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Effect of Eight Week Resistance Training Exerciseson Strength &Fitness of College Students

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ABSTRACT
The purpose of this study was to find out the effect of eight week resistance training exercises on strength& fitnessof college students. For this purpose the researcher randomly selected forty (40) subjects from College. The subjects were divided in two group's twenty (20) subjects in each group. One group was treated as experimental group while the other as the control group. The age of the subjects ranged between 15 to 20 years. Shoulder strength and leg strength wasmeasured for the study. The mean, standard deviation and paired 't' test were calculated by the Statistical Package for Social Sciences (SPSS) software. The level of significance was set at 0.05. In case of experimental group, shoulder strength and leg strength has shown significant which may be because of additional resistance training given to the subjects of experimental group while control group, leg strength has shown insignificant and shoulder strength has significant.
Keywords*: Shoulder strength, leg strength and resistance training exercises.*

I. INTRODUCTION

Most of the people can increase their strength, power, endurance, physical fitness and speed of movement by means of resistance training and there is no finer method of improving strength and power for all sports than by training with resistance. However, irregular and haphazard training will not produce the desired results, and a training programme based on sound scientific principles is essential.A well planned and scientifically based weight training programme can develop strength and speed together by overloading the muscle with sufficient resistance to allow gains in strength, but not to such an extent that the muscle cannot be successfully contracted with an element of speed. This speed of movement can best be attained by fast exercising.

II. METHODOLOGY

Selection of Subjects:
In this study forth (40) subjects were selected from Colleges.

Selection of Variables:
The variables selected for this study were as follows:-

- **Independent Variable:**Resistance training exercises were chosen for the present study as independent variable. Resistance training exercises were given below:-

Resistance Training Exercises:
- Front Squat
- Bench Press
- Shoulder press
- Back Squat
- Leg press(leg extension and flexion)
- Dumb-bell Jump Squat
- Power Press
- Calf Raise
- Side Split Squat

- **Dependent Variables:** Shoulder strength and leg strength was selected and treated as dependent variables.

Criterion Measure:

The following tests were selected as a criterion measure for this study:

- **Tennis Ball Throw** was selected for shoulder strength and performance was recorded in feet.
- **Standing Broad Jump** was selected for leg strength and performance was recorded in feet.

Statistical Technique:

Paired 't' test was calculated by the Statistical Package for Social Sciences (SPSS) software. The level of significance was set at 0.05.

III. RESULTS OF THE STUDY

The analysis of data on shoulder strength and leg strength variable collected on forty (40) students. Twenty (20) students from each group i.e. experimental group and control group from College. The data was analyzed by paired "t" test to investigate the effect of eight week resistancetraining exerciseson strength of college students.

Table No.01
Comparison of Mean Values of Pre and Post-test of Shoulder Strength of Experimental Group

Test	Mean	Standard Deviation	MD	"t" Value
Pre-test	35.00	2.99	2.69	12.40*
Post-test	37.70	2.19		

*Significant at 0.05 level tab "T" $_{(0.05)(19)}$ = 2.093

Table no.01 indicates that there is significant difference between pre and post-test of shoulder strength of experimental group as calculated "t" value 12.40 is higher than tabulated "t" value 2.093. Thus it clearly evident that eight week of resistancetraining exercises on strength had significant effect on shoulder strength. Graphical representation of above table is made in figure no.01.

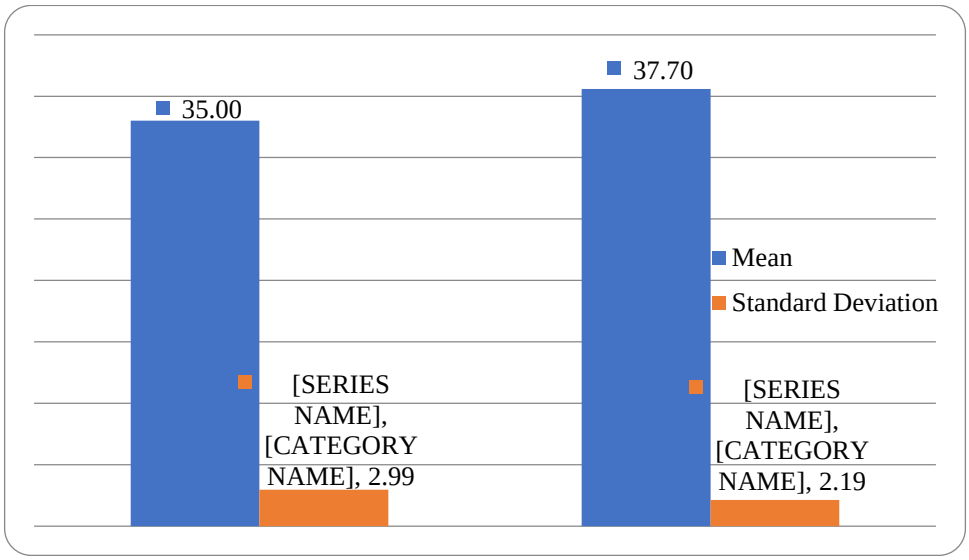

Figure No.01 Mean and Standard Deviation Values of Pre and Post-test of Shoulder Strengthof Experimental Group

Table No.02
Comparison of Mean Values of Pre and Post-test of Shoulder Strength OfControl Group

Test	Mean	Standard Deviation	MD	"t" Value
Pre-test	33.85	3.88	0.69	3.36*
Post-test	34.45	3.24		

*Significant at 0.05 level tab "T" $_{(0.05)(19)}$ = 2.093

Table no.02 indicates that there is significant difference between pre and post-test of shoulder strength of control group as calculated "t" value 3.36is higher than tabulated "t" value 2.093. Thus it clearly evident that eight week of resistancetraining exercises on strength had significant effect on shoulder strength. Graphical representation of above table is made in figure no.02.

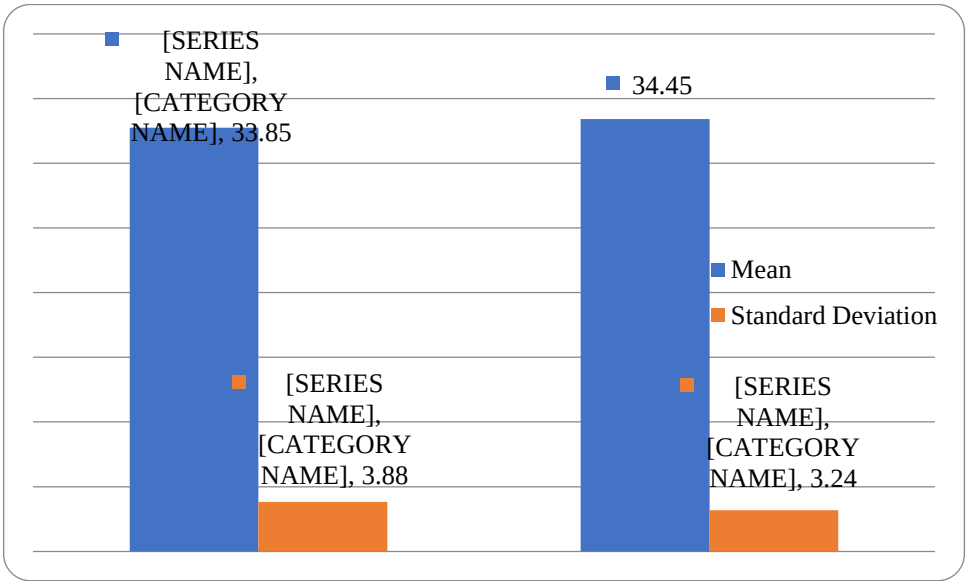

Figure No.02 Mean and Standard Deviation Values of Pre and Post-test of Shoulder Strengthof Control Group

Table No.03
Comparison of Mean Values of Pre and Post-test of Leg Strength of Experimental Group

Test	Mean	Standard Deviation	MD	"t" Value
Pre-test	166.05	2.89	2.06	11.29*
Post-test	168.05	2.42		

*Significant at 0.05 level tab "T" $_{(0.05)(19)}$ = 2.093

Table no.03 indicates that there is significant difference between pre and post-test of leg strength of experimental group as calculated "t" value 11.29is higher than tabulated "t" value 2.093. Thus it clearly evident that eight week of resistancetraining exercises on strength had significant effect on leg strength. Graphical representation of above table is made in figure no.03.

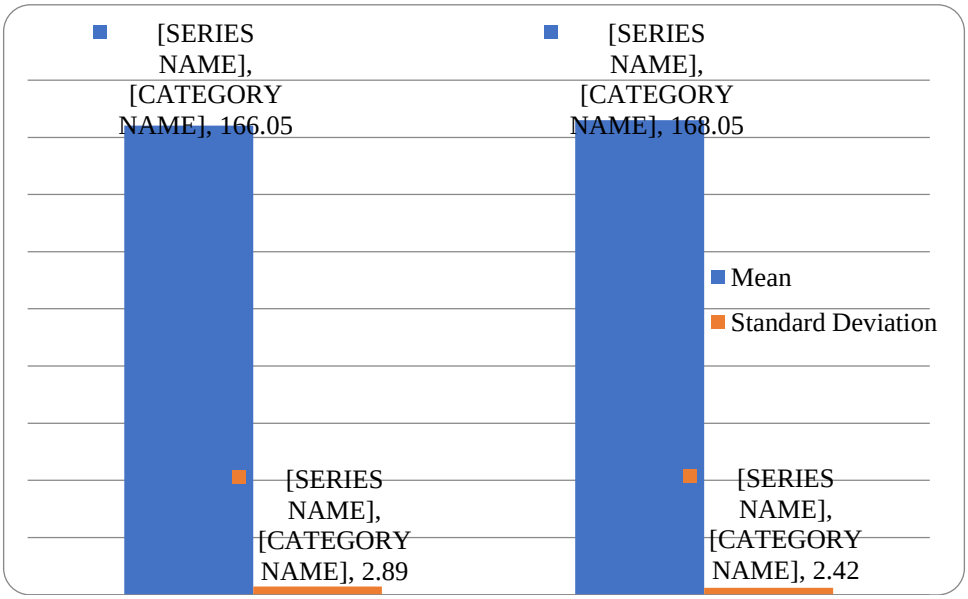

Figure No.03 Mean and Standard Deviation Values of Pre and Post-test of Leg Strengthof Control Group

Table No.04
Comparison of Mean Values of Pre and Post-test of Leg Strength OfControl Group

Test	Mean	Standard Deviation	MD	"t" Value
Pre-test	170.61	5.27	0.59	2.08
Post-test	171.25	4.48		

*Significant at 0.05 level tab "T" $_{(0.05)(19)}$ = 2.093

Table no.04 indicates that there is insignificant difference between pre and post-test of leg strength of control group as calculated "t" value 2.08is less than tabulated "t" value 2.093. Thus it clearly evident that eight week of resistancetraining exercises on strength had no significant effect on leg strength. Graphical representation of above table is made in figure no.04.

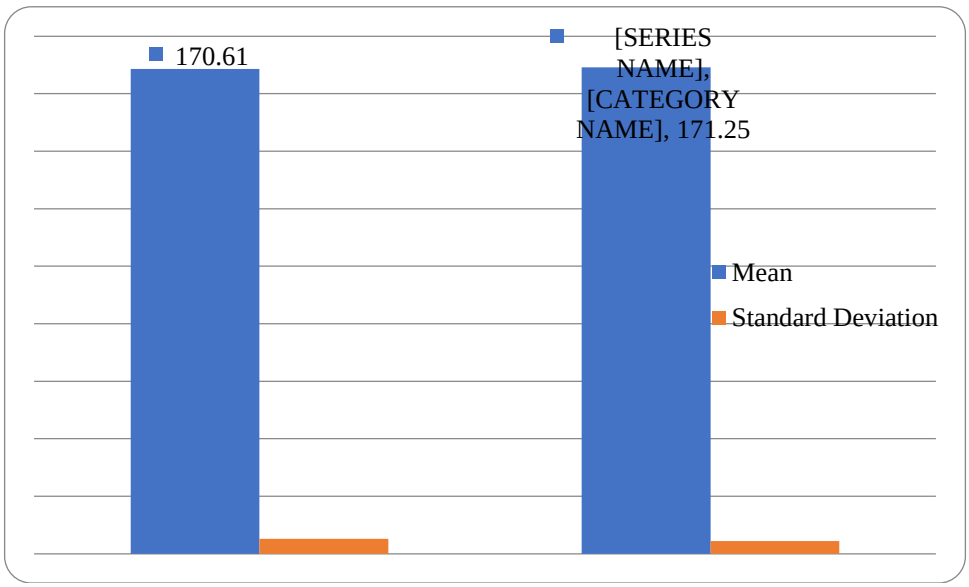

Figure No.04 Mean and Standard Deviation Values of Pre and Post-test of Leg Strengthof Control Group

IV. DISCUSSION OF FINDINGS

There is significant difference in shoulder strength and leg strengthin experimental group. There is significant difference in shoulder strength in control group and there is no significant difference in leg strength in control group.

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