



EFFECT OF PLYOMETRIC TRAINING ON MUSCULAR STRENGTH AMONG PHYSICAL EDUCATION STUDENTS

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ABSTRACT

The purpose of this study to find out the effect of Plyometric training on muscular strength among physical education students. To achieve the purpose of this study 30 physical education students are selected from The M.D.T Hindu College, Pettai, Tirunelveli district, Tamil nadu, India. Physical education students are selected randomly as subject and their age group between 19 to 24 years. The selected subjects (N=30) were divided into two groups equally and randomly. Of which Experimental Group I underwent Plyometric training Group II acted as Control Group. The experimental groups were treated with their respective training. Pre-test was conducted on selected Muscular Strength for the two groups. The readings were carefully recorded in their respective unit as pre-test score. Then pre-test experimental group was treated with Plyometric Training. Training for duration of one hour, three days per week for a period of twelve weeks. The study effect of physical education students of Plyometric training to find out the mean difference, the Analysis of t-ratio.

KEYWORDS : Plyometric training, muscular strength and Physical Education

INTRODUCTION

Plyometric Training

Plyometric training is defined as a quick, powerful movement involving an eccentric contraction, followed immediately by an explosive concentric contraction. This is accomplished through the stretch-shortening cycle or an eccentric-concentric coupling phase. Plyometric exercise stimulates the body's prospective and elastic properties to generate maximum force output in a minimum amount of time.

METHODOLOGY

Selection of Subjects

The purpose of this study to find out the effect of Plyometric training on muscular strength among physical education students. To achieve the purpose of this study 30 physical education students are selected from The M.D.T Hindu College, Pettai, Tirunelveli district, Tamil nadu, India. Physical education students are selected randomly as subject and their age group between 19 to 24 years.

EXPERIMENTAL DESIGN

The selected subjects (N=30) were divided into two groups equally and randomly. Of which Experimental Group underwent Plyometric training Group II acted as Control Group. The experimental groups

were treated with their respective training. Pre-test was conducted on Muscular Strength for the two groups. The readings were carefully recorded in their respective unit as pre-test score. Then pre-test experimental group was treated with Plyometric Training (PTG) for duration of one hour, three days per week for a period of twelve weeks. After twelve weeks of training post test was conducted and the readings were carefully recorded as post test score.

SELECTION OF VARIABLES

Independent Variables

i. Plyometric training (PT)

Dependent Variables

Muscular Strength

SELECTION OF TEST

S.No	Variable	Test Items	Units
1	Muscular Strength	Modified sit ups	Seconds

ANALYSIS OF THE DATA

The significance of the difference among the means of experimental group was found out by pre-test. The data were analyzed dependent 't' test technique was used with 0.05 levels as confidence.

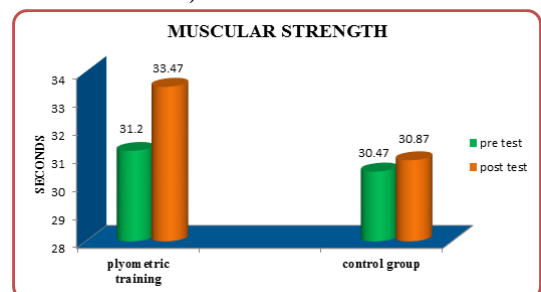
Table I: Analysis of 'T'-Ratio for the Pre and Post tests of Experimental and Control group on Muscular strength

Variable	Group	Mean		SD		SD Error	Df	't' ratio
		Pre	Post	Pre	Post			
Muscular strength	Plyometric training	31.20	33.47	3.63	3.29	0.25	14	9.134*
	Control group	30.47	30.87	3.09	2.67	0.24		

*Significance at .05 level of confidence. (The table value required for 0.05 level of significant with df of 14 is 2.14)

The Table-I shows that the mean values of pre-test and post-test of Plyometric training on Muscular strength were 31.20 and 33.47 respectively. The obtained 't' ratio was 9.134*, since the obtained 't' ratio was greater than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The mean values of pre-test and post-test of Control group on Muscular strength were 30.47 and 30.87 respectively. The obtained 't' ratio was 1.702 since the obtained 't' ratio was less than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The result of the study showed that there was a significant difference between control group and Plyometric training group in Muscular strength. It may be concluded from the result of the study that Plyometric training group improved in Muscular strength due to Plyometric training.

Figure I: The pre and post test Mean values of Plyometric training group and Control group on muscular strength (Modified sit ups means count in seconds)



DISCUSSIONS ON FINDINGS

The result of the study indicates that the experimental group namely Plyometric training group had significantly improved the selected dependent variables namely muscular strength when compared to the control group. It is also found that the improvement caused by Plyometric training group when compared to the control group.

CONCLUSIONS

1. There was a significant difference between experimental and control group on muscular strength variables after the exercise period.
2. There was a significant improvement in muscular strength. However the improvement was in favour for experimental group of Plyometric training compare better than the control group due to twelve weeks training period.

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