

# Effect of some selected exercises on the hitting performance of college softball players

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■ ABSTRACT

The purpose of the study was to find out the effect of some selected exercises on the hitting performance of college softball players. The Objectives of this study was to find out whether there is any significant difference in the hitting performance of college softball players For this study 40 male softball players (40 Softball Male players of different faculties run by Bharatiya Mahavidyalaya, Amravati) were selected as a sample. The age of the subjects were ranging between 18-25 years to all the subjects and all of them voluntarily agreed to the test and training programme. All these subjects was equally distributed in equal numbers in to homogeneous groups, and named as experimental (A) and control (B) groups the experiment group has under gone the training programme for a period of six weeks. The data on selected criterion based on the test of hitting the ball on pitching on that pitching. On that pitching 3 balls are recommended to each one and longest hit was recorded before and at the end of the six weeks experimental programme. To find out the training effect, t-test was employed to determine the significant mean difference between pre-test and post-test score of both groups. The data was further treated with t-test, to find out the significant difference in between the post-test scores of experimental and control group. The level of significance was set at 0.05 level of confidence. The difference between the pre-test and post-test means of control group did not show any significant difference as the calculated t value of 2.262 at 0.05 level of confidence. The difference between the pre-test and post-test mean of experimental group was significant at 0.05 level. As the calculated t value of 3.051 was greater than the tabulated t 0.05 (9) of 2.262. The finding of the table revealed that there was a significant improvement in experimental group while compared with control group, because the obtained t-ratio value of 2.969 was greater than that of tabulated t value of 2.262 at 0.05 level confidence. The gain in the performance by the selected subjects of experimental group may be due to the nature of training and practice for six weeks which required by the development of hitting performance of college softball players.

■ Key Words : Exercises, Hitting, Performance, Softball

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Sports have become part and parcel of the modern life as the millions participate in it to derive the benefits. In initial stage, softball nature. Softballs the most popular and ancient game in European countries. It is a game which played for 1 run and for that 1 run we need stamina, strength, power, agility, flexibility, reaction-time, speed etc.

and therefore appeals to youth world over. Softball is a game which requires a high level of physical fitness and perfection in skills as to contribute one's best. Paul (1978) conducted a study to determined the effect of circuit training exercises on board jump performance on 43 women students. The six week circuit training having the exercises *i.e.* shuttle run,

step-up and down ordinary baithak's vertical jump was given. To analyze the data the t-test were applied and it was conducted that there is a significant improvement to the broad jump. Severio (1966) studies the effect of warm-up upon accuracy in football passing twenty university students were divided in to four groups of five each and were tested in rotation following mental, related unrelated and no warm-up. The K of 2.62 for a single factor with repeated measures analysis of variance showed on significant effect of wam-up on accuracy.

Hanpton (1976) found the relative effects of selected warm-up exercises on sstrength, agility, flexibility and Power. Researcher had taken 90 college-men as subjects. They were tested in five volleyball classes before and after ten weeks of activity. Activity involving 4 or 8 minutes of isometric of claiathenic activity per class period. No significant difference among treatments result except for dipping strength.

### **Objective of the study :**

The objectives of this study was to determine the effect of some selected exercises on the hitting performance of college softball players.

### **Significance of the study :**

The study would help to know the physical fitness of the youths of players and non players.

- The study would help to softball players to improve their hitting performance.
- Players would come to know their hitting ability and according practice the prescribed exercise to develop the hitting ability.
- Suggest the ideal physical training programme to achieve the objective of youth physical fitness.
- The study would help to fix the new norms and standards in the light of the performance of the players.

### **Hypothesis :**

It was hypothesized that there might be significant effect of some selected exercises on the hitting performance in softball.

## **■ METHODOLOGY**

For the purpose of this study 40 Male Softball players different faculties run by Bharatiya Mahavidyalaya, Amravati. Subjects were selected by using simple random sampling. The Data pertaining to this study was collected on the selected subjects were acted as a sources of data. The age of the selected subject was ranging between 18 to 25 years. All the 40 subjects were divided in to two groups, 20 in each group, experimental group and control group. Experimental group was given training programme, whereas,

no specific training was given to the control group. The data was collected by using test of hitting the ball on pitching three balls to each one and longest hit was recorded before and after the pitching which was used not allowed to do slow and fast pitcher during test. It is suggested to have the same pitcher to all the tested players. Research scholar measured their hitting performance. The training programme was administered for six weeks, four days in a weeks. Whereas, control group was undergoing regular physical activities. The training load was increased progressively after every week. After recording the performance of softball players, the training programme for the experimental group was carried out for six week in morning session for 35 to 40 minutes approximately. The training days were Monday, Wednesday, Friday and Sunday. The subjects performed two exercises in a session one for hand and one weight exercises 3 set each with 1 min recovery.

The researcher used the following specific exercises for collection of data during the test.

### **Specific exercises :**

- Sit ups
- Pull-ups
- Push-ups
- Bench press
- Arm curling
- Bent-over rowing
- Bent-arm pull over and
- Reverse wrist curl.

## **■ OBSERVATIONS AND DISCUSSION**

To find out the significance of difference between pre and post-test means of two groups 't' test was employed. Considering the suitability the data were collected by administrating the test of hitting the ball on pitching that pitching to all the subject of both the groups prior to training programme and immediately after six weeks of training programme and was recorded in meters.

To test the hypothesis the level of significance chosen was 0.05 level of confidence, which was considered adequate and reliable for the purpose of this study.

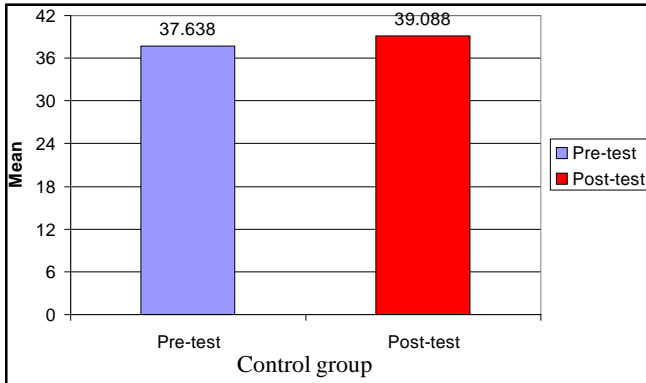
From Table 1 it was reveal that their is no significant difference found between pre-test and post-test of control group because the calculated  $t = 0.974$  which was less than the tabulated  $t = 2.093$  at 0.05 level of confidence and 19 degree of freedom. Johnson and Nelson, 1969; Kensal, 2008; Maxine and Stewart, 1985 and Menayar, 1963 also worked in the effect of exercises on the performance of college players.

From Table 2 it was reveal that their is significant difference found between pre-test and post-test of experimental group because the calculated  $t = 2.592$  which

**Table 1 : Summary of means, standard deviation, standard error mean difference and 't'-ratio between pre-test and post-test of control group**

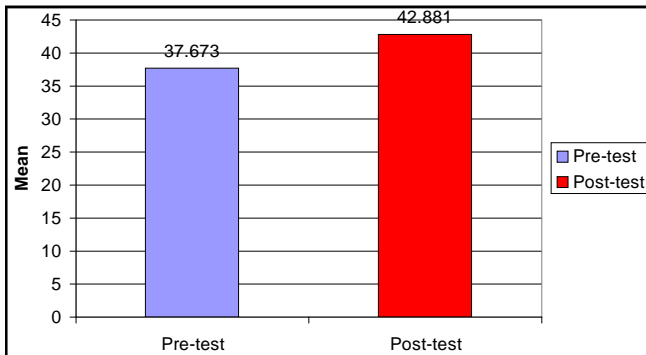
Test	Mean	SD	Mean difference	S.E.	't' ratio
Pre-test	37.638	4.771	1.450	1.489	0.974*
Post-test	39.088	46.43			

\* indicates of significance of values at P=0.1, respectively  
Tabulated  $t_{0.05(19)} = 2.093$

**Fig. 1 : Showing mean difference between pre-test and post-test of control group****Table 2 : Summary of means, standard deviation, standard error mean difference and 't'-ratio between pre-test and post-test of experimental group**

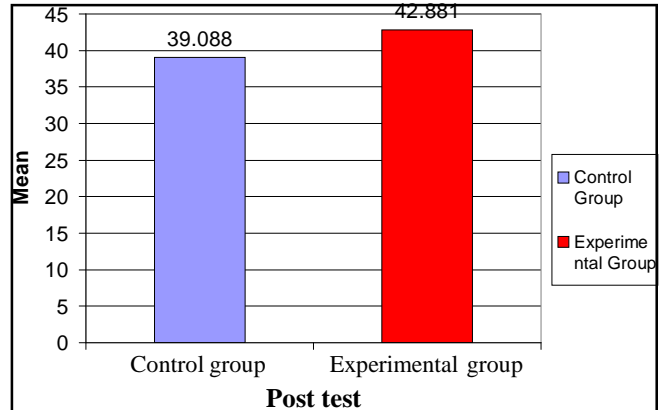
Test	Mean	SD	Mean difference	S.E.	't' ratio
Pre-test	37.673	6.461	5.145	1.985	2.592*
Post-test	42.881	6.087			

\* indicates of significance of values at P=0.1, respectively  
Tabulated  $t_{0.05(19)} = 2.093$

**Fig. 2 : Showing mean difference between pre-test and post-test of experimental group****Table 3 : Summary of means, standard deviation, standard error mean difference and 't'-ratio between control and experimental groups of post-test**

Groups	Mean	SD	Mean difference	S.E.	't' ratio
Control Group	39.088	4.643	3.730	1.712	2.179*
Experimental group	42.881	6.087			

\* indicates of significance of values at P=0.1, respectively  
Tabulated  $t_{0.05(38)} = 2.024$

**Fig. 4 : Showing mean difference of post-test between control group and experimental group**

was greater than the tabulated  $t = 2.093$  at 0.05 level of confidence and 19 degree of freedom.

From Table 3 it was reveal that their is significant difference found in post-test between control and experimental groups because the calculated  $t = 2.179$  which was greater than the tabulated  $t = 2.024$  at 0.05 level of confidence and 38 degree of freedom.

Insignificant difference found between pre-test and post-test of control group ( $t = 0.974 < \text{Tab } t_{0.05(19)} = 2.093$ ) because training was not given to the control group.

Significant difference found between pre-test and post-test of experimental group because training was given to the experimental group ( $t = 2.592 > \text{Tab } t_{0.05(19)} = 2.093$ ) which shows the improvement in hitting performance in softball.

Significant difference observe in post-test ( $t = 2.179 > \text{Tab } t_{0.05(38)} = 2.024$ ) of control and experimental groups because training was given to the experimental group which shows the improvement in hitting performance in softball.

After the statistical analysis, the finding of related that the post-test mean performance of experimental group has shown significant improvement while comparing with pre-test mean performance as well as post-test mean performance of the control group (Berger, 1962; Best and Kahn, 1992; Bowers and Fox, 1992; Bucher and West, 1987; Bud, 1976; Burno, 1968 and Harold and Megee, 1971). The significant improvement may be attributed to the nature of training, as the training programme was consisted of different related exercise like sit-ups, Pull-ups, Bench Press, Rowing Exercises, reverse wrist curl and so on. These exercises are mainly practiced by the players to improvement in the performance may be because the of regular exercise might have developed the stamina, strength, power, reaction time and agility through which the hitting performance improved significantly.

The researcher hypothesized that there may be a significant effect of selected exercise on the hitting



performance in softball. The result of the study *i.e.* the statistical analysis disclosed that selected exercise and training programme improve hitting performance in softball. Hence, it can be concluded that the hypothesis of the researcher stand accepted. Similar results were also obtained by Phillips and James (1979); Potter *et al.* (1999); Singh (2006) and Wolbers *et al.* (1956).

#### Conclusion :

Selected exercise on experimental group shown significant improvement in softball. The greater improvement in the test performance gained by the experimental group after six week of training programme, while compared with the control group.

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