

A STUDY OF SELECTED PHYSIOLOGICAL VARIABLE AMONG THE SOCCER PLAYERS

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Abstract

The purpose of the study was to determine the significant difference of selected physiological variable-vital capacity among male and female Soccer players from different districts of Kerala. To realize the purpose of the study two hundreds male and female were selected. The subjects were state participated Soccer players in the state of Kerala. Twenty players in each male and female category were selected from five districts of Kerala like Kozhikkode, Malappuram, Thiruvananthapuram, Thrissur and Kannur in with their age ranged between 13-15 years. In order to measure the vital capacity wet spirometer was used and measurement was recorded in cubic centimeters and was having ISI standards and manufactured by reputed company and being used in research laboratories. The data collected from the male and female players in the state of Kerala on vital capacity were statistically analyzed to find out the significant difference if any, by One way Analysis of Variance (ANOVA). To compare the male and female Soccer players in the state of Kerala independent 't' test was used. The level of significant was set to 0.05. The present study was also to investigate the selected physiological variable of male and female Soccer players from different districts of Kerala. Considering the physiological variable of the study in the male Soccer players from selected districts of Kerala, it has been found that there is no significant difference. It has been also found that there is no significant difference in the vital capacity of female Soccer players in the state of Kerala. In light of the study on physiological variables of male and female Soccer players from the state of Kerala, it has been found that there is a significant difference in vital capacity on the selected samples in favor of male players.

Key words: Soccer, physiological variable, vital capacity

Introduction

Sports play a great role in everyone's busy life especially for students. Everyone should involve themselves in the sports activity even for a small time all through the day. Sports are necessary because it brings physical and mental fitness to the person involved in this on regular basis. As we all know that, living a relaxed and comfort life we need a sound mind and a sound body, getting a sound mind and body, everyone must involve in some type of physical activities for which sports is the best way.

High performance in sports is the outcome of magnitude and the quality of motor movements. These motor movements require physical fitness, technique, tactics and physiological development of athletes. Physical fitness basically depends on the motor fitness components i.e. speed strength, endurance, flexibility, co-ordinative abilities- and the physiological capacities like heart rate, vital capacity and energy reserves. Although the ratio differs from game to game but certain amount of all these qualities are the necessary prerequisite for any motor movement.

Thus the study of physiological variables is essential part of the research study to reveal the actual effects of these variables on performance. Under modern circumstances especially related to training sports and games or any event with a focus on superior performance, emphasis is given for physical structure and body build of each individual participant for each sports and games.

Statement of the problem

The purpose of the study was to determine the significant difference of selected physiological variable vital capacity among male and female Soccer players from different districts of Kerala.

Significance of the study

- ✓ The result of the study may enable the male and female Soccer players to understand their physiological variable for their competition.
- ✓ The result of the study may enable to physical education teachers and coaches to know the physiological characteristics and weak points of players and then plan training session accordingly.
- ✓ The study will help to compare the selected physiological variables among male and female Soccer players in the state of Kerala.
- ✓ The result of the study may significantly help the other scholars to take up research projects in other states and games in India.
- ✓ The selected physiological variables will help to identify the talents, selection and team preparation to achieve the top performance.

Methodology

Participants

To realize the purpose of the study two hundreds male and female were selected. The subjects were state participated Soccer players in the state of Kerala during the years 2016 to 2019. Twenty players in each male and female category were selected from five districts of Kerala like Kozhikkode, Malappuram, Thiruvananthapuram, Thrissur and Kannur in with their age ranged between 13-15years.

Variables and tests

All the subjects were tested on the physiological variable vital capacity. In order to measure the vital capacity wet spirometer was used and measurement was recorded in cubic centimeters and was having ISI standards and manufactured by reputed company and being used in research laboratories

Statistical analysis

The data collected from the male and female sub junior players in the state of Kerala on physiological variable ;were statistically analyzed to find out the significant difference if any, by One way Analysis of Variance (ANOVA). To compare the male and female Soccer players in the state of Kerala independent 't' test was used. The level of significant was set to 0.05

Table 1**Analysis of variance for the comparison of vital capacity of male Soccer players from five districts of Kerala**

Variable	SV	Sum of squares	DF	Mean square	F
Vital capacity	Between Groups	98800.00	4	24700.00	1.478
	Within Groups	1586700.00	95	16702.00	
	Total	1685500.00	99		

F (4,95) at .05 level = 2.46.

From the Table1, it is clear that the result obtained for ANOVA on the basis for vital capacity reveals that F value is 1.47 which is lesser than the critical value of F at .05 level(2.46) of significance. This shows there is no significant differences exist in terms of vital capacity of male Soccer players in different districts of Kerala among selected samples.

Table 2**Analysis of variance for the comparison of vital capacity of female Soccer players from five districts of Kerala**

Variable	SV	Sum of squares	DF	Mean square	F
Vital capacity	Between Groups	52200.00	4	13050.00	1.52
	Within Groups	815600.00	95	8585.26	
	Total	867800.00	99		

F (4,95) at .05 level = 2.46.

From the Table 2, it is clear that the result obtained for ANOVA on the basis for vital capacity reveals that F value is 1.52 which is lesser than the critical value of F at .05 level (2.46) of significance. This shows there is no significant differences exist in terms of vital capacity of female Soccer players in different districts of Kerala among selected samples.

Table 3**Independent t test for the comparison of vital capacity of male and female Soccer players from the state of Kerala**

Gender	Number	Mean	S.D	t
Male	100	1849.00	130.48	16.24
Female	100	1558.00	93.7	

Table value of 't' at 0.05 level is 1.96

From the Table 3, it is clear that the result obtained for 't' test on the basis for vital capacity, reveals that t value is 16.24 which is significant at .05 level. This shows there is significant differences exist in terms of vital capacity between the male and female Soccer players in the state of Kerala among selected samples. To find out significant differences, the mean difference was calculated and mean difference MD = 288 which is favorable towards male Soccer players. From the above details it can be concluded that the male Soccer players having a better vital capacity of 1849 compared to the female Soccer players with a lower vital capacity of 1558 among the selected samples. The diagrammatic representation of comparison of vital capacity of male and female Soccer players from the state of Kerala is shown in figure 1.

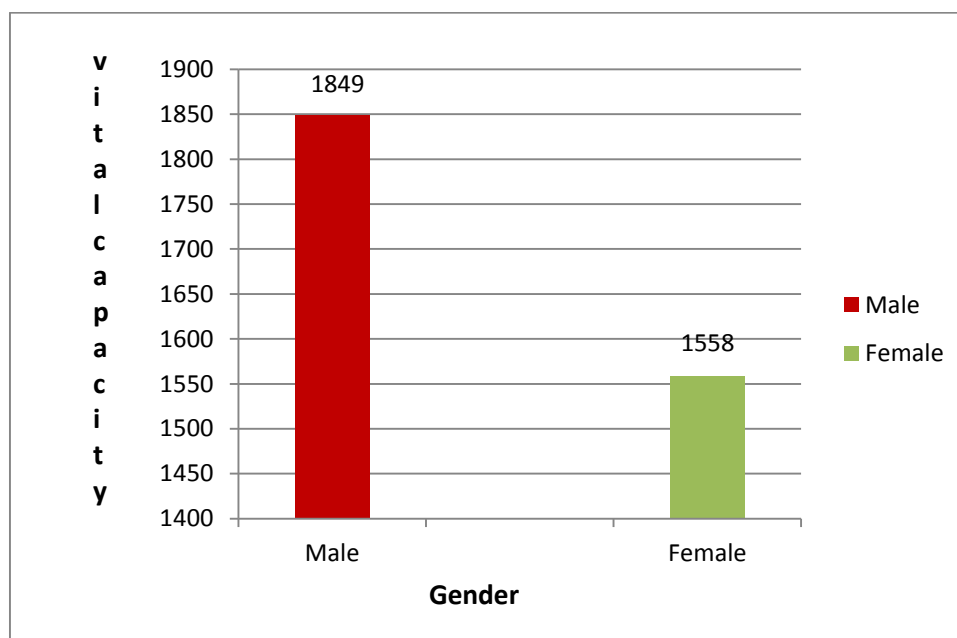


Figure 1: Comparison of vital capacity of male and female Soccer players from state of Kerala

Discussion on Findings

The present study was to investigate the physiological variable vital capacity of male and female Soccer players in the state of Kerala. In district wise comparison, male Soccer players from selected districts of Kerala, it has been found that there is no significant difference in vital capacity. Based on the physiological factors of the study in the female Soccer players from selected districts of Kerala, it has been found that there is no significant difference in vital capacity .

In light of the study on physiological factors of male and female Soccer players from the state of Kerala, the male Soccer players show a better score in vital capacity, it may be due to male have larger lungs than female which increases the total surface area of cells involved with gas exchange. The volume of adult female lungs is typically 10-12% smaller than that of males who have the same height and age. Previous study made by Steve Nagy, Medical Education, Studied at The University of Alabama (2017) support the results of the present study. The studies of Suparna Paul, Sudip Sundar Das (2016) revealed that the Soccer game demands high endurance capacity.

Conclusion

The results of the study permit the following conclusion that the physiological variable Vital capacity of the study shows a significant difference among the male and female Soccer players in the state of Kerala .

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