



# International Journal of Physical Education, Sports and Health

P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (ISRA): 4.69  
IJPESH 2016; 3(3): 636-638  
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www.kheljournal.com  
Received: 30-03-2016  
Accepted: 30-04-2016

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## Comparative study of health related physical fitness components of baseball and softball players

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### Abstract

The purpose of the present study was to compare the health related physical fitness components of baseball and softball players. The researcher took the male subjects for the study. The sources of the data were made from the softball and baseball players, who were participated in the inter-collegiate tournament of Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur during the session of 2015-2016. Sixty (60) subjects were selected for this study. Thirty (30) subjects were taken from softball while the remaining thirty (30) were taken from baseball game players. The 60 subjects were selected by the purposive sampling method. The data was analyzed and compared with the help of statistical procedures in which arithmetic mean, standard deviation, standard error of mean and students t-test were employed. It is concluded that baseball players were found significantly better in term of cardio respiratory endurance component of health related physical fitness as compared to softball players. This indicated that there was no significant difference in muscular strength, muscular endurance and flexibility of baseball and softball players. In overall numerical and statistical analysis the comparison of health related physical fitness between the baseball and softball players, it is found that there is no significance difference.

**Keywords:** health related physical fitness, softball and baseball players

### Introduction

Staying healthy and healthy helps in carrying out our daily tasks. If a person has an unhealthy mind, he cannot keep his body healthy. Good physical health helps us in times of trouble, while poor or poor physical health makes us more vulnerable and increases the risk of diseases for us. Health and wellness are a mixture of healthy living and healthy lifestyle. In order to be healthy and healthy, it is necessary to remain healthy along with physical health of the person. We must eat healthy food regularly and do physical exercise to stay physically healthy. However, we need to think positively to be mentally healthy. Sports are healthy. They are helpful in proper functioning of various body parts. By playing, the body exercises and the water stored in the body comes out in the form of sweat.

### Methodology

The researcher took the male subjects for the study. The sources of the data were made from the softball and baseball players, who were participated in the inter-collegiate tournament of Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur during the session of 2015-2016. Sixty (60) subjects were selected for this study. Thirty (30) subjects were taken from softball while the remaining thirty (30) were taken from baseball game players. The 60 subjects were selected by the purposive sampling method. Following equipment would be used for collection of data:

**Table 1**

Sr. No.	Criterion Variables	Test Items	Unit of Measurements
1.	Muscular Strength	Grip dynamometer	kilograms
2.	Muscular Endurance	Sit ups (Bent knees)	Counts
3.	Cardio Respiratory Endurance	12 - Min run /walk	Meters
4.	Flexibility	Sit and reach box	Centimeters

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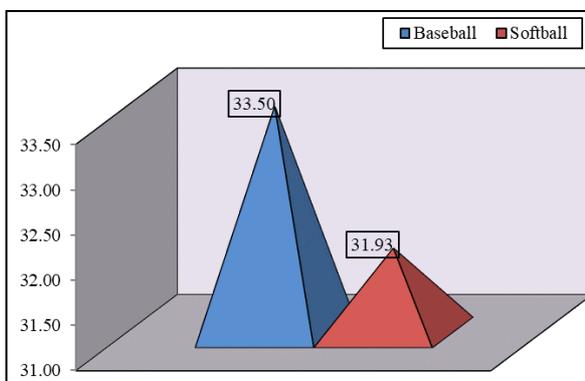
**Statistical analysis**

The data was analyzed and compared with the help of statistical procedures in which arithmetic mean, standard deviation, standard error of mean and students t-test were employed.

**Table 2:** Showing comparison between baseball and softball players in right hand grip strength

Group	N	Mean	SD	SE	MD	Ot	df	Tt
Baseball	30	33.50	8.82	2.02	1.57	0.775	58	2.00
Softball	30	31.93	6.71					

Table No.2 reveals that there is difference between means of baseball and softball players because mean of baseball is 33.50 which is greater than the mean of softball which is 31.93 and then the calculated value of 't' is found as 0.775, is less than tabulated 't' which is 2.00 at 0.05 level of significance. This shows mean of baseball players are having more right hand grip strength than softball players but statistically not significant.

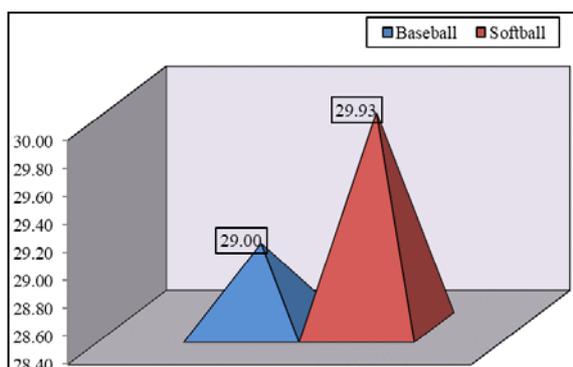


**Fig 1:** Mean of right hand grip strength between baseball and softball players

**Table 3:** Showing comparison between baseball and softball players in left hand grip strength

Group	N	Mean	SD	SE	MD	Ot	df	Tt
Baseball	30	29.00	5.14	1.39	0.93	0.669	58	2.00
Softball	30	29.93	5.65					

Table No.3 reveals that there is difference between means of baseball and softball players because mean of baseball is 29.00 which is less than the mean of softball which is 29.93 and then the calculated value of 't' is found as 0.669, is less than tabulated 't' which is 2.00 at 0.05 level of significance. This shows mean of softball players are having more left hand grip strength than baseball players but statistically not significant.

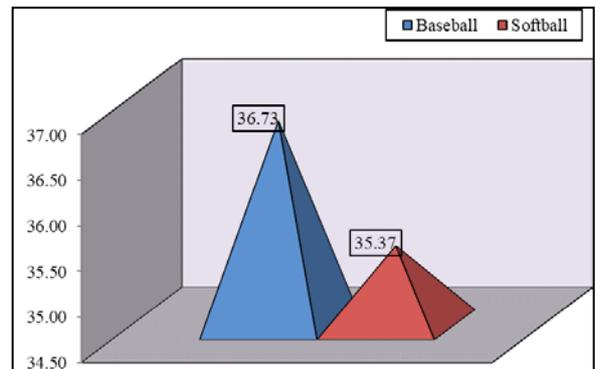


**Fig 2:** Mean of left hand grip strength between baseball and softball players

**Table 4:** Showing comparison between baseball and softball players in muscular endurance

Group	N	Mean	SD	SE	MD	Ot	df	Tt
Baseball	30	36.73	6.03	1.56	1.37	0.875	58	2.00
Softball	30	35.37	6.06					

Table No.4 reveals that there is difference between means of baseball and softball players because mean of baseball is 36.73 which is greater than the mean of softball which is 35.37 and then the calculated value of 't' is found as 0.875, is less than tabulated 't' which is 2.00 at 0.05 level of significance. This shows mean of baseball players are having more muscular endurance than softball players but statistically not significant.

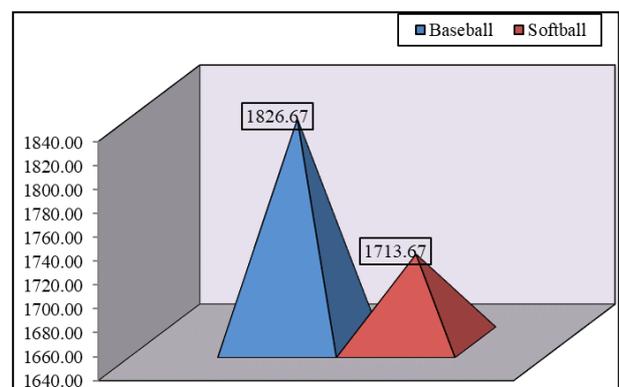


**Fig 3:** Mean of muscular endurance between baseball and softball players

**Table 5:** Showing comparison between baseball and softball players in cardio respiratory endurance

Group	N	Mean	SD	SE	MD	Ot	df	Tt
Baseball	30	1826.67	197.79	37.88	113.00	2.983	58	2.00
Softball	30	1713.67	62.68					

Table No.5 reveals that there is difference between means of baseball and softball players because mean of baseball is 1826.67 which is greater than the mean of softball which is 1713.67 and then the calculated value of 't' is found as 2.983, is more than tabulated 't' which is 2.00 at 0.05 level of significance. This shows mean of baseball players are having more cardio respiratory endurance than softball players.

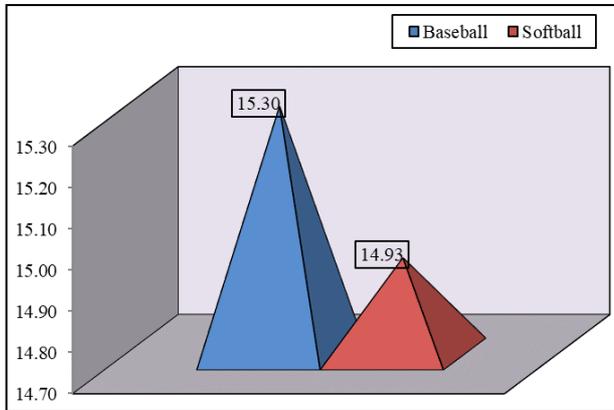


**Fig 4:** Mean of cardio respiratory endurance between baseball and softball players

**Table 6:** Showing comparison between baseball and softball players in flexibility

Group	N	Mean	SD	SE	MD	Ot	df	Tt
Baseball	30	15.30	3.97	0.90	0.37	0.406	58	2.00
Softball	30	14.93	2.95					

Table No.6 reveals that there is difference between means of baseball and softball players because mean of baseball is 15.30 which is greater than the mean of softball which is 14.93 and then the calculated value of 't' is found as 0.406, is less than tabulated 't' which is 2.00 at 0.05 level of significance. This shows mean of baseball players are having more flexibility than softball players but statistically not significant.



**Fig 5:** Mean of flexibility between baseball and softball players

### Conclusion

It is concluded that baseball players were found significantly better in term of cardio respiratory endurance component of health related physical fitness as compared to softball players. This indicated that there was no significant difference in muscular strength, muscular endurance and flexibility of baseball and softball players. In overall numerical and statistical analysis the comparison of health related physical fitness between the baseball and softball players, it is found that there is no significance difference. Regular physical activities and regular exercise are very important for people of all age groups, especially for the younger generation. Health and well-being brings happiness in life and helps a person to live a stress-free and disease-free life.

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