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A comparative study of body mass index between different games players

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Abstract
The purpose of the study was to investigate the body mass index of different games players. For the present study 60 male inter-university games players were randomly selected as sample. All samples were selected from the Maharshi Dayanand University Rohtak. The age of the subjects was ranged from 18-28 years. The data was analyzed by One Way ANOVA test in the order to determine the difference of Body mass index between cricket, wrestling and volleyball games players if there were significant difference than the LSD post-hoc test was use to analyze the mean differences and their significance. For testing the hypothesis the level of significance was set at 0.05. We find out a significant difference between cricket, wrestling and volleyball games players in their body mass index. Body mass index of volleyball games players is low in comparison of two other games players.

Keywords: BMI, Cricket, Wrestling, Volleyball

Introduction
In the field of physical education and sports, Physical Fitness and BMI play a major role. The sportsman, who doesn't have optimum level of Physical Fitness and normal level of BMI, cannot face the competition successfully. Some parameters such as family support, financial, moral, education and sports background of the family could also assist in the overall fitness as well as performance of their child. Inter-personal relationship with residential status, mode of stay and involvement of family members may lead to lack of support to participate in sports practice. The desired goals can be achieved better in sports performance, if the members of the family are also involved in sports and games participation. In absence of it, sports person as well as the society will suffer a greater lose.

Purpose of the study
The main purpose of the study was to compare the body mass index between cricket, wrestling and volleyball games players.

Hypothesis of the study
There would be no difference in body mass index between cricket, wrestling and volleyball games players.

Research process and methodology
The sample for the present study was 20-20 inter-university players of cricket, wrestling and volleyball games from MDU, Rohtak were randomly selected. The age of the subjects was ranged from 18-28 years.

Tool and Techniques
For measure the body mass index we measure height in meter and weight in kg.

$$\text{Body mass index} = \frac{(\text{height in meter})^2}{\text{Weight (kg)}}$$

Statistical Method
The obtained data were analyzed by applying one way ANOVA in order to determine the body

mass index between cricket, wrestling and volleyball games players if there were significant difference than the LSD post-hoc test was use to analyze the mean differences and their significance. The level of significance was set at 0.05.

Table 1: Body mass index

	Sum of squares	Df	Mean square	F	Sig.
Between Groups	100.37	2	50.18		
Within Groups	353.42	57	6.20	8.09	.001
Total	453.80	59			

An analysis of table -1 reveals that there is significant difference in body mass index between cricket, wrestling and volleyball games players. Because significant value is less than level of significance which is 0.05 since the calculated significance value is found significant, therefore to determine the pair mean difference among the selected games players LSD post hoc test was computed and its shows in table no 2.

Table 2: Mean difference of body mass index between cricket, wrestling and volleyball games players.
Body mass index

Grouping Variable		Mean Difference	Std. Error	Sig(p)
Cricket	**Wrestling**	**1.14**	**.78**	**.153**
	Volleyball	3.13*	.78	.000
Wrestling	Cricket	1.14	.78	.153
	Volleyball	1.99*	.78	.014
Volleyball	Cricket	3.13*	.78	.000
	Wrestling	1.99*	.78	.014

The post-hoc test result revealed that there is significant difference between students of cricket and volleyball games players in their body mass index. No difference was found between cricket and wrestling games players in their body mass index. Significant difference found between the cricket, wrestling and volleyball games players in their body mass index. The mean values clearly shows that cricket game players having high body mass index in comparison to volleyball and wrestling games players. The estimated mean value of the student's body mass index is illustrated below in Figure no 1.

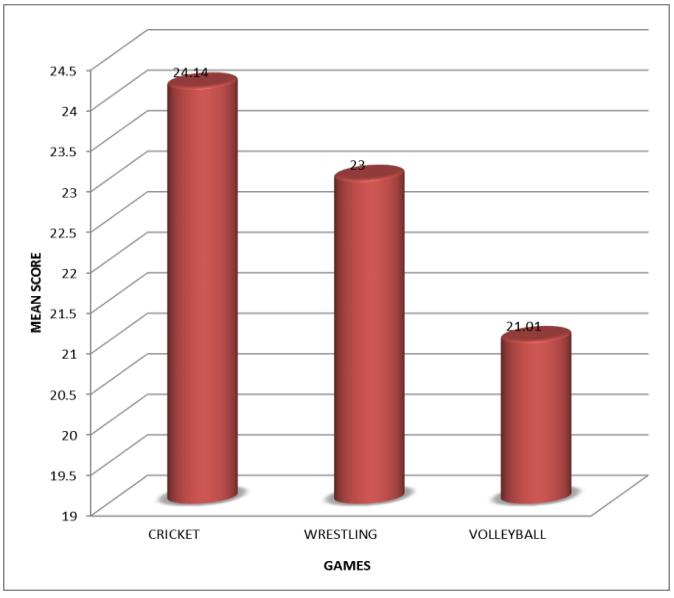

Fig 1: Mean difference in body mass index between cricket, wrestling and volleyball games players

Discussion on findings

The findings of the study showed that there was significant difference in the obtained value of body mass index between different games players. Body mass index of cricket games players are significantly better than the other two games. There is not much significantly difference was found between cricket and wrestling students in Body mass index.

Conclusion

On the basis of result obtained from the study, following conclusions are drowning:-

The data showed that significant difference observed in body mass index of cricket, wrestling and volleyball games players. Body mass index of volleyball games players is low in comparison of two other games players. We can say that volleyball game players are having low fat comparison to cricket and wrestling games players.

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