



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2022; 7(2): 195-196

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Received: 15-10-2022

Accepted: 24-11-2022

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## Comparison of batsmen and bowlers on physiological variable blood pressure

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### Abstract

The present study was an attempt to investigate the significant mean difference between Batsmen and Bowlers on physiological variable Blood pressure which are participating at District level. The sample of the study comprised of 20 batsmen and 20 bowlers of Jind district of Haryana state. All the players are male participants and their age ranges from 16 to 19 years. In order to test the significance of mean difference between the variables descriptive statistics was employed. The result indicates that there exists no significance difference between Batsmen and Bowlers on physiological variable Blood pressure.

**Keywords:** Blood pressure, cricket, players

### Introduction

Physiology is the science that deals with functions the bodily organs perform. The development of sports physiology in the country can help in enhancing its reputation not only in the field of sports, but in other fields also. Modern sports have indeed become very demanding because of the fierce competitions involved. Human physiology is a study of various processes that go on in human body. It seeks to understand and explain the work done by the various parts of the body, and the results of the harmonious action of the several organs. Broadly speaking, under physiological factors, we usually include those functions of the organisms that get affected by changes in the external environment. As sports competition create an atmosphere of psychological pressure, various organic capacities of the body such as heart rate, lung capacity, blood pressure etc. get affected, which in turn are likely to affect the performance level of individual participants or teams. Physiological factors function at the intersection of physical and biological factors. The most important physiological variable is blood pressure.

### Blood Pressure

The blood pressure is the force with which the blood distends the walls of the vessels and with which it would escape if the vessel were cut. Blood flows from one point to another along the circulatory system because of a difference in the pressure of blood between the two points. The pressure thus diminishes progressively as the blood flow away from the heart and has fallen almost to zero by the time the blood reaches the right heart, completing its circulation. This is in contrast to the velocity of flow, which reaches a minimum in the capillaries and then increases again in the veins. The progressive fall in blood pressure along the circulatory system is caused by the loss of energy in overcoming the frictional resistance to flow offered by the walls of the vessels. Normal systolic pressure of young male adults is about 120 mm Hg and the average diastolic pressure is about 80 mm Hg. During heavy workout, systolic and diastolic pressures may reach to 175 and 110 Hg respectively. There are several factors that affect blood pressure besides exercise and training are age, sex, emotion and posture.

### Methodology

For this study the investigator adopted survey method to collect data related to cricket players (batsmen and bowlers). The subjects of the study consist of 40 cricket players i.e. 20 batsmen and 20 bowlers. The age group of cricket players ranges between 16 to 19 years.

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All these cricket players belong to district Jind (Haryana) only.

### Tools used

#### Blood Pressure Measurement Test

##### Purpose

To measure Blood pressure (Systolic and Diastolic).

##### Equipment's

One standard Sphygmomanometer, a stethoscope and a scorecard.

##### Procedure

The cuff of the Sphygmomanometer was wrapped around the bare arm above the elbow of the subject being tested. With the earphones of the stethoscope in the ears the bell of the stethoscope was placed on the brachial artery just above the hollow of the elbow of the subject and pumped up the cuff until the artery collapse and no pulse beat heard. Then the pressure slowly released and watched the gauge when the first sound of the pulse was heard, the reading was noted in millimeter of mercury at the instant. This reading is systolic pressure. The pressure was released slowly until a dull, weak beat is perceived. At that time the mercury pressure was noted in millimeters. This reading represented the diastolic pressure.

**Instruction:** The subjects were asked to sit straight at the time of B.P. test. The level of cuff and Sphygmomanometer was kept at heart level.

**Scoring:** The Blood pressure was recorded in mm Hg.

**Testing personnel:** The help of one trained person was taken for recording the B.P. in the scoreboard.

### Findings

The main objective of the study is to compare batsmen and bowlers on physiological variable Blood pressure. The data collected by cricket players was arranged, tabulated and statistically analyzed. The obtained data was processed for descriptive statistics i.e. mean, S.D and Z-ratio.

**Table 1:** The obtained data was processed for descriptive statistics

| Sr. No. | Variable    | Batsmen |      | Bowlers |      | Z-ratio |
|---------|-------------|---------|------|---------|------|---------|
|         |             | Mean    | S.D  | Mean    | S.D  |         |
| 1.      | B.P. (SYST) | 122.04  | 7.48 | 122.37  | 7.16 | .237    |
| 2.      | B.P.(DIAST) | 80.56   | 4.69 | 80.26   | 6.7  | .266    |

\*Significant at .05 level of confidence

Table 1 shows that the systolic blood pressure mean scores of batsmen and bowlers on sphygmomanometer are 122.04 mm Hg and 122.37 mm Hg respectively. The Z-ratio of the mean difference on blood pressure test is .237. It is not significant at .05 level of confidence. Hence, no significant difference is found between the mean scores of Batsman and Bowlers on systolic blood pressure. Table 1 also shows that the diastolic blood pressure mean scores of batsmen and bowlers on sphygmomanometer are 80.56 mm Hg and 80.26 mm Hg respectively. The Z-ratio of the mean difference is .266. It is not significant at .05 level of confidence. Hence, no significant difference is found between the mean scores of Batsman and Bowlers on diastolic blood pressure.

### Discussion of findings

The results suggested that there is no significant difference

between the mean scores of Batsman and Bowlers on physiological variable blood pressure (systolic and diastolic). This may be due to the same age group of batsmen and bowlers. At rest, normally in the young male adults the average systolic blood pressure is 120 mm Hg. And the average diastolic blood pressure is 80mm Hg. There seems to be no other specific reason why the blood pressure of the batsmen and bowlers should differ.

### Conclusion

Based on the results of the present study the following conclusion is drawn: There exists no significance difference between Batsman and Bowlers on physiological variable blood pressure.

### Implications

The findings of the study have a number of implications for coaches, physical education teachers, trainers and cricket players.

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