International Journal of Yoga, Physiotherapy and Physical Education
Online ISSN: 2456-5067; Impact Factor: RJIF 5.24
www.sportsjournal.in
Volume 2; Issue 4; July 2017; Page No. 102-103

Analysis of vertical jump among different ball games players

Sandeep Sangwan

Research Scholar, MDU, Rohtak, Haryana, India

Abstract

The present study has been designed to investigate the vertical jumping ability among different ball game players who participated at inter-university level. For accomplish the study total 80 ball game players (20 cricket, 20 football, 20 basketball and 20 hockey) were randomly selected as sample. All samples were selected from the MDU, Rohtak. The age of the subjects was ranged from 18-28 years. One-way analysis of variance method was applied for analyzing the data obtained from the present study if there were significant difference than the LSD post-hoc test was use to analyze the mean differences and their significance. For testing the hypothesis the level of significance was set at 0.05. We find out that cricket and football game players having more explosive power and strength comparison of basketball and hockey game players.

Keywords: vertical jump, cricket, basketball, football, hockey

Introduction

The vertical jump is the act of raising the highest center of gravity in the vertical plane only with the use of its own muscles; It is a measure of the extent to which an individual or athlete can move away from the ground to a stop. If you want a massive vertical jump, you must build a powerful lower body, a powerful upper body and a sound jump technique. Research into plyometric jumps found vertical jumps to be among the highest in terms of muscle recruitment power output, and ground reaction force produced. Fatigue has been studied in athletes for its effect on vertical jump performance and has fallen on basketball players, tennis players, cyclists, rugby players and healthy adults of both sexes.

Purpose of the study

The main purpose of the study is to compare the jumping ability among different ball games players.

Hypothesis of the study

There would be no difference in the jumping ability among different ball games players.

Research Process and Methodology

For this study 80 ball game players (20 cricket, 20 football, 20 basketball and 20 hockey) were selected from MDU, Rohtak who participated at inter-university level were randomly selected. The age of the subjects was ranged from 18-28 years.

Tool and Techniques

To measure the explosive power of the legs we used standing vertical jump was used and the difference between the standing initial reach and the best jump was recorded as score in centimeters.

Statistical Method

One-way analysis of variance method was applied for analyzing the data obtained from the present study if there were significant difference than the LSD post-hoc test was use to analyze the mean differences and their significance. For testing the hypothesis the level of significance was set at 0.05.

Table 1: Vertical jump

	Sum of squares	Df	Mean square	F	Sig.
Between Groups	465.25	3	155.08	4.94	.003
Within Groups	2385.50	76	31.38		
Total	2850.75	79			

An analysis of table -1 reveals that there is significant difference in vertical jumping ability among cricket, football, basketball and hockey inter-university players. Because significant value is less than level of significance which is 0.05 since the calculated significance value is found significant, therefore to determine the pair mean difference among the selected different levels LSD post hoc test was computed and its shows in table no 2.

Table 2: Mean Difference of Vertical Jumping Ability among Different Ball Game Players Throwing Ability

Grouping variable		Mean difference	Std. Error	Sig(p)
Cricket	Football	5.65*	1.77	.002
	Basketball	.20	1.77	.910
	Hockey	3.85*	1.77	.033
Football	Cricket	5.65*	1.77	.002
	Basketball	5.45*	1.77	.003
	Hockey	1.80	1.77	.313
Basketball	Cricket	.20	1.77	.910

	Football	5.45*	1.77	.003
	Hockey	3.65*	1.77	.043
	Cricket	3.85*	1.77	.033
Hockey	Football	1.80	1.77	.313
	Basketball	3.65*	1.77	.043

The post-hoc test result revealed that there is significant difference in vertical jumping ability among different ball game players. Significant difference was found between the cricket and football game players, basketball and hockey game players and cricket and hockey game players in their vertical jumping ability. Not much difference was found in vertical jumping ability between football and hockey games players. The mean values clearly shows that cricket and basketball players having more vertical jumping ability in comparison to football and hockey game players. The estimated mean value of the player's vertical jumping ability is illustrated below in Figure no 1.

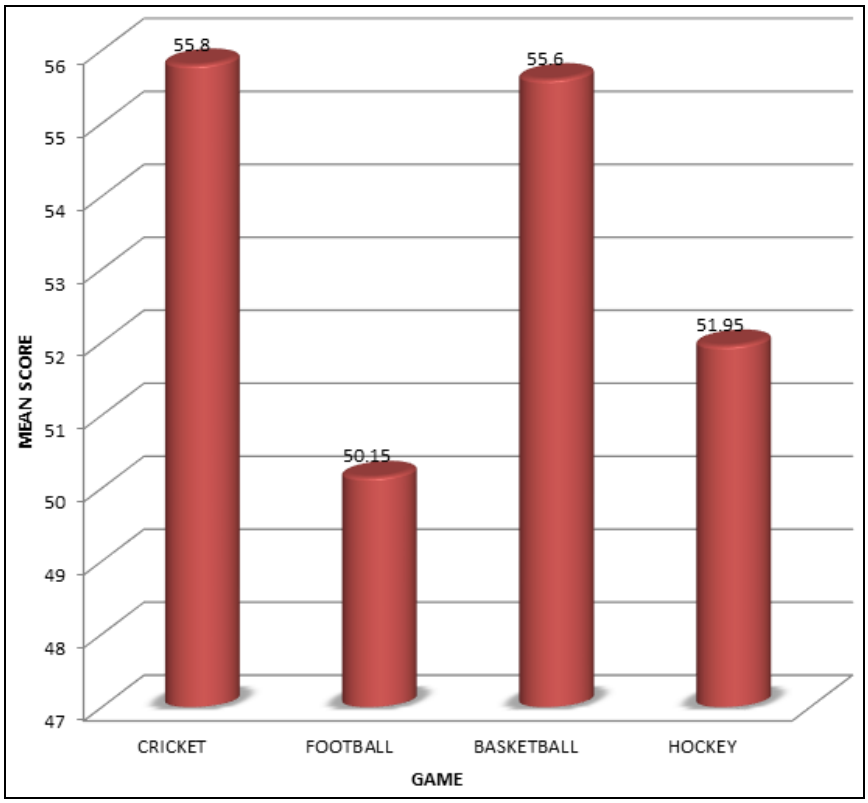

Fig 1: Mean Difference of Vertical Jumping Ability among Different Ball Game Players

Discussion on findings

The findings of the study are that there was significant difference in the obtained value of vertical jumping ability of different ball game players. Vertical jumping ability of cricket and football games players are significantly better than football and hockey inter-university game players.

Conclusion

On the basis of result obtained from the study, following conclusions are drowning:-

The data showed that significant difference observed in vertical jumping ability of different ball game players who participated at inter-university level. Significant difference was found between the cricket and football game players, basketball and hockey game players and cricket and hockey game players in their vertical jumping ability. We can say that cricket and football game players having more explosive power and strength comparison of basketball and hockey game players.

References

1. Donald KM. Measurement in physical education. Fifth edition, 1978, 139.
2. NFL Combine: Workouts and drills. Retrieved, 2014; 04:07.
3. Retriwed from http://www.stack.com/a/jump-training-plan.
4. Ebben WP, Fauth ML, Garceau LR, Petrushek EJ. Kinetic quantification of plyometric exercise intensity. Journal of strength and conditioning research. 2011; 25(12):3288-3298.
5. Knicker AJ, Renshaw I, Oldham ARH, Cairns SP. Interactive processes link the multiple symptoms of fatigue in sport competition. Sports Medicine. 2011; 41(4):307-328.