

Relationship between Body Mass Index and Selected Physical Fitness Variables of Ranji Cricket Players

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Abstract: Cricket has become has one of the most popular game in the world and of all the major game in India it is the only one that has been jealously preserved by all those who player supported. Physical variables are the most important contributing factors for better performance in all sports and games so is in Cricket. The game of Cricket requires considerable amount of physical fitness and mastery of skills. A Cricket player ought to possess specific speed, strength, power, agility, flexibility and endurance in abundance so as to learn and master the techniques of the game. Modern demands in one day competitions, especially for training of fast bowlers, batsman, fielders and wicket - keepers adequate emphasis is given for the development physical characteristics. Therefore the modern trend in the field of Cricket is to assess the related components successfully as a part of total body and size of each Cricketer and interpret how far each of these components are helpful in the performance of a Cricketer under match condition. **Purpose:** The purpose of the study was to find out the Body Mass Index (BMI) status, Flexibility and Hand grip strength of Ranji cricket players and also relationship between BMI and flexibility and hand grip strength of Ranji cricket players. **Procedure:** In this study The selected sample consists of Thirty Ranji Cricket players, each Fifteen players from Karnataka and Madhya Pradesh team. They were participated in the 86th Ranji season. BMI measuring weight and Height inserted into BMI formula and converted it in to BMI score and recorded in kg/m². Another two physical fitness variables are Flexibility and Hand grip test. Equipment used for Flexbox sit and reach flexibility tester and Hand grip dynamometer for Hand grip test. **Statistical Technique:** The data collected to achieve the purpose of the study was tested with the statistical technique Descriptive statistics, „T“ test, Karl Pearson’s coefficient of correlation. **Results:** that selected physical fitness variables like flexibility and handgrip strength are negatively influencing on the body mass index of Ranji Cricket players.

Keywords: BMI, Fitness variables, Flexibility, Grip strength, Ranji, Cricketers

1. Introduction

A sport is a worldwide phenomenon. It has become an interesting aspect for human amusement and a cultural phenomenon of great magnitude and complexity. It has got mass participation, as it attracts people either for recreation, physical fitness or for profession. Sports are organized at competitive levels since ancient times but now competition in sports has achieved the highest level. Hundreds of young aspirants are devoting time and energy for achieving success in these events. Among sports, cricket is more popular as it is great fun and people of all ages can enjoy it. Many studies have shown that specific anthropometric characteristics are significantly associated with success in sports. Therefore, understanding the body composition of top level athletes and then competitive weights for the athletes has been done for decades and is considered an essential part of the total management process. Scientists all over the world are looking for a standard formula that can improve the performance of elite players and discover talents as efficiently as possible. Since each sport has its own specific demands, every athlete should have specific anthropometrical characteristics and body composition figures for his or her own sports discipline. Anthropometric dimension like lean body mass percentage and physical fitness dimensions like hand grip strength (HGS) and flexibility play an important role in cricket. Many scientists have done a research on anthropometric parameters of cricket players and hand grip strength in them. The physical fitness of a player however, can be a prime determinant of success during a tournament. Similarly, a cricket player

would need to develop higher levels of basic physical qualities such as strength, flexibility, endurance, speed and agility to be able to compete effectively against stronger opponents. If a player wants to achieve reasonable at international competitions, improvements in physical fitness need to be emphasized in addition to skill training. It is therefore useful to assess both physiological and motor performance components thought to be important in a particular sport at various levels. Cricket is a multi - faceted sport with multiple formats based around both the standard of play, the desired level of formality and the time available. An important division in terms of professional Cricket is between matches limited by time in which the teams have two innings apiece, and those limited by number of overs, in which they have a single innings each. The former, known as first - class Cricket, has duration of three to five days (there have been examples of "timeless" matches too); the latter, known as limited over Cricket because each teams bowls a limit of typically 50 or 20 over, has a planned duration of one day only.

2. Methodology

For this study Thirty Ranji cricket players were selected as a subject, they were subjected to selected Body Mass Index (BMI) variables, Flexibility and Handgrip strength. The collected data was treated with „T“ test, and Descriptive statistical technique to know the BMI and Physical fitness status of Ranji Cricket players. To investigate the relationship between the Body Mass Index (BMI) and selected physical fitness variables of Ranji Cricket players

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the Karl Pearson's coefficient of correlation statistical technique has been used. The data collected to achieve the purpose of the study was tested with the statistical technique Descriptive statistics, 'T' test, Karl Pearson's coefficient of correlation. The results were presented in the following tables.

Statistical Analysis

The data collected to achieve the purpose of the study was tested with the statistical technique Descriptive statistics, 'T' test, Karl Pearson's coefficient of correlation statistical technique. The results were presented in the following tables and graphs.

3. Results and Discussion

Table 1: Descriptive statistics of Body Mass Index and Selected physical fitness variables of Ranji cricket players

Variables	Minimum	maximum	Mean	Std. Deviation
Body Mass Index	22.05	32.88	23.937	2.003
Flexibility	20.00	36.00	32.533	3.319
Right Handgrip Strength	30.00	58.00	48.367	7.304
Left Hand Grip Strength	32.00	62.00	51.567	8.529

The above table shows the descriptive statistics of variables selected for the study. It shows the minimum, maximum, mean and standard deviation of selected variables of body mass index (BMI) 22.05, 32.88, 23.937 and 2.003, flexibility 20.00, 36.00, 32.533 and 3.319, right hand handgrip strength 30.00, 58.00, 48.367 and 7.304 and left hand handgrip strength 32.00, 62.00, 51.567 and 8.529 respectively.

Table 2: Shows the Relationship between Body Mass Index (BMI) and Selected Physical Fitness Variables of Ranji Cricket Players

Variables		Flexibility	Right Hand Handgrip Strength	Left Hand Handgrip Strength
Body Mass Index	Pearson Correlation	- 0.873**	- 0.742**	- 0.806**
	Sig. (2 - tailed)	0.000	0.000	0.000
	N	30	30	30

Significant at 0.05 level

The above table indicates relationship between body mass index and selected physical fitness variables of Ranji Cricket players. The p - value of body mass index and flexibility is 0.000, body mass index and right hand handgrip strength is 0.000 and body mass index and left hand handgrip strength is 0.000 which are all lesser than the significant value 0.05. Hence null hypothesis was rejected and formulated the alternative hypothesis that there is a significant relationship between body mass index and selected physical fitness variables of Ranji Cricket players. Further it concluded that selected physical fitness variables like flexibility and handgrip strength are negatively influencing on the body mass index of Ranji Cricket players.

4. Conclusion

There is a significant relationship between body mass index

and selected physical fitness variables of Ranji Cricket players. It indicates that selected physical fitness variables like flexibility and handgrip strength are negatively influencing on the body mass index of Ranji Cricket players.

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