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COMPARISON OF PHYSIOLOGICAL VARIABLES OF SYSTOLIC BLOOD PRESSURE OF HIMACHAL PRADESH UNIVERSITY INTER COLLEGE BASKETBALL AND HANDBALL PLAYERS

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ABSTRACT

The present study investigates the comparison of systolic blood pressure of Himachal Pradesh university inter college basketball and handball players. To solve the purpose of study 40 basketball players and 40 handball players randomly selected of Himachal Pradesh university intercollegiate championship were taken as the sample. Null hypothesis had been framed for the present study. The systolic blood pressure was measured by Sphygmomanometer and stethoscope. The data was analyzed by using Statistical Package for the Social Sciences. The statically tools used for the study were mean; SD and "t" test was used. On the basis of obtained results there is significant and notable difference was recorded by employing "t" test.

Keywords: Systolic Blood Pressure, Intercollege Basketball & Handball Players.

INTRODUCTION

The term physiology was derived from the Greek word 'PHYSIOLOGIKOS' meaning discourse on natural knowledge. Physiology deals with the normal functioning of human body. Studies of physiology have some branches, viz., plant physiology, viral

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physiology, bacterial physiology call physiology, animal physiology human physiology etc. Human physiology may further be divided into exercise physiology, nutritional physiology etc. Exercise physiology is the scientific study of physiological changes in athletes body with the effects of exercise, whether long term of short term. Different environmental changes, viz. altitude, climate, temperature, humidity, nutritional status, etc. have some close associations with the optimal performance of an athlete. Exercise physiology is an aspect of sports medicine. it studies the functional changes that occur in the human body when exposed to physical activity, thus, exercise physiology could be defined in a nutshell as– "a science that elucidates how the human body functions, reacts, adjusts and adapts when exposed to varied degrees of physical activity of training".

Human physiology has its own branches, which are of great practical importance: e.g. the physiology of work, physiology of physical exercise and sports, physiology of nutrition, and physiology of old age.

Physiology is closely linked with all the branches of medicine, and, as Pavlov put it, "Fundamentally understood physiology and medicine are inseparable". The advances made in physiology are constantly used by medicine where physiology always finds the widest field of application. Only through knowledge of the physiological processes taking place in the normal healthy organism can we understand the functional disturbances encountered in the body with various diseases and plan correct measures for treatment and prevention. The importance of physiology in medicine, and of medicine in physiology, is so great that Pavlov was absolutely justified in seeing the need for "a valid and fruitful union of medicine and physiology, those two forms of human activity that are building the science of the human body and that promise to ensure man in the future his true happiness, health and life". Physiology is also linked with modern psychology and pedagogy, particularly Pavlov's work on higher nervous activity, and is the scientific basis of these two subjects. The concrete practical importance of physiology in pedagogy is that

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the pedagogue must understand the age peculiarities of the physiological process taking place in the organisms of children in order to organize their activities and living correctly, and to adopt rational educational measures.

1) Systolic Blood Pressure

This accuses during the systole of the heart when the left ventricle forces blood in to the aorta the pressure raises to the peak (maximum). This is called systolic blood pressure. The range of the pressure is about 100 to 120 mm hg for a normal adult.

2) Diastolic Blood pressure

This accuses during the diastole of the heart. The lowest value in pressure called diastolic blood pressure. Diastolic pressure is about 60 to 80 mm Hg for a normal adult.

Blood pressure does not mean a disease at all. It is essential for life and very person has blood pressure to a certain degree. The blood pressure is greater during the systole than during the diastole. The blood pressure is measured by the use of sphygmomanometer (invented in Italy in 1896 by Dr. Scipione Riva-Rocci).

In normal young person, the systolic pressure is 120 mm Hg and diastolic pressure is 80 mm Hg. it is normally expressed as 120/80mmHg. The blood pressure varies with age. It is influenced by the rate of heart beat. Normal heartbeats of a man are too 72 per minute. A persistent rise in blood pressure is called high blood pressure of hypertension. Fall in BP is termed as low blood pressure of hypotension. A survey by the Indian council of medical research recently showed that one out of every six Indians is hypertensive. In metropolitan cities, lime Bombay, Calcutta and Delhi, this all meant is more prevalent.

OBJECTIVE OF THE STUDY

The main objective of the study was to compare the systolic blood pressure of Himachal Pradesh University Intercollegiate basketball and handball players.

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HYPOTHESIS

It is hypothesized that there is no significant difference between basketball and handball players on the variable of 'systolic blood pressure.

DESIGN OF THE STUDY

A Survey type of study had been designed to investigate the physiological variables of systolic blood pressure of 40 basketball players and 40 handball players randomly selected of Himachal Pradesh university intercollegiate championship were taken as the sample. Null hypothesis had been framed for the present study. The systolic blood pressure was measured by Sphygmomanometer and stethoscope. The data was analyzed by using Statistical Package for the Social Sciences. The statically tools used for the study were mean, SD and "t" test was used. On the basis of obtained results there is significant and notable difference was recorded by employing "t" test.

STATISTICAL ANALYSIS AND INTERPRETATIONS OF THE DATA

Table 1.1: Blood pressure variations (mmHg)

	Systole	Diastole
Infancy	70 to 90	50
Childhood	80 to 100	60
Adolescent	90 to 110	60
Young adult	110 to 125	60 to 70
As age advances	130 to 150	80 to 90

Blood pressure for women would be 5 to 10 mmHg less than men. The average blood pressure for normal adult is 120/80 mmHg.

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Table: 1.2

Blood pressure classifications blood pressure classification chart (Adults)

Category	Systolic Pressure (mm Hg)	Diastolic Pressure (mm Hg)
Optimal	Less than 120	Less than 80
Normal	Less than 130	Less than 85
High Normal	Less than 140	Less than 90
Mild Hypertension	Less than 160	Less than 100
Moderate Hypertension	Less than 180	Less than 110
Severe Hypertension	180 or more	110 or More

Adapted from the sixth report of the joint national committee of prevention, detection, evaluation, and treatment of high blood pressure, NIN Publication No. 98-4080, November, 1997 (USA).

Arteries are the vessels which carry pure bright blood from the left side of the heart through the body.

Veins are the vessels which bring the dork, impure blood back to the right side of the heart. They are provided with values which prevent mixing of the impure with the pure blood.

RESULTS AND FINDINGS

Table: 1.1

Comparison of mean value of "systolic blood pressure" of Himachal Pradesh University inter college basketball and handball players

Blood Pressure systolic	Mean Basketball Players	Mean Handball Players	Mean difference	t-value
	117.38	118.98	1.60	2.77*

*Significant at 0.01 level

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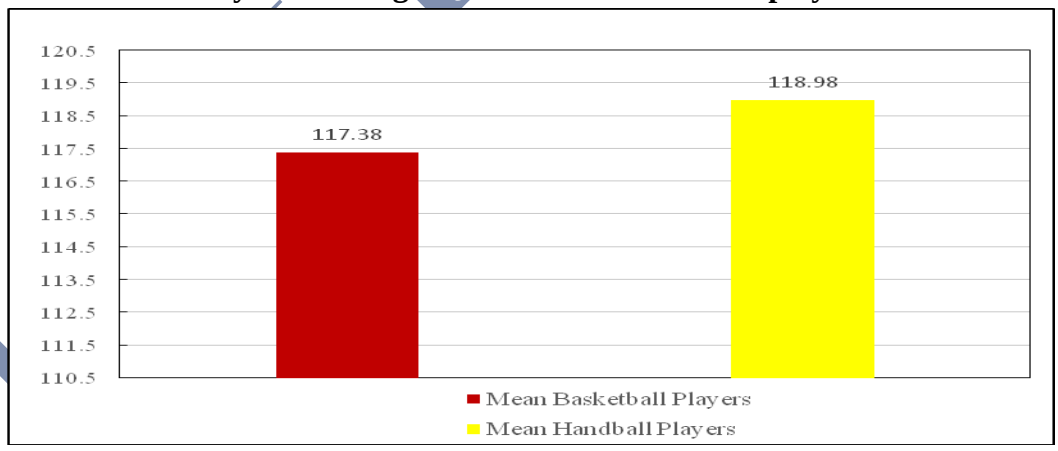
Table 1.1 reveals that the 't' value for basketball and handball players of Himachal Pradesh University with respect to their mean scores on "systolic blood pressure" came out to be 2.77, which is significant at 0.01 level of confidence (Table value of 't' = 2.64 at 0.01 level of significance for df = 78). Since the mean score of basketball players of Himachal Pradesh University is117.38 and the mean score of handball players of Himachal Pradesh University is 118.98. The mean gain made by 1.60.

Therefore, table 1.1 shows that there is significant difference established between the basket ball and handball players.

The formulated hypothesis that "There is no significant difference between basketball and handball players on the variable of 'systolic blood pressure". The null hypothesis stand rejected.

The mean difference at systolic blood pressure of basketball and handball players is further graphically depicted in figure 1.1.

Significance of mean value of "systolic blood pressure" of Himachal Pradesh University inter college basketball and handball players



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CONCULSION

The study established that there was a significant difference on the variable of systolic blood pressure between the players of handball and basketball.

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