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**GRT** **A STUDY ON SHOULDERS STRENGTH OF HAND  
BALL AND BASKETBALL INTER COLLEGE  
MALE PLAYERS RANI CHANNAMMA UNIVERSITY BELGAUM**

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**Abstract:-**The shoulder is a very important part of the body. Not only does the shoulder make your upper body appear to be wider especially good for bodybuilders, but if not trained correctly, it could give you problems for the rest of your life. The key to building massive shoulders is to understand how the shoulder works and how to keep it healthy. The shoulder is the most movable joint in the body but is very unstable. The shoulder itself is a ball and socket joint. The ball of the shoulder is the head of the humerus the socket portion of the shoulder is called the glenoid where arthritis in the shoulder forms. On top of the ball and socket is a process called the acromion where bone spurs can form. Next to the acromion is the acromioclavicular joint, also called the AC Joint (this is a common place for shoulder separations). This ball and socket joint allows for the most range of motion out of all the joints in the body.

**Keywords:** Shoulder strength, Volleyball, Handball.

**INTRODUCTION :-**

The purpose of the study was to compare the shoulder strength of Rani Channamma University intercollegiate Handball players and Basketball male players. The study was restricted to Handball and Basketball players. This study was delimited to Rani Channamma University Inter Collegiate players. The study was further delimited to male players. The study confined to the age group of 18-28 years. The study was further confined to the shoulder strength only. The study was restricted to pull ups and pushups field tests. Geographical condition and dietary habits were not controlled. It is one of the limitations of the study. No motivational technique was used to gather the data is another limitation of the study. Each test has its own limitation. There will be a significant difference between Rani Channamma University intercollegiate Handball and basketball male players in shoulder strength.

**STRENGTH**

The quality or state of being strong; ability to do or to bear; capacity for exertion or endurance, whether physical, intellectual, or moral; force; vigor; power; as, strength of body or of the arm; strength of mind, of memory, or of judgment Strength refers to a muscle's ability to generate force against physical objects. In the fitness world, this typically refers to how much weight you can lift for different strength training exercises. The type of resistance can include dumbbells, barbells, resistance bands, machines, cables or your own body. When lifting heavy weight, you increase strength, muscle size and connective tissues such as ligaments and tendons.

Strength is the ability to achieve any goal in your life in a loving, honest, truthful, efficient and direct way.

Strength is the ability to overcome resistance or to act against resistance.  
Power used to overcome resistance.  
Capacity or power for work or vigorous activity.  
The ability to exert maximum force contraction of your working muscles.

## COMPARATIVE STUDY

A study in which a participant is randomly assigned to one of two or more different treatment groups for purposes of comparing the effects of the treatments. Positive is the ordinary form of a word, with comparative conveying a sense of greater intensity of the adjective and superlative reflecting the greatest intensity of the adjective. You use comparative to show that you are judging something against a previous or different situation. For example, comparative calm is a situation which is calmer than before or calmer than the situation in other places.

### Players

To occupy oneself in amusement, sport, or other recreation.  
One who participates in a game or sports.  
Intercollegiate players

Sports played at the amateur level, between colleges. This study will help to compare the Shoulder strength of Handball and Basketball male players. The study will be a guide to coaches and physical education teachers for picking up talented players for Handball and Basketball game. It may help in determining the player's strength and weakness in particular component. It may help to chalk out proper training programmed for Handball and Basketball male players. This study will be useful to screening and selecting the players.

## METHODOLOGY

The study was designed to compare the shoulder strength between the Rani Channamma University Inter collegiate handball and basketball male players. In order to achieve this purpose, forty handball players and forty basketball male players were selected from Rani Channamma University Inter-Collegiate Tournaments. The age subjects of the subjects range from 18-28 years. Players shoulder strength was tested with the help of Pull ups and push up field tests.

**Description of test:** - 1. Pull-Up Test:

### Purpose:

This test measures shoulders strength.

### Equipment required:

Horizontal overhead bar, at an adequate height so that the subjects can hang from  
With arms fully extended and not touching the floor.

### Procedure:

The bar was located at a height so that the feet of the tallest subject do not touch the ground while hanging on the chinning bar. The subject was asked to hang from the bar by his hands with forward grip and to chin up by pulling himself up until his chin is above the bar. Then he lowers the body until his arms were straight and was asked not to kick, jerk or use a kip motion. If he does not straighten his arms completely when lowering the body or if he kicks, jerks or kips (keeping one's chin on the bar) in performing the movement, then half counts were recorded. Only four half counts were permitted. Number of pull-up were recorded has scores.

### 2. Push-up Test

#### Purpose:

This test measures shoulder strength.

#### Equipment required:

Floor mat.

#### Procedure:

The subject was in prone position on the floor the body must be straight and legs together. He straightens his knees and

places hands on the floor to his shoulder width. He pushes up to a position with the arms are straight and the weight is supported only on the hands and legs. His body must be in a straight line from head to toes. He must not bend his hips or round or hallow his back. Next he bend his arms until his chest touched floor, legs or waist should not be permitted to touch the weight continues to be supported by the arms and legs. The entire exercise is repeated continuously as many times as possible. Number of push-up were recorded has scores.

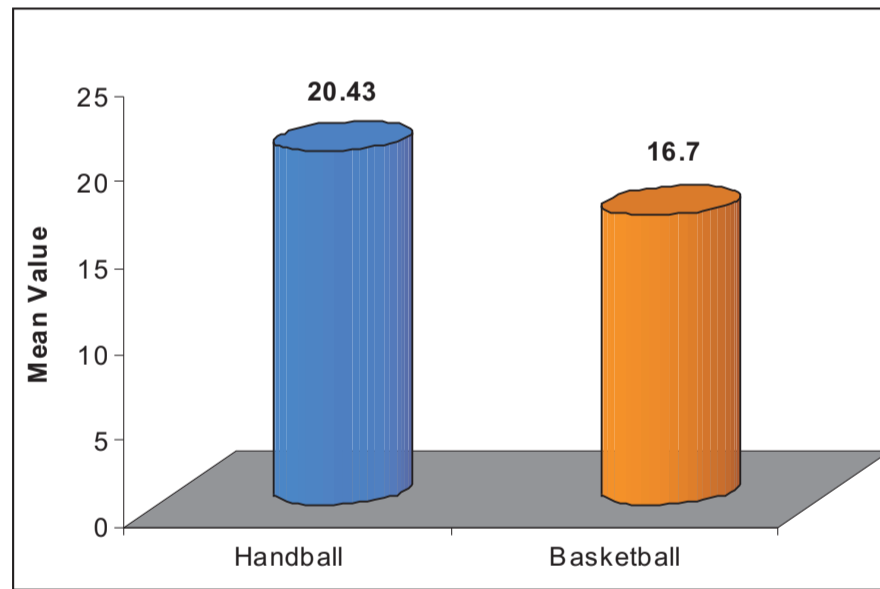
**THE DATA**

The purpose of this study was to compare the shoulder strength of Rani Channamma University Inter Collegiate handball and basketball players. To achieve this purpose, the data collected for this study were put to statistical analysis't' test. The results are presented in this chapter. For this study, forty handball players and forty basketball male players were selected from Rani Channamma University inter collegiate tournament. They were subjected to two different field tests to assess shoulder strength. The tests were conducted by using standardized procedure. Mean, standard deviation and't' test value of the shoulder strength is presented in the following tables.

**Table-1**  
**SHOWING THE MEAN VALUE, STANDARD DEVIATION AND**  
**'t' SCORE OF THE PUSH-UPS**

Sl. No.	Players	Sample size	Mean ±SD	't' value
1	Handball	40	20.4250± 9.29264	2.28*
2	Basketball	40	16.7000 ± 8.61186	

The above table shows the Mean value, Standard deviation and't' value of handball and basketball male players. In Push-Ups the calculated't' value 2.28 is greater than the critical't' value 1.68. So it is significant at 0.05 level of significance.



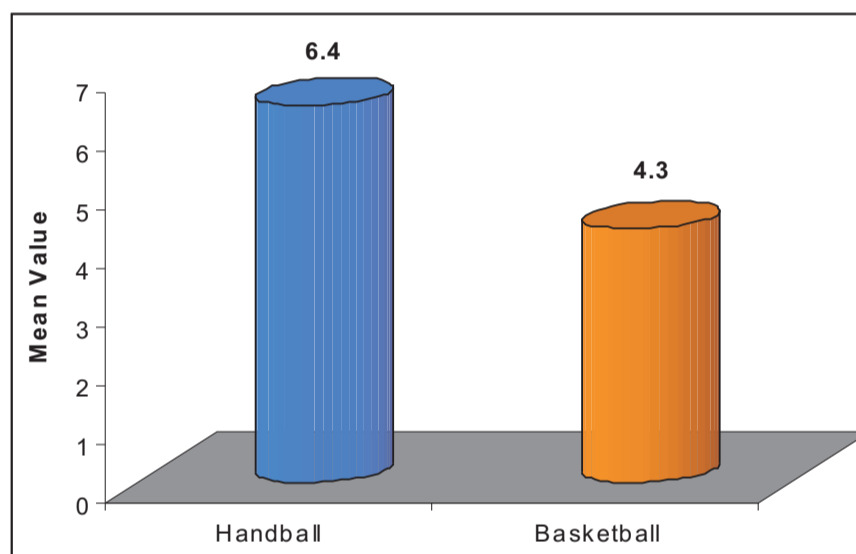
**Fig-1: GRAPHICAL REPRESENTATION OF MEAN VALUE OF THE PUSH-UPS**

**Table-2**  
SHOWING THE MEAN VALUE, STANDARD DEVIATION AND 't' SCORE OF THE PULL-UPS

Sl.No.	Players	Sample size	Mean $\pm$ SD	't' value
1	Handball	40	6.4000 $\pm$ 3.41790	2.81*
2	Basketball	40	4.3250 $\pm$ 2.86345	

Level of significance 0.05.

The above table shows the Mean value, Standard deviation and 't' value of handball and basketball male players. In Push-Ups the calculated 't' value 2.81 is greater than the critical 't' value 1.68. So it is significant at 0.05 level of significance.



**Fig-2: GRAPHICAL REPRESENTATION OF MEAN VALUE OF THE PULL-UPS**

**Table-3**  
SHOWING THE MEAN VALUE STANDARD DEVIATION AND 'T' SCORE OF HANDBALL AND BASKETBALL INTERCOLLEGIATE PLAYERS

Sl. No.	Name of the Test	Mean $\pm$ SD		't' value
		Handball players	Basketball players	
1	Push-ups	20.4250 $\pm$ 9.29264	16.7000 $\pm$ 8.61186	2.28*
2	Pull-ups	6.4000 $\pm$ 3.41790	4.4250 $\pm$ 2.86345	2.81*

The above the table indicates the Mean, standard deviation and 't' value of push-ups and pull-ups of handball and basketball male players. In that the 't' value in both the tests showed a significant difference. In pull-ups calculated 't' value 2.28 and pull-ups 2.81 are greater than the critical 't' value 1.68 at 0.05 level of significance.

**CONCLUSION**

On the basis of limitation of the study already cited the following conclusions were drawn. There was a significant

difference in shoulder strength between handball and basketball male players in both the tests which were administered to handball and basketball players. The handball players are significantly scored better in push-ups and pull-ups test. This showed that more shoulder strength required for the handball game than the basketball game because the use of shoulder is more, when compared to basketball game.

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