



COMPARATIVE STUDY ON PHYSICAL FITNESS PARAMETERS AMONG THE SCHOOL LEVEL BASKETBALL AND VOLLEYBALL GIRLS

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ABSTRACT :

Physical fitness is a required element for all the activities in our society. Physical fitness of an individual is mainly dependent on lifestyle related factors such as daily physical activity levels. Physical fitness is also considered as the degree of ability to execute a physical task under various ambient conditions. The aim of this study was to determine the comparative analysis of physical fitness components between Basketball and Volleyball players. Only female players were selected from the Basketball and Volleyball game who had participated in Coimbatore district level school sports. The age of players ranged between 14-17 years. Muscular strength & endurance , Flexibility and Coordination , were considered as variable for the present study. Sit-Ups test was used to assess the Muscular strength & Endurance . Sit and reach test was used to assess the flexibility of the children. Hand wall test was used to assess the Coordination. The data were collected by standard tools and techniques. Mean and standard deviation was used as descriptive t-test was used to measure the significance of different between two groups. Study concluded that insignificant difference found between the means of selected physical fitness variables such as Muscular strength & endurance , Flexibility and Coordination of basketball and volleyball players.

KEYWORDS : physical fitness, Muscular strength and endurance, Flexibility, Coordination.

1.INTRODUCTION

Sports have become a part of human life and living. To take part in sports and games is one of the very common traits of human character and it starts developing from early childhood. But with the development of age, very few people dedicate themselves to become true sports persons by serious practice and training on regular basis, whereas some people take it as their recreational activities or participate in amateur sports. Physical fitness may be defined as the ability of the human organism to function effectively as well as efficiently. The different components of physical fitness have specific contribution to total quality of life and healthy existence. These components of physical fitness including muscular strength and endurance, cardio-respiratory endurance, speed, agility, balance, flexibility, power etc. constitutes the characteristic feature of an athlete and determinant factor of athletic performance. The interaction of these physical fitness components under a wide range of conditions plays an important role in sports performance. Physical fitness is the most important factor for the progress in the general life as well as, field of sports if the citizens of the country want to improve in any field may be sports or general life. Physical fitness is essential. It is therefore the responsibility of every



country to promote physical fitness of its citizens because physical fitness is the basic requirements for the tasks to be under taken by an individual in his life. There is not any measurement of physical fitness and no single way of achieving it.

2.METHODOLOGY

Selection of Subjects

Initially, 36 Basketball and 36 Volleyball players were selected for present study from the School level girls. The designated delimitations for the present study were kept in mind for the selection of the subjects those have participated in district level competition. It was also taken into consideration that all the selected subjects were ranged from 14 to 17 years of age and who were involved in regular practice for their respective games of Basketball and Volleyball to remain physically and mentally fit. Finally, total 36 players were randomly selected from Basketball and 36 players were selected from game of Volleyball. It was also kept in mind that all the subjects should participate voluntarily for purpose of data collection during present study.

Selection of variables

Selection of Variables In the light of the expert's opinion, administrative feasibility, availability of subjects, availability of testing equipment and materials, the following physical fitness Components are selected such as Muscular strength & endurance , Flexibility and Coordination.

Criterion measures

The data were collected by following standard testing protocol. Physical fitness components were measured by the following tests. Muscular strength and endurance were assessed by sit up test, Flexibility assessed by sit and reach test, Coordination assessed by Hand wall test.

Muscular strength and endurance test

Abdominal muscle strength and endurance is important for core stability and back support. This sit up test measures the strength and endurance of the abdominals and hip-flexor muscles. Subjects were completed how many sit-ups in one minute. Lie on a carpeted floor with your knees bent at approximately right angles, with feet flat on the ground and hands should be resting on thighs (Golding, et al. 1986).

Flexibility Measurements

This test involves sitting on the floor with legs stretched out straight ahead. Shoes should be removed. The soles of the feet are placed flat against the box. Both knees should be locked and pressed flat to the floor - the tester may assist by holding them down. With the palms facing downwards, and the hands on top of each other or side by side, the subject reaches forward along the measuring line as far as possible. Ensure that the hands remain at the same level, not one reaching further forward than the other. After some practice reaches, the subject reaches out and holds that position for at one-two seconds while the distance is recorded. Make sure there are no jerky movements. The score is recorded to the nearest centimetre(Wells and Dillon .1952)

Coordination Measurements

Co-ordination was assessed through alternate hand wall toss test mark is placed a certain distance from the wall 2 meters, 3 feet. The person stands behind the line and facing the wall. The ball is thrown from one hand in an underarm action against the wall, and attempted to be caught with the opposite hand. The ball is then thrown back against the wall and caught with the initial hand. The test can continue for a nominated number of attempts or for a set time period. The Wall Toss Test based on the score of the number of successful catches in a 30 second period (Beashel, P and Taylor, J 1997).

3.RESULTS

Finding pertaining to the descriptive Statistics of the players from selected groups on the selected physical fitness variables has been presented in Table.

Table 3.1: Comparison of Muscular strength and endurance of Basketball and Volleyball Girls

Game	Component	N	Mean	Standard deviation	Standard error of difference	t-ratio	Sig
Basketball	Muscular strength and endurance	36	28.61	7.560	0.22	2.79	0.008
Volleyball	Muscular strength and endurance	36	24.80	6.288			

** Significant at 0.05 level for the degrees of freedom 1 and 35, 3.582*

Table: 3.1 showed that mean values of school level Basketball and Volleyball players on Muscular strength and endurance were 28.61 and 24.80 respectively. The obtained ' t ' ratio value of 2.79 was lesser than required table value 3.58 was insignificance at 0.05 level of confidence with degrees freedom 1, 35. The result of the study showed that there was insignificant difference between school level Basketball and Volleyball players on Muscular strength and endurance.

Table 3.2: Comparison of Flexibility of Basketball and Volleyball Girls

Game	Component	N	Mean	Standard deviation	Standard error of difference	t-ratio	Sig
Basketball	Flexibility	36	20.33	4.622	0.08	1.034	0.009
Volleyball	Flexibility	36	20.30	4.671			

** Significant at 0.05 level for the degrees of freedom 1 and 35, 3.58*

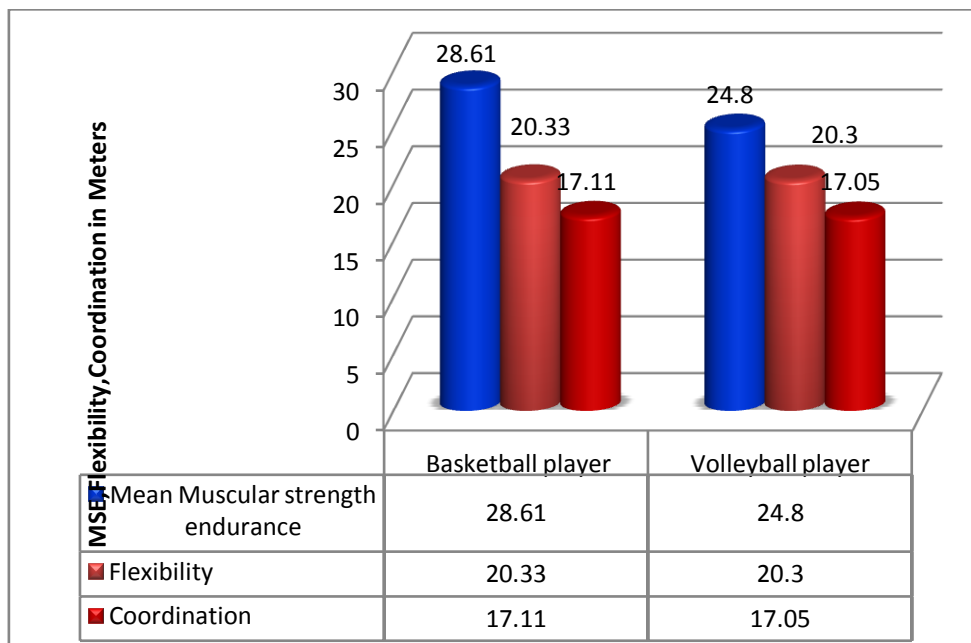
Table: 3.2 showed that mean values of school level Basketball and Volleyball players on Flexibility were 20.33 and 20.30 respectively. The obtained' ratio value of 1.034 was lesser than required table value 3.58 for insignificance at 0.05 level of confidence with degrees freedom 1, 35. The result of the study showed that there was insignificant difference between school level Basketball and Volleyball players on Flexibility.

Table 3.3: Comparison of Coordination of Basketball and Volleyball Girls

Game	Component	N	Mean	Standard deviation	Standard error of difference	t-ratio	Sig
Basketball	Coordination	36	17.11	1.686	0.019	1.17	0.000
Volleyball	Coordination	36	17.05	1.803			

** Significant at 0.05 level for the degrees of freedom 1 and 35, 3.58*

Table: 3.3 showed that mean values of school level Basketball and Volleyball players on Coordination were 17.11 and 17.05 respectively. The obtained' ratio value of 1.17 was lesser than required table value 3.582 for insignificance at 0.05 level of confidence with df 1, 35. The result of the study showed that there was a significant difference between school level Basketball and Volleyball players on coordination.



Graph 1: Show mean of basketball and volleyball players

CONCLUSION

The study concluded that insignificant difference found between the means of selected physical fitness variables such as Muscular strength & endurance, Flexibility and Coordination of basketball and volleyball players. The insignificant differences in physical fitness parameters between volleyball and basketball players may be due to same in skills, nature of game, and movement's pattern etc.

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