

Effect Of Medicine Ball Exercises on Shoulder Strength and Strength Endurance Among University Men Students

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ABSTRACT

The purpose of the study was designed to examine the effect of Medicine ball exercises on shoulder strength and strength endurance of university men students. For the purpose of the study, thirty men students from the colleges affiliated to Osmania University, Hyderabad, Telangana, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent Medicine ball exercises for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely shoulder strength and strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using pull ups and bend knee situps respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any between the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate. The results of the study showed that there was a significant difference between Medicine ball exercises group and control group on shoulder strength and strength endurance. And also it was found that there was a significant improvement on shoulder strength and strength endurance due to twelve weeks of Medicine ball exercises.

Keywords: Medicine Ball Exercises, shoulder strength and strength endurance, ANCOVA, College men Students

INTRODUCTION

Medicine balls were originally used in Europe in the 1920s for the rehabilitation of muscle function in older patients. A few years later, medicine balls became popular in the United States when White House physician Admiral Joel Boone invented a game with medicine balls to keep President Hoover physically fit. The game was called Hoover Ball and was played with teams of two to four players who tossed a 6-lb medicine ball over a net 8 ft high on a court similar to volleyball. Nowadays, fitness professionals, youth sport coaches, and physical education teachers are rediscovering the many benefits that can be achieved by incorporating medicine ball training into youth fitness classes, personal training sessions, and sport programs". Like other types of physical activity, regular participation in a medicine ball training program has the potential to positively influence many health and fitness measures. Medicine ball training can be used to enhance muscle strength, muscle power, coordination, agility, balance, and speed.

METHODOLOGY

The purpose of the study was designed to examine the effect of Medicine ball exercises on shoulder strength and strength endurance of university men students. For the purpose of the study, thirty men students from the colleges affiliated to Osmania University, Hyderabad, Telangana, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent Medicine ball exercises for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely shoulder strength and strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using pull ups and bend knee situps respectively at prior to and immediately after the training

programme. The analysis of covariance was used to analyze the significant difference, if any between the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate.

ANALYSIS OF THE DATA

Shoulder strength

The analysis of covariance on shoulder strength of the pre and post test scores of Medicine ball exercises group and control group have been analyzed and presented in Table I.

TABLE I
ANALYSIS OF COVARIANCE OF THE DATA ON SHOULDER STRENGTH OF PRE AND POST TESTS SCORES OF MEDICINE BALL EXERCISES AND CONTROL GROUPS

Test	Medicine ball exercises group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	34.53	33.27	Between	12.03	1	12.03	3.04
S.D.	2.03	2.15	Within	110.67	28	3.95	
Post Test							
Mean	41.67	33.53	Between	496.13	1	496.13	22.73*
S.D.	1.81	1.75	Within	611.20	28	21.83	
Adjusted Post Test							
Mean	41.27	33.93	Between	364.19	1	364.19	137.76*
			Within	71.38	27	2.64	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table I shows that the adjusted post-test means of Medicine ball exercises group and control group are 41.27 and 33.93 respectively on shoulder strength. The obtained “F” ratio of 137.76 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on shoulder strength. The results of the study indicated that there was a significant difference between the adjusted post-test means of Medicine ball exercises group and control group on shoulder strength.

Strength endurance

The analysis of covariance on strength endurance of the pre and post test scores of Medicine ball exercises group and control group have been analyzed and presented in Table II

TABLE II
ANALYSIS OF COVARIANCE OF THE DATA ON STRENGTH ENDURANCE OF PRE AND POST TESTS SCORES OF MEDICINE BALL EXERCISES AND CONTROL GROUPS

Test	Medicine ball exercises group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	41.53	41.80	Between	0.53	1	0.53	0.31
S.D.	1.20	1.71	Within	48.13	28	1.72	
Post Test							
Mean	48.47	42.07	Between	307.20	1	307.20	23.13*
S.D.	1.33	1.18	Within	371.87	28	13.28	
Adjusted Post Test							
Mean	48.57	41.97	Between	323.32	1	323.32	235.69*
			Within	37.04	27	1.37	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table II shows that the adjusted post-test means of Medicine ball exercises group and control group are 48.57 and 41.97 respectively on strength endurance. The obtained “F” ratio of 235.69 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on strength endurance.

The results of the study indicated that there was a significant difference between the adjusted post-test means of Medicine ball exercises group and control group on strength endurance.

CONCLUSIONS

1. There was a significant difference between Medicine ball exercises group and control group on shoulder strength and strength endurance.
2. And also it was found that there was a significant improvement on selected criterion variables such as shoulder strength and strength endurance due to Medicine ball exercises.

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