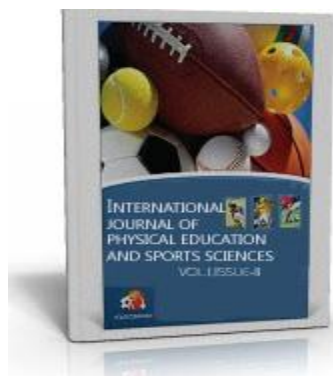


A COMPARATIVE STUDY OF ARM AND BACK STRENGTH EXERCISE ON THE PERFORMANCE OF TWO HANDS SNATCH IN WEIGHT LIFTING



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ABSTRACT:

The study tends to find the comparative outcome of arm and back exercise that is directly associated with the weight lifting and use of hands. This study was conducted on 45 male students studying at LNIPE, Gwalior as subjects. All the subjects were divided into three groups, as two experimental groups and one control group. The experimental groups were administered one hour training program for six weeks. Quantitative measurements of two hands snatch for each subject were taken before and after the conduct. Analysis of co-variance was applied hypothetically at '0.05 levels of significance' to find the effects on two hand snatch in weight lifting.

From this research there was significance difference between pre posts tests of two hand snatch performance as the calculated F-Ratio (used particularly in probability distribution theory)

was 24.05, which is greater than the table value of 3.23. Post hoc analysis was done in order to justify the experiment. There was a significant difference found between the adjusted final means of arm strength and back strength and control group.

After experimental analysis it was found that to improve the two hands snatch performance, the back strength is proved to be superior to arm strength. It might due to the back strength exercise to develop the 'maximum back strength' of an individual and on the 'maximum strength' of an individual. Beside these, the arm strength exercise which leads to the development of 'arm strength' that contribute less to the two hand snatch performance.

METHODOLOGY

This study was conducted on 45 male student's studying BPE 3rd year at LNIPE Gwalior, which were selected as subject. Students' age are ranging between 18 to 24 years. All the subjects were divided into three groups (A B & C). There were two (A& B) experimental group and C is a control group. The experimental group A were administered one hour training program of Arm strengthening exercises for six weeks. And Experimental group B was administered with Back strengthening exercises and Group C was a only control group i.e. general exercises.

In Back strengthening exercises- the exercises were

- Barbell Dead lift
- Good morning Exercises with barbell
- Back hyperextensions exercises
- Bent Knee Sit ups
- Stretching exercises for back

In Arm strengthening exercises- the exercises were

- Barbell front press
- Barbell back press
- Incline & Decline Chest Press
- Shoulder Rotation
- Barbell upright row
- Shoulder shrug
- Dumbbell shoulder press
- Full stretching exercises for shoulder
- Chin-ups and pull ups

A training Programme of 6 weeks on alternate days was administered to group A & group B. Group C was kept as the control group. Progressively load was increased after two weeks. Quantitative measurements of two hands snatch for each subject were taken before and after the treatment. Analysis of co-variance was applied at .05 levels of significance to find the effects.

FINDINGS

From this research it has been found that there was contrast result between **Experimental group** and **Control group** in the performance of two hands snatch lift. As per calculation on the basis of **Table 1**. Significance difference between pre post test of two hand snatch performance as the calculated F-Ratio was 24.05 which greater than the table value of 3.23 .

There was a significant difference found between the adjusted final means of arm strength and back strength and control group.

TABLE- 1

**ANALYSIS OF CO-VARIANCE FOR TWO HAND SNATCH PERFORMANCE FOR THE
EXPERIMENTAL GROUP AND CONTROL GROUP**

Source of Variance	DF	Sum of Square	Mean sum of Square	F-Ratio
Among Means	2	225.533	112.766	24.054*
Within Group	41	192.284	4.690	

* at 0.05 level of significance.

Post hoc analysis was done in Table 2

TABLE- 2

**ADJUSTED FINAL MEAN AND DIFFERENCE BETWEEN MEEN AND
THE EXPERIMENTAL AND CONTROL GROUPS IN TWO HANDS SNATCH**

GROUPS			Mean Difference	Critical Difference
Arm Strength	Back strength	Control Group		
59.50	62.50		03.00*	0.79
59.50		56.98	02.52*	0.79
	62.50	56.98	05.52*	0.79

* at 0.05 level of significance

Table 2 indicates that the significance was found between the adjusted final means of arm – strength and back strength , arm strength and control group.

DISCUSSION AND FINDINGS

To improve the two hand snatch performance the back strength is proved to be superior than arm strength .It might due to the reason that back strength exercises which is to develop the maximum strength (Back Strength) of an individual and on the maximum strength of an individual. And on the other hand the arm strength exercise which leads to the development of arm strength which less contributing to the two hand snatch performance.

CONCLUSION

On the basis of the findings it is concluded that back strengthening exercises are proved to be superior than the arm strengthening exercises to improve two hands snatch performance.

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UP-224122 MOB. 09415881966