

Comparative Analysis of Selected Motor Fitness Components between Volleyball Players and Basketball Players of University Level

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Abstract – The world of games and sports has crossed many mile-stones as a result of different types of researches and a variety of scientific advancement in general and their application in the field of sports in particular. In the modern scientific age, athletes are being trained by highly sophisticated means for better achievements in their concerned sports. They are being exposed to the exercises and training methods which have proved beneficial for achieving higher standards.

INTRODUCTION

Performance in Volleyball requires high level of coordination between various body parts and very good level of physical and mental fitness. Volleyball players need to be agile him/her to rapid change direction without losing momentum and should have endurance to perform sustained activity for period of long duration.

Speed is defined as the capacity of moving a limb or parts of the body's lever system or the whole body with the greatest possible velocity speed of whole body movement, or of individual joint actions, is a decisive factor of successful performance in many sports. While speed is frequently the product of coordinated sequence of strength expression of joint actions. The development of speed is not synonymous with the development of strength.

METHODOLOGY

Twenty subjects were randomly selected from Jiwaji University, Gwalior for this study, out of which ten subjects were from Basketball group and ten subjects from Volleyball players. The average age of the subjects was 22 years. The subjects represented Jiwaji University in the Inter University and All India, both in Volleyball and in Basketball. All of them residing in urban and rural areas. They came from different socio-economic groups. The criterion vascular Endurance, Agility, Strength of Muscles and Hand Reaction Time as measured by the "AAHPER Youth Fitness Test" and Nelsons Reaction Time Test.

- Speed
- Agility
- Strength (Leg & Arm)

- Cardiovascular Endurance

- Hand Reaction Time

To compare the motor ability of a "Basketball" in relation to a "Volleyball Player" "t" test was used. The level of significance was set at .05 level.

RESULT AND DISCUSSION

The significance of mean difference between Volleyball players and basketball on different variables is presented in table 1.

Table - 1

Significance of Mean Difference between Volleyball players and basketball on different variables

S. No.	Criterion variables	Mean		M.D.	S.E.	"t" ratio
		Basket ball players	Volleyball players			
1.	50 Meter Dash	6.90sec.	7.50sec.	0.60	0.51	0.20
2.	Standing Broad Jump	2.60 mt.	2.34mt.	0.26	0.52	0.22
3.	Shuttle Run	10.12 sec.	10.05 sec.	0.07	0.48	0.02
4.	600 Meter Run	2.03 min.	2.08 min.	0.05	0.34	0.02
5.	Putting Shot in backward direction	6.88 mt.	5.29 mt.	1.59	0.69	2.99*
6.	Hand Reaction Time	2.16 sec.	2.23 sec.	0.07	0.82	0.03

*Significant at 0.05 levels with 18 degree of freedom. (t=2.10)

An examination of table 1 clearly reveals that there is significant difference in the performance of putting the shot in backward direction between Basketball players and Volleyball players as the obtained 't' value of 2.99 is greater than the tabulated value of 2.10 at .05 level of significance.

It is further revealed that no significant differences were found between sprinters and Volleyball players in performance in 50 mt. dash, standing broad jump, shuttle run, 600 mt. run and hand reaction time as the obtained value of 't' i.e. 0.20, 0.22, 0.02 and 0.03 respectively for each of the above test was lower than the tabulated value of 't' i.e. 2.10 required to be significant at .05 level of confidence with 18 degree of freedom. The findings of the present study are further supported by Doherty, Manios, Kafatos and Mamalakis Michael and others.

FINDINGS

The findings have revealed that Basketball players have more arm strength than the Volleyball player and it attributed to the nature of activity in which they cover 100 & 200 mt. distance with top speed. To get high speed, arms movement plays important role in Basketball game . And hence the arm strength of Basketball players which found to be significantly better than the Volleyball player.

The findings revealed that there was no significant difference in case of speed, leg strength, agility, cardiovascular endurance and hand reaction time between Basketball players and Volleyball players of both the games and this may be due to the reason that they perform similar kind of physical movements which require them to be more expensive and speedy.

CONCLUSION

On the basis of the analysis of data the limitations of the present study, the following conclusions may be drawn:

1. The Basketball players are batter then the Volleyball players in their performance of Arm Strength.
2. There was no significant difference in case of speed, leg strength, agility, cardiovascular endurance and hand reaction time performance between Basketball players and Volleyball players.

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