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Comparative study on grip strength and agility between volleyball and cricket players

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Abstract

The purpose of the study is to comparative the selected physical fitness variables of volleyball and cricket players. To achieve the purpose of the study 20 volleyball and 20 cricketers from Coimbatore district. Their age ranged from 20 to 25 years. The subjects were randomly assigned to two equal groups. Group-I (n=20) underwent volleyball players and Group – II (n=20) cricket players. The following tests were performed to measure the variables: hand dynamometer was used to measure the grip strength and 4x10 meter test was used to measure the agility. The data collected from the subjects were statistically analyzed using 't' test to find out whether significant mean difference existed at 0.05 level of confidence. The result of the study was significant difference in the stress between the volleyball and cricket players. The grip strength level is better to the cricket players compare with the volleyball players. Agility strength level is better to the volleyball players compare with the cricket players.

Keywords: Grip strength, agility, volleyball and cricket players

Introduction

Volleyball

Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules. It has been a part of the official program of the Summer Olympic Games since 1964. The complete rules are extensive. But simply, play proceeds as follows: a player on one of the teams begins a 'rally' by serving the ball (Tossing or releasing it and then hitting it with a hand or arm), from behind the back boundary line of the court, over the net, and into the receiving team's court. The receiving team must not let the ball be grounded within their court. The team may touch the ball up to 3 times but individual players may not touch the ball twice consecutively. Typically, the first two touches are used to set up for an attack, an attempt to direct the ball back over the net in such a way that the serving team is unable to prevent it from being grounded in their court. The rally continues, with each team allowed as many as three consecutive touches, until either (1) a team makes a kill, grounding the ball on the opponent's court or winning the rally; or (2) a team commits a fault and loses the rally. The team that wins the rally is awarded a point, and serves the ball to start the next rally.

Cricket

Cricket is a bat-and-ball sport contested by two teams, usually of eleven players each. A cricket match is played on a grass field, roughly oval in shape, in the centre of which is a flat strip of ground 22 yards (20.12 m) long, called a pitch. At each end of the pitch is a construction of three parallel wooden stakes (Known as stumps) driven vertically into the ground, with two small crosspieces (Known as bails) laid across the top of them. This wooden structure is called a wicket. The bowler, a player from the fielding team, hurls a hard, fist-sized, cock-centered, leather-covered ball from the vicinity of one wicket towards the other. The ball usually bounces once before reaching the batsman, a player from the opposing team. In defense of the wicket, the batsman plays the ball with a wooden cricket bat. Meanwhile, the other members of the bowler's team stand in various positions around the field as fielders, players who retrieve the batted ball in an effort to stop the batsman scoring, and if possible to get him or her out.

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The batsman, if he or she does not get out (for example if the bowled ball hits the wicket, or if a fielder catches the ball off the bat before it bounces), may run between the wickets, exchanging ends with a second batsman (the non-striker), who has been waiting near the bowler’s wicket. Each completed exchange of ends scores one run, and the match is won by the team that scores more runs. The term “referee” originated in association football. Originally the team captains would consult with each other in order to resolve any dispute on the pitch. A referee or simply ref is the person of authority in a variety of sports who is responsible for presiding over the game from a neutral point of view and making on-the-fly decisions that enforce the rules of the sport, including sportsmanship decisions such as ejection. The official tasked with this job may be known, in addition to referee, by a variety of other titles as well (Often depending on the sport).

Methodology

To achieve the purpose of the study twenty (20) volleyball players and twenty (20) cricket players were selected from Coimbatore district. The age of the subjects ranged between 20 and 25 years. The following tests were performed to measure the psychological variable:-To measure the following variables hand dynamometer was used to measure the grip strength and 4x10 meter test was used to measure the agility.

Statistical techniques

The data was collected & statically examined to compare the grip strength and agility of volleyball players and cricket players. The “t” ratio was calculated to find out the significance difference if any in all the cases to test significance of 0.05 level of confidence was used.

Table 1: Computation of ‘t’ ratio on grip strength between volleyball players and cricket players

Variable	Group	Mean	SD	‘t’
Grip strength	Volleyball	50.13	1.09	5.28
	Cricket	52.33	0.98	

*Significant at 0.05 level 2.093(1, 19)

The table I reveals that the computation of ‘t’ ratio on grip strength between volleyball players and cricket players. The mean value of volleyball players and cricket players were 50.13 and 52.33 sec respectively. The observed t value of flexibility 6.05 was greater than the table value of 2.093 for the degrees of freedom 1 and 19 at 0.05 level of confidence. Since, it was found to be statistically significant.

The result inferred that there is a significant difference over grip strength between volleyball players and cricket players.

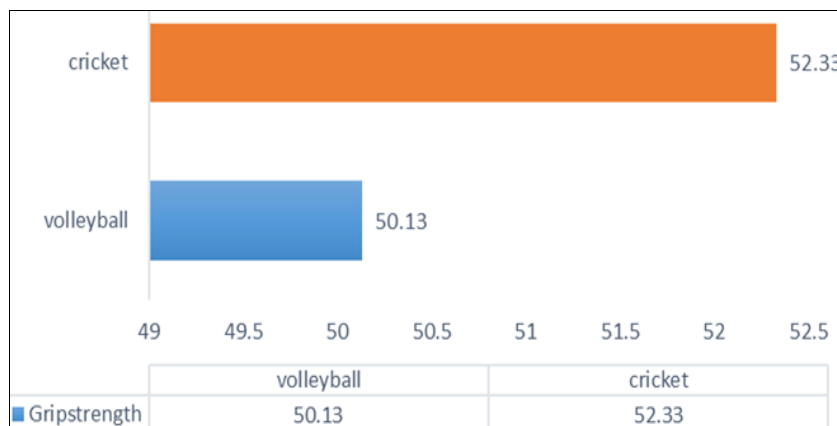


Fig 1: Gripstrenght

Table 2: Computation of ‘t’ ratio on agility between volleyball players and cricket players

Variable	Group	Mean	SD	‘t’
Agility	Volleyball	11.07	1.18	10.48*
	Cricket	12.26	1.23	

*Significant at 0.05 level 2.093(1, 19)

The table I reveals that the computation of ‘t’ ratio on agility

between volleyball players and cricket players. The mean value of volleyball players and cricket players were 12.26 and 11.07 sec respectively. The observed t value of agility 10.48 was greater than the table value of 2.093 for the degrees of freedom 1 and 19 at 0.05 level of confidence. Since, it was found to be statistically significant.

The result inferred that there is a significant difference over agility between volleyball players and cricket players.

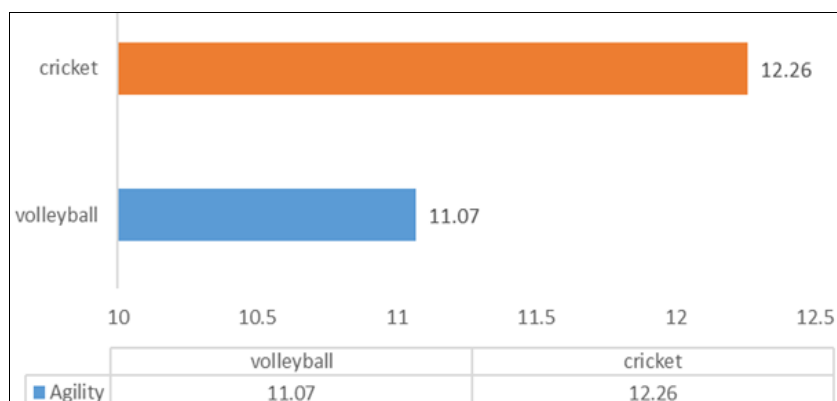


Fig 1: Agility

Discussions on findings

The purpose of the study was to compare the grip strength and agility of volleyball and cricket players. For the purpose of the study grip strength and agility were selected as variables. The results of the study indicated that there was a significant difference over grip strength and agility for difference between volleyball players and cricket players. The findings of the present study had similarity with the findings of the investigations referred in this study.

Shukla *et al.*, (2020) ^[7] results and findings it was concluded that cricket players have better balance in comparison to soccer and field hockey male intercollegiate players. Kandhar (2020) the purpose of the study is to find out the comparison of fitness test among the basketball and football players.

The result of the present study indicates that volleyball players shows better performance on agility when compare to cricket players. Cricket players shows better performance on grip strength when compare to volleyball players.

Conclusion

From the results of this study, the following conclusions were drawn

1. It was concluded that there was a significant mean difference in grip strength between volleyball and cricket players.
2. It was concluded that there was a significant mean difference in agility between volleyball and cricket players.
3. Further it was concluded that the volleyball players possess better agility then cricket players.
4. Further it was concluded that the cricket players possess better then grip strength than volleyball players.

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