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Analysis of Selected Physiological Variables between Haryana and Delhi Female Badminton Players

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Abstract

The purpose of the study was to analysis the selected physiological variables between Haryana and Delhi female badminton players. Only thirty female players (Haryana 15 and Delhi 15) of 17-24 years age were randomly selected from different badminton academies of Haryana and Delhi state. Only selected physiological variables i.e. the Heart rate, Lung capacity and Blood Pressure (systolic and diastolic) of the subjects were measured by using respective techniques and equipments. The between-group differences were assessed by using 't' test. The level of $p \leq 0.05$ was considered significant.

Keywords: Physiological variables, Badminton, Female.

Introduction

Physiology is defined by dictionaries as 'the science of the normal functions and phenomena of living things'. Physiology has a complex, deep relationship with the approach of reductive science. This is in part because 'function', particularly 'interesting' or unexpected function, emerges from interactions that can be found only in relatively complex systems; hence physiologists are unlikely (unless they are working on essentially trivial problems) to find that molecular structures in isolation give more than partial insight into the problem under attack. 'Explanations' of physiological questions seem more likely to arise from combining such reductionist approaches with, on the one hand, thermodynamics and, on the other, control systems theory. Life depends on 'non-equilibrium' properties — i.e. on complex interactions that require the constant expenditure of energy to maintain them. And networks of information and control (the nervous system, hormones etc.) are central to the development, function, and probably the evolution of complex biological systems. Seen in this way, the information encoded in the genes provides a very challenging experimental opportunity for physiologists. To have read the sequence of DNA is only a small step on the route to understanding how and to what extent our genes build and control our bodies, and cause disease. Genes do just one thing: they translate their information into proteins. To understand how the products of genes work individually and together to create the magnificent complexity of a whole organism is part of the exciting challenge that faces the revitalized science of physiology in the twenty-first century. Indeed, the prospects for physiology are wider still: it will ultimately need to link such understanding 'upwards' to such disciplines as experimental psychology, ecology and human biology. Physiological parameters may be defined as those parameters which are directly linked with various physiological systems and may be voluntary or involuntary, such as pulse rate, hemoglobin; blood pressure and vital capacity etc. Physiological parameters have very serious implications on the health and well being of individuals. It is defined as the degree of task under specific ambit conditions. Most authors define physical fitness as a capacity of carrying out every day activities i.e. work and play without excessive fatigue and with enough energy in reserve for emergencies. The present study is considered with various physiological variables, so as to compile the physiological characteristics of women cricket players, the following physiological variables were taken into consideration : Blood Pressure (Diastolic and systolic), Pulse Rate, Breath Holding and Respiratory Rate. The physiological aspect of human being is to increase the ability of body to intake the oxygen in sufficient quantities to the muscle cell.

Objective of the study

- ✓ To study the physiological variables between Haryana and Delhi female badminton players.
- ✓ To find out the significant difference of physiological variables between Haryana and Delhi female badminton players on.

Methodology

Subjects

The present study were conducted on 30 female badminton players (Haryana: 15 and Delhi: 15) of 17-24 years age. The subjects were randomly selected from different badminton academies of Haryana and Delhi state and they volunteered to participate in the study.

Selection of Variables

Physiological Variables

- ❖ Heart Rate
- ❖ Lung Capacity
- ❖ Systolic Blood Pressure
- ❖ Diastolic Blood Pressure

Tools used for data collection

The criterion measure was used to collect the data in a deal and systematic way to record in a correct unit and style for each test item.

- ❖ Heart rate of the subjects was measured with the help of stopwatch and measurement was in number of pulse / minute. The basal pulse rate was measured for the study.
- ❖ Systolic blood pressure was also be measured by using digital blood pressure apparatus and the unit was measured in MM of Hg.
- ❖ Diastolic blood pressure was also be measured by using digital blood pressure apparatus and the unit was measured in MM of Hg.
- ❖ Lung capacity of the subjects was measured by Peak flow meter test in liter.

Data Analysis

Mean and standard deviation were calculated in order to study the selected physiological variables of Haryana and Delhi female badminton players. To assess the significance of differences between the means in case of significant T-values'' test was applied. The level of significance was 0.05.

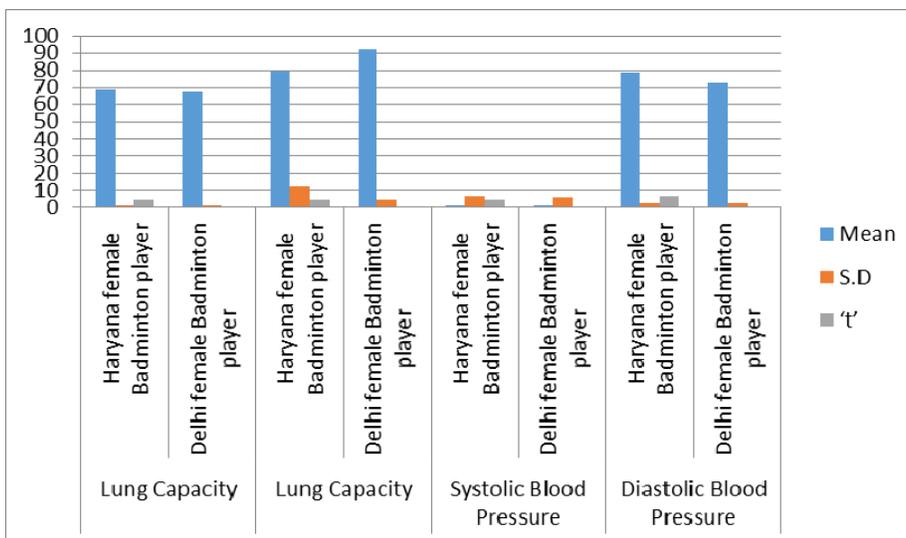
Table 1: Comparison of Physiological Variable of female badminton players of Haryana and Delhi

Variable	Area	Mean	S.D	't'
Heart rate	Haryana female Badminton player	69.00	1.30	4.02
	Delhi female Badminton player	67.26	1.09	
Lung Capacity	Haryana female Badminton player	79.26	12.23	4.42
	Delhi female Badminton player	92.26	4.57	
Systolic Blood Pressure	Haryana female Badminton player	1.10	6.56	4.58
	Delhi female Badminton player	1.02	5.49	
Diastolic Blood Pressure	Haryana female Badminton player	78.66	2.52	6.07
	Delhi female Badminton player	72.80	2.07	

Significant at 0.05 levels
't' 0.05 = 1.66

Table-1: shown the comparison of Physiological variables of the players of the Haryana and Delhi female badminton players. The mean values of the heart rate of the badminton female players of the Haryana and Delhi state were 69.00 and 67.26 respectively. The mean values of lung capacity of the badminton female players of the Haryana and Delhi state were 79.26 and 92.26 respectively. The mean values of systolic blood pressure of the players of the badminton female players of Haryana and Delhi were 110.00 and 102.20 respectively. The mean values of diastolic blood pressure of the players of the badminton female players of Haryana and Delhi were 78.26 and 92.26 respectively.

The 't' value of the Heart rate, Lung capacity, (Systolic and Diastolic) blood pressure of the Haryana and Delhi female badminton players were 4.02*, 4.42*, 4.58* and 6.07* respectively which was tested at the level of significant at .05 level and the tabulated value of 't'=1.66, which showed that significant difference in mean value of Heart rate, Lung capacity, (Systolic and Diastolic) blood pressure was found and our hypothesis was accepted.



Graph-1: Graphical representation of Physiological Variable of female badminton players of Haryana and Delhi

Discussion of the study

- The analysis of data for physiological variables like Heart rate, lung capacity, Systolic and Diastolic blood pressure revealed that there was significant difference between Haryana and Delhi female badminton players and our hypothesis revealed to the above variables was accepted.

Conclusion

- The data showed that the mean scores of Delhi female badminton players for physiological variables (Heart rate, Lung capacity, Systolic and Diastolic) were better than Haryana female badminton players.

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