EFFECTS OF WEIGHT TRAINING ON SELECTED PHYSICAL VARIABLES OF TRIBAL STUDENTS OF VIDYASAGAR UNIVERSITY

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Abstract
The purpose of the study was to determine the effects of Weight Training on selected physical variables i.e. Leg strength, arm strength and abdomen strength. Total 30 male undergraduate Tribal students from the different departments of Vidyasagar University who regularly practice their respective games in the university ground were taken as subjects. The study was confined to the following physical variables i.e. legs strength, abdominal strength and arm strength. Explosive leg strength was measured by standing broad jump and was recorded to the nearest of a centimeters. Arm's strength was measured by arm strength Index was computed by the application of Roger's formula. Abdominal Strength was measured bent Knee sit- ups and was recorded in numbers. To find out the effect of twelve weeks weight training on selected Physical Variables of Tribal students, dependent't-test' was applied at the level of significance of 0.05. The Study shows a significance improvement after twelve weeks of Weight Training program on physical variables of tribal students.
Keywords: Arms Strength, Abdominal Strength and Leg Strength.

Introduction

Depending on the field of interest and available time, a choice can be made from an extensive selection of different sports activities. Weight training is an example of an individual sports that is not restricted by time of the day or weather conditions, and most forms of weight training are reported to be safe, even for hypertensive and cardiac patients and the elderly. Training in sports is a process of athletic improvement, which forms its base of the scientific principles through systematic development of mental and physical efficiency, to enable the formation of basic skills or techniques further to produce outstanding and record breaking performances. The individual personality develops in accordance with the surrounding or the environment and the standards of the society through a positive approach towards the recent trends of the course of training. The main purpose of the training is to develop the athlete in order to achieve the highest level of performance. Sports performance is based in a complex and intricate diversity of variables, which include physical, Psychological and body composition factors. Weight training is not usually thought as an end in itself, but as means to an end. The primary objective is not 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 pother type of strength training. Scientists and physiologists have held the view that physical components of an athlete have a lot 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 researcher finding shows 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. Peak sports performances are those magical moments when an athlete puts together both physically and mentally.

Objectives of the Study

To determine the effects of Weight Training on selected physical variables i.e. leg strength, arms strength and abdomen strength on physical variables of tribal students of the Vidyasagar University.

Hypothesis

It was hypothesized that there will be significant difference after the twelve weeks weight training programme on selected physical variables of tribal students.

Methodology

Thirty (30) male tribal students from the different departments of Vidyasagar University who regularly practice their respective games in the university ground were taken as subjects. Average age of the subjects ranged from 19 to 23 yrs. All the subjects were divided randomly into two groups 'A' and 'B'. Each group consists of 15 subjects and all the subjects were having regular fitness program for their own respective game; mainly football and volleyball. The group A and group B had a mixture of both footballers and volleyball players. The groups 'A' acted as experimental group and group 'B' acted as control group. Group 'A' underwent a specific weight training programme for the duration of twelve weeks. All the subjects were residents of the university hostel and had food in the mess whereas experimental group 'A' went under specific training for 12 twelve weeks. The following physical variables were selected for the study- leg strength, abdominal strength and arm 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. Abdominal Strength was measured bent Knee sit- ups and was recorded in numbers.

Statistical Analysis

To determine the effect of weight training on selected physical variables of tribal students, dependent't' test was applied at the level of significance of 0.05.

Finding of the Study

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 difference of the criterion measures for the control groups are presented from table 1 to 6.

Table No. 1
COMPARISON OF MEAN VALUES OF PRE AND POST TEST OF LEG STRENGTH OF EXPERIMENTAL GROUPS

Test	Mean	S.D	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 could be said that twelve weeks of weight training programme had significant effect on leg strength. As the results indicate research hypothesis is accepted.

Table No.2
COMPARISON OF MEAN VALUES OF PRE AND POST TEST OF LEG STRENGTH OF CONTROL GROUPS

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 insignificant 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 revealed that twelve weeks of weight training programme had no effect on leg strength. As the results indicate research hypothesis is rejected.

Table No.3
COMPARISON OF MEAN VALUES OF PRE AND POST TEST OF ARMS STRENGTH OF EXPERIMENTAL GROUPS

Test	Mean	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 revealed that twelve weeks of weight training programme had significant effect on arms strength. As the results indicate research hypothesis is accepted. Graphical representation of above table is made in fig.3.

Table No.4
COMPARISON OF MEAN VALUES OF PRE AND POST TEST OF ARMS STRENGTH OF CONTROL GROUPS

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 revealed that twelve weeks of weight training programme had insignificant effect on arms strength. As the results indicate research hypothesis is rejected.

Table No. 5
COMPARISON OF MEAN VALUES OF PRE AND POST TEST OF ABDOMINAL STRENGTH OF EXPERIMENTAL GROUPS

Test	Mean	S.D	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 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 revealed that twelve weeks of weight training programme had

significant effect on abdominal strength. As the results indicate research hypothesis is accepted.

Table No. 6
COMPARISON OF MEAN VALUES OF PRE AND POST TEST OF ABDOMINAL STRENGTH OF CONTROL GROUPS

Test	Mean	S.D	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 no-6 show that there is insignificant difference among pre and post test of abdominal strength of control group as calculated value t-ratio 1.41 is lower than tabulated t- value 2.05. Thus it is revealed that twelve weeks of weight training programme had insignificant effect on abdominal strength. As the results indicate research hypothesis is rejected.

Discussion of Findings:

The finding of the study revealed that the significant difference was found after the twelve weeks training of weight training on selected physical variables i.e. Arm Strength, Abdominal Strength and Leg Strength of tribal students of Vidyasagar University.

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