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A comparative study of motor fitness components between volleyball and football players of Maharashtra

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Abstract

The present study was an attempt to find out the difference in Motor fitness level between Volleyball and Football players. The sample for this study consisted of 120 subjects each belonging to Volleyball and Football from Maharashtra, who had represented their colleges and universities in various state level tournaments were selected as the subjects for the study. The Criterion measures from AAPHER Physical fitness test have been chosen for this study. Mean, Standard deviation and 't' Test were used to analyse the data. Findings of the study revealed that: (i) Football players were found better in 50-yard dash than Volleyball players; (ii) Volleyball players are much better in Standing Broad Jump than Football players; (iii) there is no significant difference in Pull-Ups between Volleyball and Football players; (iv) Football players were found better in Shuttle-run than Volleyball players; (v) There is no significant difference in Sit-ups of Volleyball and Football players and (vi) Football players were found better in 600 yard run than Volleyball players.

Keywords: Motor fitness, volleyball, football players, AAPHER physical fitness test

Introduction

Sports as an activity offer an opportunity of gaining self-knowledge, self-expression, fulfillment, personal achievement, skill acquisition and demonstration of ability, social interaction, enjoyment, good health and well-being. It promotes involvement, integration and responsibility in society, and contributes to the development of society, especially when sports activities have been accepted as an integral part of the culture and tradition of every society and every nation. It is an evident fact that the statistics pointed out, while women and girls account for half of the world population (50 per cent) the percentage of their participation in sports varies from country to country and is far less than that of men and boys in our country. Despite a growing participation of women in sports and games in the recent years and also the increased opportunities for women to take effective participation in domestic and international fields on a significant representation of women in decision making process in sports has not taken place to occupy a conspicuous position. This results in unequal opportunities for women and girls in sports resulting the violation of constitutional mandate regarding "equality before law and equal protection of law in the territory of India". It has been widely accepted that women's experiences, values and attitudes can enrich, enhance and develop sports, so also participation in sports can enrich, enhance and develop women's personality in the society.

Physical fitness has always been a concern of man from pre historic time. Indeed it was survival for the fittest. Throughout human evolution, man has been nomad, a hunter and a farmer. His body has a high degree of adaptability for walking, running, jumping and throwing etc. In today's world due to industrialization, automation and motorization the physical activities have been reduced to a great extent, as a result of which a number of so called Hypokinetic diseases have lowered the degree of physical fitness of the people. Therefore, there is an utmost need to develop the physical fitness of the people through different scientific training means such as weight training, circuit training, interval training, fartlek training etc.

There is a significant impact of modern technology on human living. His muscles, upon which he used to rely entirely for survival, are now used for less and less with inevitable results.

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Many researchers in such divergent fields as medicine, psychology and physiology, however, attest to the fact that exercise with attendant development of fitness has far reaching effects on vital bodily processes and upon the functional realization of one's growth and capabilities.

Motor fitness is the sum of total five motor abilities namely strength, speed, endurance, flexibility and cooperative abilities. These five motor abilities and their complete forms are the basic prerequisites for human motor actions. Therefore the sports performance in all depends upon these abilities. The improvement and maintenance of physical fitness is perhaps the most important aim of sports training. The performance of a sportsman in any game or event also depends on muscular strength, agility, power, speed and cardiovascular endurance. Along with these physical variables, physiological and psychological components also play an important role in the execution of the performance. Best suited activity and new training methods achieve excellence. The aim of the present study was to determine the differences in selected motor fitness characteristics between the individual game and team game athletes.

Motor Fitness Components

Strength: The extent to which muscles can exert force by contracting against resistance (e.g. holding or restraining an object or person).

Power: The ability to exert maximum muscular contraction instantly in an explosive burst of movements. The two components of power are strength and speed (e.g. jumping or a sprint start)

Agility: The ability to perform a series of explosive power movement in rapid succession in opposing directions (e.g. Zing Zap running)

Balance: The ability to control the body's positions either stationary (e.g. handstand) or while moving (e.g. a gymnastic stunt)

Flexibility: The ability to achieve an extended range of motion without being impeded by excess tissue, i.e. fat or muscle (e.g. executing a leg split)

Muscle Endurance: A single muscle's ability to perform sustained work (e.g. rowing or cycling) Cardiovascular Endurance: The heart's ability to deliver blood to working muscles and their ability to use it (e.g. running long distance)

Strength Endurance: A muscle's ability to perform a maximum contraction time after time (e.g. continuous explosive rebounding through an entire Volleyball game)

Co-ordination: The ability to integrate the above. Listed components so that effective movements are achieved. All the nine elements of Motor fitness cardiac respiratory qualities are the most important to develop as they enhance all the other components of the conditioning equation.

Review of Literature

Gaurav and Singh (2011) [2] concluded that significant difference ($p > 0.01$) found between the means of selected physical fitness variables such as speed, Coordinative ability and Endurance (except flexibility) between school level Football and Volleyball players.

Singh (2011) [7] found that Football players have good Physical Fitness compare to Volleyball players.

This study shows that the Football players are good because they do good Physical Training compare to Volleyball Players.

Suresh and Prakash (2011) [8] found that Nagpur district boys were found superior to physical fitness variables compared to the other district boys. Bhandara district boys were performed better in physical fitness and stood second next to Nagpur district. Gondia district boys were performed at the 3rd place in Physical Fitness compared to Nagpur and Bhandara Districts. Wardha district boys were found inferior in fitness compared to all the other three districts boys.

Ghosh (2013) [3] found that the t- test was significant at 0.05 level of confidence among Football and Volleyball players in 50 yard dash, 600 meters run and walk, standing broad jump, shuttle run and medicine ball through but no significant difference was found in sit-up among Football and Volleyball players at 0.05 level of confidence.

Kohli, Singh, Singh and Sharma (2014) [11] showed that there was no significant difference in pull ups, sit ups, 50 m dash, and 600 m run, but there was a significant difference between the two groups on the basis of shuttle run performed by them.

Karthi and Krishna Kanthan (2014) [5] shows that Football players were better speed comparing than the Volleyball players. Football players were better Cardio respiratory endurance comparing to that of Volleyball players.

Significance of Study

The examination may uncover some Interesting certainties about physical wellness of Volleyball and Football players living at different states will be illuminate the general players. The finding of this examination will be add to the new learning in the territory of physical wellness which will profit the players and the individuals who are worried about training in amusements and sports. The investigation may give direction to physical instruction educators and Coaches in preparing games and players for various games.

Objectives

1. To study the motor fitness components in Volleyball players of Maharashtra
2. To study the motor fitness components in Football players of Maharashtra

Hypothesis

There will be no significant difference in motor fitness components between Volleyball and Football players of Maharashtra.

Sample

The sample for this study consisted of 120 subjects each belonging to Volleyball and Football from Maharashtra, who had represented their colleges and universities in various state level tournaments were selected as the subjects for the study.

Tools: The Criterion measures from AAPER Physical fitness test have been chosen for this study. 50 yard Dash, Shuttle run, Sit ups, Pull ups, Standing Broad Jump and 600 yard run/walk.

Statistical Techniques

Mean, Standard deviation and 't' Test were used to analyses the data,

Analysis of Data

The present study was conducted with the aim of examining the level of physical fitness Volleyball and Football players of

Maharashtra. The data of 120 (60 Volleyball and 60 Football) players was analyzed by calculating 't' test besides the descriptive statistics (mean and standard deviation).

Table 1: Mean, Standard Deviation and 't' value for means scores of 50 yard dash of Volleyball and Football Players

Sl. No.	Variables	Group	N	Mean	S.D.	"t" value
		Volleyball players	60	6.90	0.38	
01	50 yard dash					7.815**
		Football players	60	6.32	0.52	
		Volleyball players	60	2.31	0.16	
02	Standing Broad Jump					4.855**
		Football players	60	2.20	0.11	
		Volleyball players	60	11.85	1.57	
03	Pull-Ups					0.423(ns)
		Football players	60	11.96	1.51	
		Volleyball players	60	11.13	1.02	
04	Shuttle-run					14.460**
		Football players	60	9.31	0.36	
		Volleyball players	60	38.18	3.26	
05	Sit-ups					0.829(ns)
		Football players	60	38.62	3.23	
		Volleyball players	60	1.37	0.21	
06	600 Yard Run					6.986**
		Football players	60	1.16	0.14	

** Significant at 0.01 level; NS = Not significant Tabulated Value: 1.96 at 0.05 level 2.58 at 0.01 level

Table 1 reveal that t-value (7.815) for the mean scores of 50 yard dash of Volleyball and Football players is significant at 0.01 level of significance. So it has been finding that the mean scores of 50yard dash of Volleyball players (6.90) are more than Football players (6.32). It may therefore be concluded that Volleyball players took more time in 50-yard dash than Football players. Hence, it be concluded that Football players were far better than Volleyball players in 50 Yard dash. Table further revealed that t-value (4.855) for the mean scores of Standing Broad Jump of Volleyball and Football players is significant at 0.01 level of significance. So it has been finding that the mean of Standing Broad Jump of Volleyball players (2.31) is more than Football players (2.20). It may therefore be concluded that Volleyball players are much better in Standing Broad Jump than Football players. Table further revealed that t-value (0.423) for the mean scores of Standing Broad Jump of Volleyball and Football players is not significant at any level of significance. In this situation, the null hypothesis that "There is no significant difference in Pulls-up of Volleyball and Football players" is retained. So it has been finding that the mean of pulls-up of Volleyball players (11.85) is slight less than Football players (11.96), but do not differ significantly. Table further revealed that t-value (14.460) for the mean scores of shuttle run of Volleyball and Football players is significant at 0.01 level of significance. So it has been finding that the mean scores of Shuttle Run of Volleyball players (11.13) is more than Football players (9.31). It may therefore be concluded that Volleyball players took more time in Shuttle Run than Football players.

Hence, it be concluded that Football players were far better than Volleyball players in Shuttle run. Table further revealed that t-value (0.829) for the mean scores of Sit-Ups of Volleyball and Football players is not significant at any level of significance. So it has been finding that the mean score of Sit-Ups of Volleyball players (38.28) is slight less than Football players (38.62), but do not differ significantly. Table revealed that t-value (6.986) for the mean scores of 600 yard run of Volleyball and Football players is significant at 0.01 level of significance. So it has been finding that the mean scores of 600 yard run of Volleyball players (1.37) is more

than Football players (1.16). It may therefore be concluded that Volleyball players took more time in 600 yard run than Football players. Hence, it be concluded that Football players were far better than Volleyball players in 600 yard dash.

Findings

It has been finding that there is a significant difference between Volleyball and Football players regarding 50-yard dash. It may therefore be concluded that Volleyball players took more time in 50yard dash than Football players. It has been finding that there is a significant difference between Volleyball and Football players regarding standing Broad Jump. Volleyball players are much better in Standing Broad Jump than Football players.

It has been finding that there is no significant difference in Pull- Ups between Volleyball and Football players.

It has been finding that there is a significant difference in Shuttle-run between Volleyball and Football players. Volleyball players took more time in Shuttle-run than Football players.

It has been finding that there is no significant difference in Sit- ups of Volleyball and Football players.

It has been finding that there is a significant difference in 600 yard run Volleyball and Football players. Volleyball players took more time in 600 yard run than Football players.

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