

EFFECTS OF WEIGHT TRAINING EXERCISES ON SELECTED PHYSICAL VARIABLES

Sani Kumar Verma, Assistant Professor, IPS College of Physical Education, Gwalior (M.P.)
Dr. Indu Mazumdar, Professor, LNUPE, Gwalior, (M.P.)

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Abstract

The purpose of the study was to determine the effect of weight training programme on selected physical variables i.e. legs strength, arms strength, and abdomen strength. Total 30 male undergraduate students of Department of Physical Education, Institute of Professional Studies Gwalior Madhya Pradesh were taken as subjects. The study was confined to the following physical variables. i.e., legs strength, abdominal strength and arms strength. Explosive leg strength was measured by standing broad jump and was recorded to the nearest of a centimeters. Arms strength was measured by Arm strength index was computed by the application of Roger's formula. pull-ups and push-ups and was recorded in the numbers. Abdominal strength was measured by bent knee sit-ups and was recorded in numbers. To find out the effect of training programme on selected physical variables, dependent 't' test was applied and the level of significance was set at the 0.05. The study indicates that eight week of weight training programme, increase muscular strength. In same way it is evident from the results of present study of 18 to 24 years of male gender physical variables like Arm Strength, Abdominal Strength and Leg Strength got positive effect. So it can be conducted that the study reveals that arm strength, abdominal strength and leg strength increased by weight training programme.

Keywords: Explosive Leg Strength, Abdomen Strength, Bend Knee Sit-Up

Introduction

Weight training is not usually thought as an end in itself, but as means to an end. The primary objective is not to learn to lift as much as possible, but to increase strength and power for application to some other sports. Weight training may be either of isometric, isokinetic contraction. There is some noteworthy advantage in training with weights than other type of strength training. Since weights can be added to the bar in small amount, it is to control the resistance to the working muscles. By recording the amount of weight lifted each day the trainer is able to gradually

and accurately increase the overload of a muscle during a workout and form are workout the next. Scientists and physiologists have held the view that physical components of an athlete have a lot of to do with his performance. More than the techniques and tactics of a player or a term physical and physiological characteristics help him to better performance. The research findings show that a high level of technique perfections alone cannot produce success in competitive sports. Most of the games demand a higher level of speed, strength, endurance, flexibility, coordination and optimum fitness of the organism. Despite the effectiveness of weight training for athletic and general physical improvement and despite the already large and still growing number of proponents. Many athletes and fitness enthusiasts still shy away from it. They have heard it was make them muscle bound, slow, tight, too heavy or that muscles was turn to fat when they stop training with weights. Even their coaches misinform them that it was ruin their knees, disrupt their motor patterns and may even give them pre-mature gray hair. While athlete throughout they are flocking to the gymnasium to build up strength through weight training. Sum of the Indians still feel that lifting weight makes one stiff and muscles bound and they still speak of slim and sleek sprinters. In spite of the progress that has been made in the field of weight training programme and its physiological impact in the last decade, the information gathered will be not sufficient with special reference to weight training of women subject. Besides some characteristics differences of the weight training on males to that of females have been evident.

Methodology

Thirty (30) male students of physical education from Department of Physical Education, Institute of Professional Studies Gwalior (Madhya Pradesh) was taken as subjects for this study. All the subjects had undergone the medical check-up before start of the training programme. Average age of subjects was 21 ranging from 18 to 24 years. The age was obtained from the institute records. All the subjects were divided randomly into two groups "A" and "B" by drawing lots. Each group consisted of 15 subjects. All the subjects were having regular activity period during which they undergoes physical activities as per the institute schedule. The group "A" acted as experimental group and group "B" acted as control group (group "A" underwent a specific weight training programme).

Subjects did not participate in any other physical activities programme other than the prescribed activity for them. All the subjects were residents of the hostel and had food in the mess had the same activity programme. Whereas control group did not undergone any kind of training. Based on the review of related literature, the comparable study related field, delimitation of the present study, feasibility, as well as purpose of the study following variables was selected. i.e legs strength, abdominal strength and arms strength. Explosive leg strength was measured by standing broad jump and was recorded to the nearest of a centimeters. Arms strength was measured by Arm strength index was computed by the application of Roger's formula. pull-ups and push-ups and was recorded in the numbers. Abdominal strength was measured by bent knee sit- ups and was recorded in numbers. To find out the effect of training programme on selected physical variables, dependent 't' test was applied and the level of significance was set at the 0.05.

Finding

To find out the significance difference between the initial and final scores of the experimental and control groups dependent 't' test was administered. Effects of training on leg strength have been presented in table no.1. The mean differences of the criterion measures for the control experimental group are presented from Table 1 to 6.

Table no. 1
Comparison of Mean Values of Pre and Post Test of Leg Strength of Experimental Group

Test	Mean	SD	MD	SE	't'
Pre-Test	2.24	0.11	0.61	0.026	4.34*
Post-Test	2.85	0.20		0.052	

*Significant at 0.05 level of significance 't' (0.05) (14) =2.05

Table no-1 show that there is significant difference among pre and post test of Leg Strength of experimental group as calculated value t-ratio 4.34 is higher than tabulated t-value 2.05. Thus it is proofed that six (6) weeks of weight training programme had significant effect on Leg Strength. As the results indicate research hypothesis is accepted. Graphical representation of above table is made in fig. no. 1

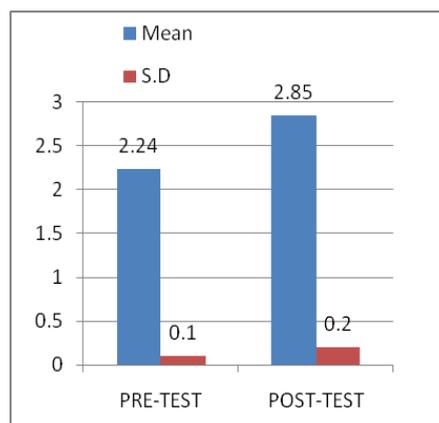


Fig. no. 1: Mean and Standard Deviation of Pre and Post Test of Leg Strength of Experimental Group

Table no. 2
Comparison of Mean Values of Pre and Post Test of Leg Strength of Control Group

Test	Mean	S D	MD	SE	't'
Pre-Test	2.32	0.18	0.13	0.046	.062
Post-Test	2.45	0.19		0.051	

*Significant at 0.05 level of significance 't' (0.05) (14) =2.05

Table no-2 show that there is in significant difference among pre and post test of Leg Strength of control group as calculated value t-ratio .062 is lower than tabulated t-value 2.05. Thus it is proofed that six (6) weeks of weight training programme had no effect on Leg Strength. As the results indicate research hypothesis is rejected. Graphical representation of above table is made in fig. no.2.

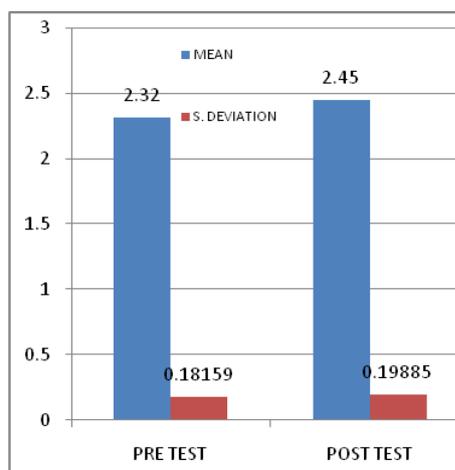


Fig. no. 2: Mean and Standard Deviation of Pre and Post Test of Leg Strength of Control Group.

Table no-3
Comparison of Mean Values of Pre and Post Test of Arms Strength of Experimental Group

Test	M	S D	MD	SE	't'
Pre-Test	408	168.9	179.5	43.61	2.91*
Post-Test	587.5	177.8		48.50	

*Significant at 0.05 level of significance 't' (0.05) (14) =2.05

Table no-3 show that there is significant difference among pre and post test of Arms Strength of experimental group as calculated value t-ratio 2.91 is higher than tabulated t-value 2.05. Thus it is proved that six (6) weeks of weight training programme significant effected on the Arms Strength. As the results indicate research hypothesis is accepted. Graphical representation of above table is made in fig. no. 3

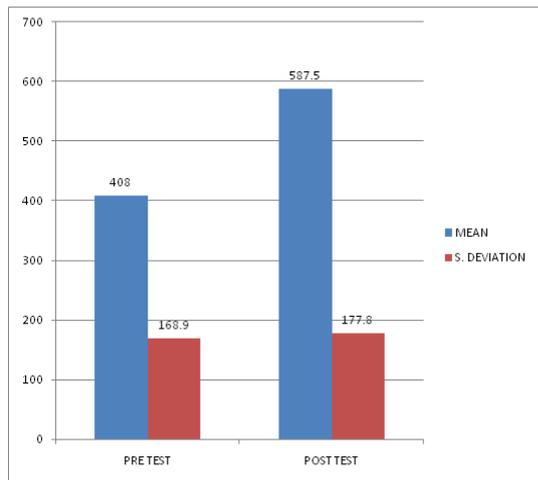


Fig. no. 3: Mean and Standard Deviation Values of Pre and Post Test of Arms Strength of Experimental Group

Table no.4
Comparison of Mean Values of Pre and Post Test of Arms Strength of Control Group

Test	Mean	S D	MD	SE	't'
Pre-Test	325.3	135.4	20.9	34.89	0.427
Post-Test	346.2	142.65		36.83	

*Significant at 0.05 level of significance 't' (0.05) (14) =2.05

Table no-4 show that there is insignificant difference among pre and post test of Arms Strength of Control group as calculated value t-ratio .427 is less than tabulated t-value 2.05. Thus it is proved that six (6)

weeks of weight training programme had not effected on the Arms Strength. As the results indicate research hypothesis is rejected. Graphical representation of above table is made in fig. no. 4.

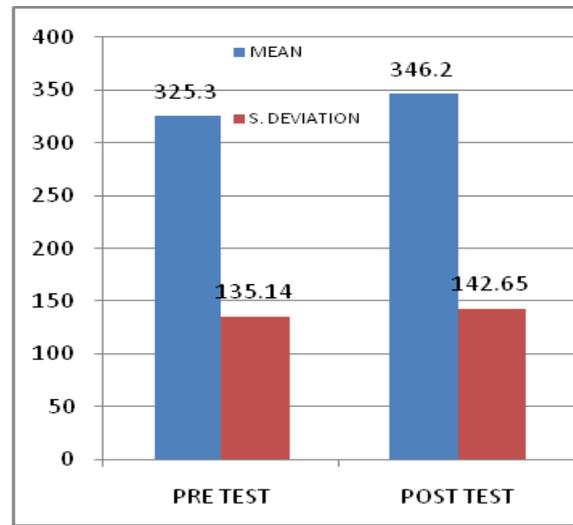


Fig. no. 4: Mean and Standard Deviation Values of Pre and Post Test of Arms Strength of Control Group

Table no.5
Comparison of Mean Values of Pre and Post Test of Abdominal Strength of Experimental Group

Test	Mean	SD	MD	SE	't'
Pre-Test	42.2	6.29	19.3	1.62	14.64*
Post-Test	61.13	6.75		1.74	

*Significant at 0.05 level of significance 't' (0.05) (14) =2.05

Table no-5 show that there is in significant difference among pre and post test of Abdominal Strength of Experimental group as calculated value t-ratio 14.64 is higher than tabulated t-value 2.05. Thus it is proved that six (6) weeks of weight training programme had effected on the Abdominal Strength. As the results indicate research hypothesis is accepted. Graphical representation of above table is made in fig. no. 5.

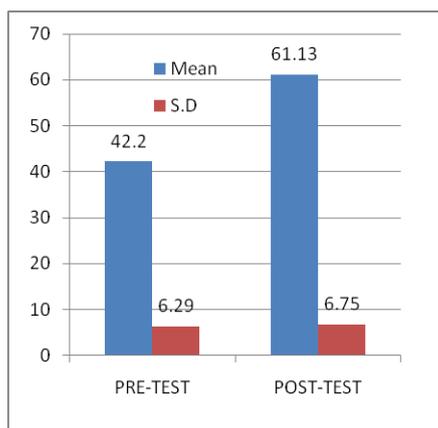


Fig. no. 5: Mean and Standard Deviation Values of Pre and Post Test of Sit Ups of Experimental Group

Table no.6
Comparison of Mean Values of Pre and Post Test of Sit Ups of Control Group

Test	Mean	SD	MD	SE	't'
Pre-Test	39.9	7.16	0.9	1.85	1.41
Post-Test	40.8	7.10		1.83	

*Significant at 0.05 level of significance 't' (0.05) (14) =2.05

Table-6 show that there is in significant difference among pre and post test of Sit Ups of Control group as calculated value t-ratio 1.41 is than tabulated t-value 2.05. Thus it is proved that six (6) weeks of weight training programme had not effected on the Arms Strength. As the results indicate research hypothesis is rejected. Graphical representation of above table is made in fig. no. 6.

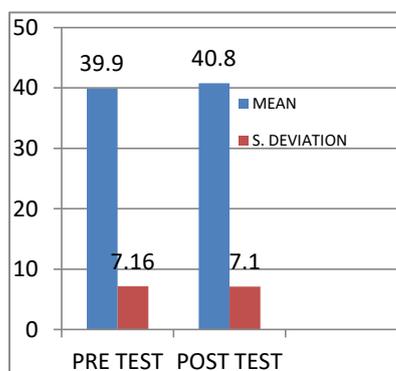


Fig. no. 6: Mean and Standard Deviation Values of Pre and Post Test of Sit Ups of Control Group

Discussion of Findings

C Lesile and Hansen, conduct a study to find out effect of weight training programme upon strength and find out that effect of an eight week of intensive training strength was improved. The study indicates that eight week of weight training programme, increase muscular strength. In same way it is evident from the results of present study of 18 to 24 years of male gender physical variables like Arm Strength, Abdominal Strength and Leg Strength got positive effect. So it can be conducted that the study reveals that arm strength, abdominal strength and leg strength increased by weight training programme.

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