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Standardization of skills tests norms in beach volleyball: A study

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Abstract

A Study was conducted to know the impact of Beach volleyball, or sand volleyball, is an Olympic team played by two teams of two players on a sand court divided by a net. As in indoor volleyball, the object of the game is to send the ball over the net in order to ground it on the opponent's court, and to prevent the same effort by the opponent.

Keywords: volley ball, psychology

Introduction

A team is allowed up to three touches to return the ball. The ball is put in play with a service—a hit by the server from behind the rear court boundary over the net to the opponents. The rally continues until the ball is grounded on the playing court, goes "out", or is not returned properly. The team winning a rally scores a point and serves to start the following rally. The four players serve in the same sequence throughout the match, changing server each time a rally is won by the receiving team. Originating in Southern California (U.S), beach volleyball has achieved worldwide popularity

Review of Literature

Bahr R, Reeser J C conducted a study on beach volleyball. The discipline of beach volleyball may be even safer than the indoor variety. Bahr and Reese investigated the injury pattern at the professional level—that is, athletes competing on the FIVB World Tour—documenting an acute time-loss injury rate of 3.1/1000 competition hours (2.9 for men and 3.3 for women) and 0.7/1000 training hours (0.8 for men and 0.7 for women). Knee injuries (30%), ankle injuries (17%), and finger injuries (17%) accounted for more than half of all acute time-loss injuries. However, both male and female players reported a high prevalence of overuse injuries of the lower back, knee, and shoulder (25% of which resulted in missed training or competition). Volleyball, whether played indoors or on the beach, is therefore not a particularly dangerous sport. The published data suggest that the injury pattern is similar for men and women, and that volleyball athletes appear to be at greatest risk of acute inversion sprains of the ankle and overuse injuries of the knee (predominantly patellar tendinopathy) and shoulder (impingement and functional instability). Although it should be noted that volleyball athletes are at risk of other injuries, including lower back pain, finger sprains, and contusions and abrasions, the remainder of this review will discuss strategies for preventing the three most common volleyball related injuries.

Verhagen E A, Van der Beek A J, Bouter L M has conducted a study on vast majority of volleyball related ankle injuries are contact related inversion sprains. Indoors, ankle sprains occur most often at the net, as the result of contact between the attacker and the opposing blocker (s) across the centre line. Research has consistently revealed that approximately half of all such sprains occur when a blocker lands on the foot of an opposing attacker who has legally penetrated the centre line. Often the attacker is trying to "catch up" to a set that is too low and too close to the net, and his momentum and jump trajectory takes him across the centre line. The blocker, who for tactical reasons jumps later than the attacker, may land on the attacker's foot within this "conflict zone" under the net. Approximately one quarter of indoor volleyball related ankle sprains occur when a blocker lands on a teammate's foot when participating in a multi-person block.

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Consequently, middle blockers and outside attackers are at greatest risk of ankle sprains, and setters and defensive specialists are at comparatively low risk. The leading risk factor for ankle inversion injury is a history of a prior ankle sprain involving the same ankle. Up to 80% of sprains involve previously injured ankles. Furthermore, the risk of injury is greatest within the first six months of the previous injury. Athletes who have sustained an ankle inversion injury within the previous 6–12 months are about 10 times more likely to suffer a repeat injury than those without a history of recent injury. NCAA ISS data confirm Bahr's finding that the rate of ankle sprains during competition is nearly twice the practice related injury rate, presumably because of the more aggressive net play that occurs during matches. Ankle sprains occur less often outdoors than indoors. It is not well understood whether this is the result of reduced player density in the beach game (thereby reducing the risk of landing on an opponent's or a teammate's foot), if it is due to the biomechanical effects of playing on soft sand, or whether it results from a combination of these (and possibly other) factors. Lastly, there is at present no compelling evidence in the volleyball literature to suggest that sex is a significant risk factor for acute ankle injuries. However, in 2005 the NCAA ISS began collecting injury

data on men's collegiate volleyball, which should eventually permit a more definitive analysis of the effect of sex on the risk of volleyball related ankle sprains (as well as other injuries). Several intervention strategies have been proposed in an effort to reduce the risk of ankle sprains, including modification of the centre line rule, improving attacker spike approach technique, the quality of rehabilitation after the index (or most recent) sprain, and the use of an external support (tape or brace) in an effort to protect the ankle from injury. Each of these strategies will be considered in turn.

Methodology

In the preceding chapter, the researcher has presented the review of related literature, the problem, the significance of the problem, the objectives, the hypothesis, the delimitations and the limitations of the study. In the present chapter, the discussion on the methodology of the research is presented. This chapter focuses on the design of the study, the sample considered, tools used, the methods employed for data collection and the statistical techniques adopted.

Design of The Study

The design of the present study is depicted below.

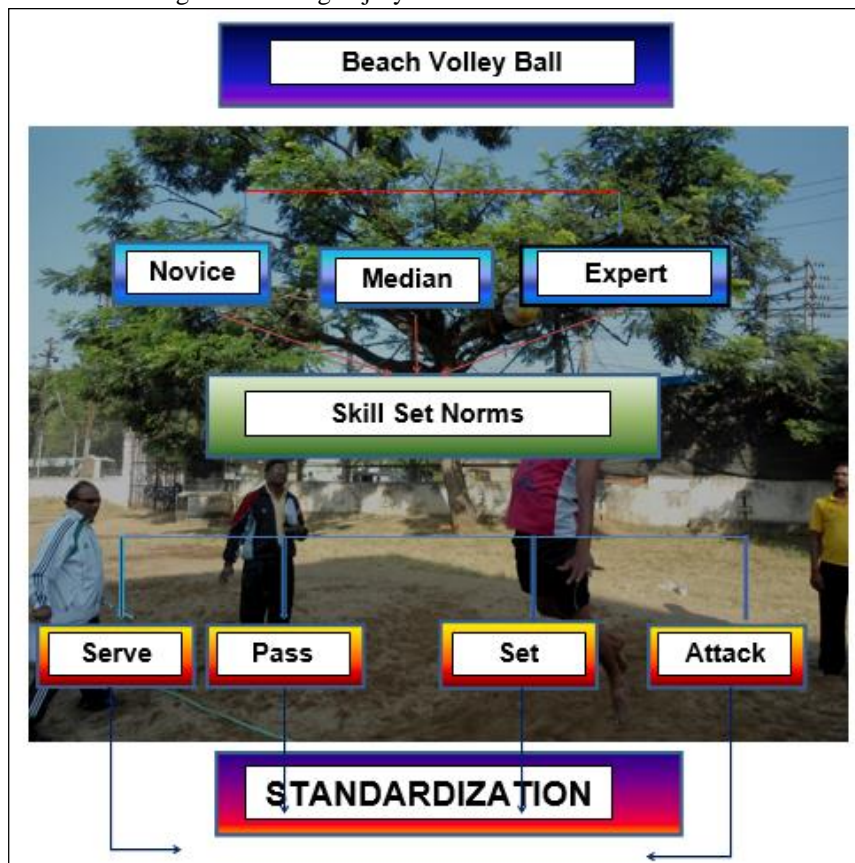


Fig 1

Sample of The Study

For the present investigation, the subjects were beach volleyball players (N=120). They were divided into three age groups, group A=Novice, N=40, 13 to 15 years old with 2 to 15 months experience), group B=Medium, (N=40, 16 to 18 years old with 2 to 5 years of experience), and group C=Expert (N=40, 19 to 34 years old with 5 years & above of experience).

Table 1: Showing the Sample of the Study (Beach Volley Ball Players).

SL No.	Name of the Group	Number of Subjects	Age	Experience in Game
1.	Novice	40	13-15	2-15 months
2.	Median	40	16-18	2 to 5 years
3.	Expert	40	19-34	5 years

A total of 120 beach volley ball players only (Novice, Medium and Expert groups) were taken up for the study and their age was ranging from 13 to 34 years old.

Data Collection Procedure

The beach Volleyball skill tests were conducted on 120 players in Musheerabad Beach Volleyball court during their practice sessions. Prior to the tests, all participants were given the same instructions on how to perform the test. All participants performed the test in the following sequence: Service Test, Pass Test, set Test and Attack Test. The tests began after two trails, and were repeated by the participants the net day (test-retest) in the same order.

Statistical Techniques Used

The data of 120 Beach Volleyball players that was collected were subjected to statistical analysis including Mean, Standard Deviation, using SPSS 16 version application software. The results are displayed in the form of charts and tables.

The statistical techniques such as t-test and using SPSS 16 version were adopted to determine the significance of the difference between the three groups (Novice, Medium, Expert) that were studied in relation to four skills of beach Volleyball Service, Pass, Set and Attack.

Results and Discussion

The following hypothesis has been formulated with regard to Service Skill test of beach volley ball players. There will be a significant difference between Novice group and Median group in relation to the Service skill in beach volley ball. The result pertaining to the above hypothesis are presented in Table and graph

Table Showing the Mean, Standard Deviation and t-value between Novice group and Median group in relation to the Service test in Beach Volley ball.

Table 2

Group	No. of Subjects	Mean	SD	t-value	'p' value
Novice	40	18.50	3.336	10.074	0.002
Median	40	25.10	2.458		

Showing the Mean, Standard Deviation, Degrees of freedom and t-value between Novice group and Median group in relation to the Service skill in Beach volley ball players.
Graph

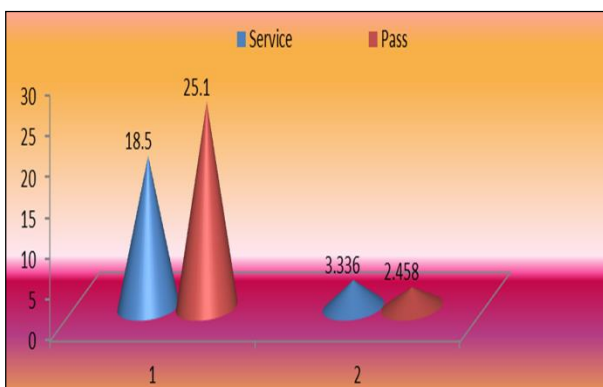


Fig 2

Discussion

Table shows the mean values, standard deviation, and t-value and graph showing the mean values, standard deviation values of novice group and median group in relation to the Service skill in Beach Volley ball. The mean value of novice group is 18.50, standard deviation value is 3.336, similarly the mean value of median group is 25.10 and standard deviation value is 2.458. The t-value between Novice and Median group is 10.074 as against the 'p' value of 0.002, The following hypothesis has been formulated with regard to Service skills of Beach Volley Ball players. "There will be a significant difference between Median group vs. Expert group in relation to the Service Skill in Beach Volley Ball". The results pertaining to the above hypothesis are presented in Table and graph Table Showing the Mean, Standard Deviation and t-value between Median group and Expert group in relation to the Service Skill in Beach Volley Ball

Table 3

Group	No. of Subjects	Mean	SD	t-value	p-value
Median	40	25.10	2.458	25.569	0.001
Expert	40	36.20	1.224		

Graph

Showing the Mean, Standard Deviation and t-value between Median group and Expert group in relation to the Service Skill in Beach Volley Ball.

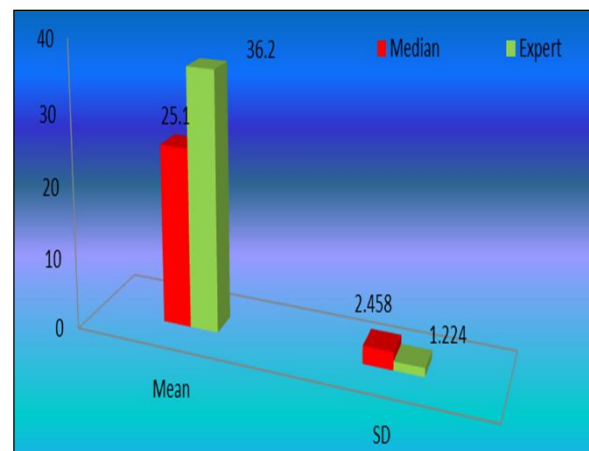


Fig 3

Discussion

Table shows the mean values, standard deviation, and t-value and graph 4.2.0 showing the mean values, standard deviation values of median group and expert group in relation to the Service skill in Beach Volley Ball. The mean value of median groups is 25.10, standard deviation value is 2.458, similarly the value of expert group is 36.20 and standard deviation value is 1.224. Since the t-value between median and expert group is 25.569 as against the p -value 0.001

The following hypothesis has been formulated with regard to Service skills of Beach Volley Ball players. "There will be a significant difference between Expert group and Novice group in relation to the Service skill in Beach volley Ball".

The results pertaining to the above hypothesis are presented in Table and graph

Table Showing the Mean, Standard Deviation and t-value between Expert group and Novice group in relation to the Service Skill in Beach Volley Ball.

Table 2

Group	No. of Subjects	Mean	SD	t-value	p-value
Expert	40	36.20	1.224	10.074	0.00
Novice	40	18.50	3.336		

Graph

Showing the Mean, Standard Deviation and t-value between Expert group and Novice group in relation to the Service Skill in Beach Volley Ball.

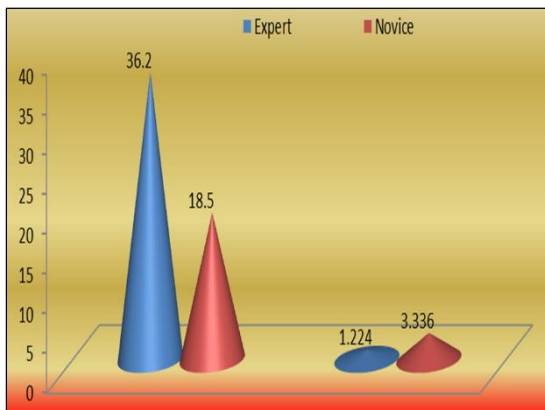


Fig 4

Discussion

Table shows the mean values, standard deviation, and t-value and graph 4.3.0 showing the mean values, standard deviation values of Expert group and Novice group in relation to the Service skill in Beach Volley Ball.

The mean value of Expert groups is 36.20, standard deviation value is 1.224, similarly the value of Novice group is 18.50 and standard deviation value is 3.336

Since the t-value between expert group and Novice is 35.505 when compared to the p- value of 0.00.

The following hypothesis has been formulated with regard to Past skills of Beach Volley Ball players. “There will be a significant difference between Novice t group and Median group in relation to the Past skill in Beach volley Ball”. The results pertaining to the above hypothesis are presented in Table and graph

Table Showing the Mean, Standard Deviation and t-value between Novice group and Median group of Beach Volley Ball players in relation to the “Pass Skill”.

Table 1

Group	No. of Subjects	Mean	SD	t-value	p- value
Novice	40	20.05	4.679	7.210	0.00
Median	40	26.35	2.940		

Graph

Showing the Mean, Standard Deviation and t-value between Novice group and Median group of Beach Volley Ball players in relation to the “Pass Skill”.

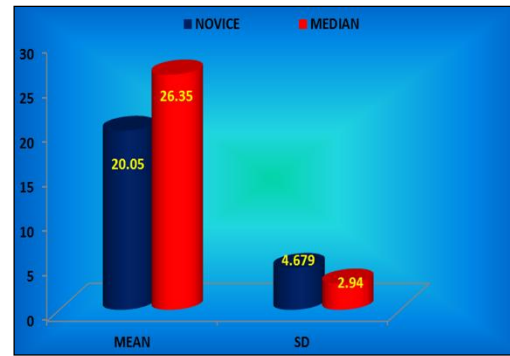


Fig 5

Discussion

Table shows the mean values, standard deviation, and t-value and graph 4.4.0 showing the mean values, standard deviation values of Novice group and Median group in relation to the Pass skill in Beach Volley Ball.

The mean value of Novice groups is 20.05, standard deviation value is 4.679, similarly the value of Median group is 26.35 and standard deviation value is 2.940. Since the t-value between Novice group and Median group is 00.00 as against the p- value of 0.00

Conclusions

Beach volleyball began to appear in Europe in the 1930s. By the 1940s, doubles tournaments were being played on the beaches of Santa Monica for trophies. In 1948 the first tournament to offer a prize was held in Los Angeles, California. It awarded the best teams with a case of Pepsi. In the 1960s, an attempt to start a professional volleyball league was made in Santa Monica. It failed, but a professional tournament was held in France for 30,000 French francs. The first Manhattan Beach Open was held in 1960, a tournament which grew in prestige to become, in the eyes of some, the "Wimbledon of Beach Volleyball". In 1974 there was an indoor tournament: " The \$1500.00 World Indoor Two-Man Volleyball Championship" played in front of 4,000 volleyball enthusiast at the San Diego Sports Arena. Fred Zuelich teamed with Dennis Hare to defeat Ron Von Hagen and Matt Gage in the championship match" Winston Cigarettes was the sponsor. A perusal of the entire presentation with a special reference to the chapter covering results and discussions would help drawing some useful conclusions from the present investigation.

The following conclusions were drawn.

1. It was concluded that significant difference was found between Novice and Median group in relation to service test where the median group has scored higher than Novice group.
2. It was concluded that significant difference was found between Median and Expert group in relation to service test where the Expert group has scored higher than Median group.
3. It was concluded that significant difference was found between Expert and Novice group in relation to service test where the Expert group has scored higher than Novice group
4. It was concluded that significant difference was found between Novice and Median group in relation to pass

- test where the median group has scored higher than Novice group.
5. It was concluded that significant difference was found between Median and Expert group in relation to pass test where the Expert group has scored higher than Median group.
 6. It was concluded that significant difference was found between Expert and Novice group in relation to Pass test where the Expert group has scored higher than Novice group
 7. It was concluded that significant difference was found between Novice and Median group in relation to set test where the median group has scored higher than Novice group.
 8. It was concluded that significant difference was found between Median and Expert group in relation to set test where the Expert group has scored higher than Median group.
 9. It was concluded that significant difference was found between Expert and Novice group in relation to set test where the Expert group has scored higher than Novice group
 10. It was concluded that significant difference was found between Novice and Median group in relation to Attack test where the median group has scored higher than Novice group.
 11. It was concluded that significant difference was found between Median and Expert group in relation to Attack test where the Expert group has scored higher than Median group.
 12. It was concluded that significant difference was found between Expert and Novice group in relation to Attack test where the Expert group has scored higher than Novice group
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