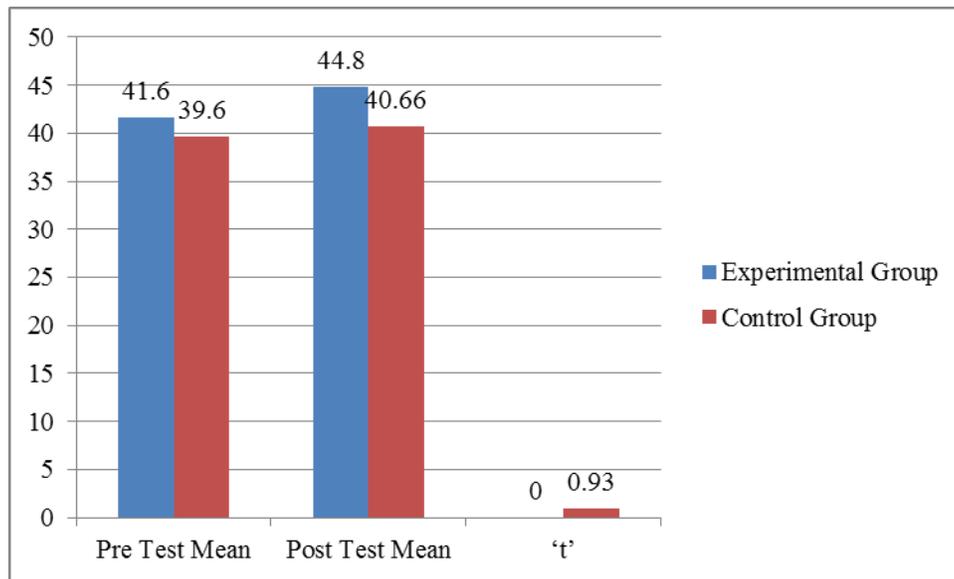


Fig No.2: Graphical representation of Paired Sample 't' test for the pre and post test values of Abdominal Strength for Experimental and Control group

Table No. 3: Paired Sample 't' test for the pre and post test values of Speed for Experimental and Control group

	Experimental Group	Control Group
Pre Test Mean	10.32	10.11
Post Test Mean	12.97	10/08
't'	3.06*	0.03

***Significant at 0.05 level**

Table No. 3 depicts the values for Paired Sample 't' test for the pre and post test values of Speed for Experimental and Control group, which shows that the pre test mean for experimental and control group is found to be 10.32 and 10.11, whereas the post test mean of the experimental and the control group is found to be 12.97 and 10.08 respectively. Further the

table shows that a significant difference is found in the pre and post values of the experimental group as the value is found to be 3.06, which is significant at 0.05 level and no significant difference is found in the values of the control group. The graphical representation has been shown in fig no. 3

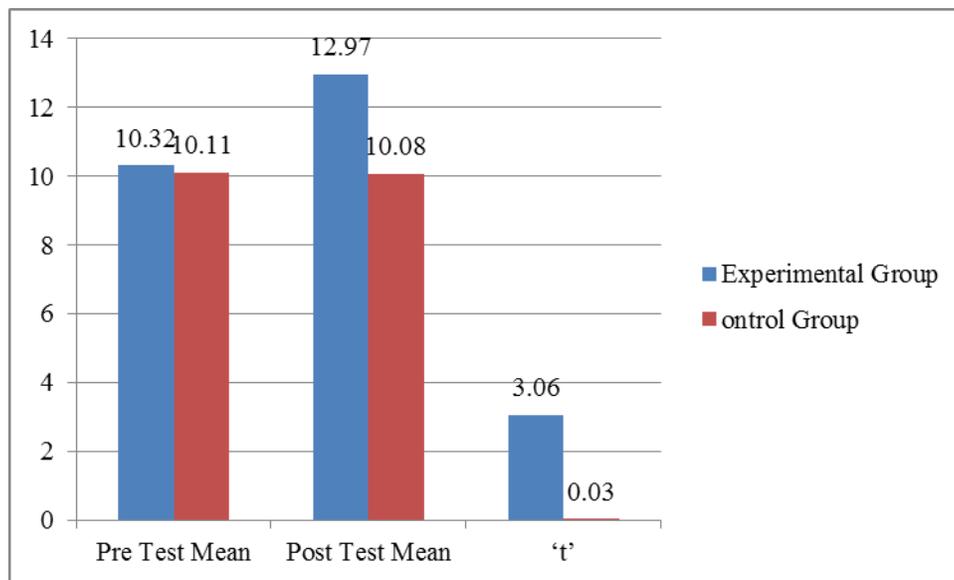


Fig No.3: Graphical representation of Paired Sample 't' test for the pre and post test values of Speed for Experimental and Control group

VI. CONCLUSIONS

- It may be concluded that resistance training has a significant effect on the abdominal Strength of the female basketball players.
- Resistance training has a significant effect on the Back Strength of the female basketball players.
- It was found that speed of a female basketball player is improved by resistance training program.
- Resistance training is an effective method for improvement in the physical fitness of female Basketball players

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