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COMPARATIVE STUDY OF FLEXIBILITY, AGILITY AND BODY MASS INDEX OF BASKETBALL AND FOOTBALL PLAYERS

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ABSTRACT

Objective of the study was to compare flexibility,agility and body mass index of basketball and football platers. 40 intercollegiate players were selected rendamly i.e. 20 basketball and 20 football players. Data was collected and analysised by applying mean median SD SDE and critical ratio. The study shown significant results

KEYWORDS: Flexibility, Agility,BMI, Basketball, Football.

I. INTRODUCTION

Sports are all forms of physical activity which, through casual or organized Participation, aim to use, maintain or improve physical fitness and provide entertainment to participation. Sports may be competitive, where a winner or winners can be identified by objective means and may require a degree of skill, especially at higher levels. Sports are usually governed by a set of rules or customs. Physical event such as scoring goals or crossing a line first often define result of a sports.

In most educational systems, physical education, also called physical training in many countries, through each with a very different connotation, is a course-both at academic and at teacher training level in the curriculum which utilizes learning in the cognitive (perceptual-conceptual development and information –processing ability), affective (experience of feeling or emotion), and psychomotor (neuromuscular experience of activity) domains in a play or movement exploration setting. Both participation and study are vital to physical education. The primary aims of physical education vary historically, based on the needs of the time and place. Often, many different types of physical education occur simultaneously, some intentionally and others not. Most modern schools' goal is to equip students with the knowledge, skills, capacities, and values along with the enthusiasm to maintain a healthy lifestyle into adulthood. Some schools also require physical education as a way to promote weight loss in students. Activities included in the programmes are designed to promote physical fitness, to develop motor skills, to instill knowledge and understanding of rules, concepts, and strategies, and to teach students to work as part of a team, or as individuals, in a wide variety to competitive activities

II. OBJECTIVES

The objectives of the Study as follows -

1. The study would be helpful to coaches and trainers for the selection of Basketball and Football Players.
2. The study would be helpful to know the Agility of Basketball and Football Players.
3. The study would be helpful to know the Body Mass Index of Basketball and Football Players.
4. The study would be helpful to know the significant difference of the high and low flexibility of Basketball and Football Players.
5. The study would be helpful in comparing the agility of Basketball and Football Players.
6. The study would be helpful in comparing the Body Mass Index of Basketball and Football Players.
7. The study would be helpful to coaches and trainers for the selection of Basketball and Football Players.

III. HYPOTHESIS

It was hypothesized, "There would be significant difference between inflexibility agility, Body Mass Index of Basketball and Football Players.

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IV. SCOPE OF THE STUDY

Delimitations :
The study was delimited the following respect while taking into conservation during like interrelation of result.

1. The study was delimited to intercollegiate Basketball and Football Players of Sant Gadge Baba Amravati, University Amravati.
2. The study was delimited to only male players.
3. The age group of the players was from 18-28 years.
4. Only flexibility, agility and Basketball and Football Players was considered.
5. The study was delimited to Basketball and Football Players during the session 2012-2013.

Limitations
In this study following are the limitations which were not be taken into consideration.

1. Their was no contort over to diet and daily routine of Basketball and Football Players.
2. Socio-economical status of the players was not be considered.
3. Personality traits and habits were not consider in this study.
4. No specific motivational technique were used while collecting data.
5. The previous training and coaching of players were not been considered.
6. In this study caste, religion of the players was not considered.
7. Family background of the players was not be considered.

V. DESIGNE OF THE STUDY

Sources of data
The present research was take the male subjects for the study. The sources of data was made from the Basketball and Football Players. Who are participated in their intercollegiate tournament of Sant Gadge Baba Amravati University.

Selection of Subject
The researcher was selected 20-20 male Players from Basketball and Football games.

Sampling Method
The 40 Subjects were selected by simple random sampling method.

Equipments used for collection of data
Following equipments will be used for collection of data :

1. Flexibility : Flexibility will be measured with goniometry or flexiometer.
2. Agility: Agility will be measured with 40 yard Shuttle run.
3. B.M.I. : B.M.I. will be measured by weighing machine and stadiometer.

Collection of Data:
The data was collected by goniometry, 40 yard shuttle run, weighing machine and stadiometer. After that collected data were put in Microsoft excel to develop master chart and then 't' test will be used for this statistical treatment.

VI. STASTICAL ANALYSIS

The data collected on 40 subjects was Analyzed by Applying 't' test to compare flexibility, Agility and Body mass index of Basketball and Football players

Table 1 Showing Comparison Between Basket Ball and Football Players in Forward flexibility (Trunk)

Group	Mean	S.D.	S.E.	M.D.	O.T.	T.T.	D.F.
Basket Ball	**100.45**	**9.156**	**2.312**	**7.8**	**3.373**	**2.02**	**38**
Football	**92.65**	**4.804**					

***Significant at 0.05 level of confidence.**
Tabulated 't' 0.05 (38) = 2.02

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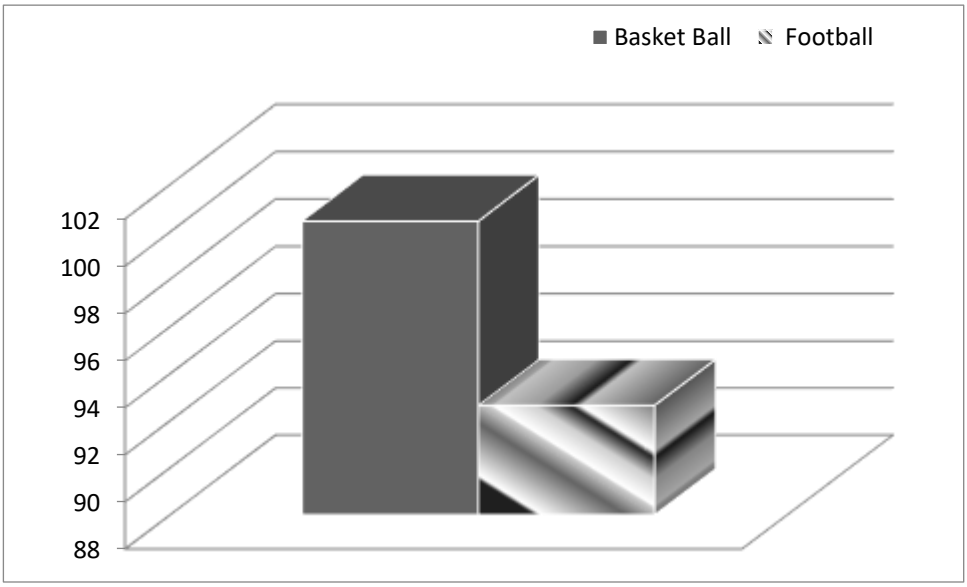
Table-1 shows that there is significant difference between means of Basket Ball and Football Players of Forward flexibility (Trunk). Where mean value of Basket Ball players is 100.45 and that of Football player Mean Value is 92.65 whose mean difference is 7.8. To check the significant difference between Basket ball and Football players of Forward flexibility (Trunk). The data was again Analyzed by applying 't' test S.D. was calculated S.D. of Basket ball is 9.156 and that of Football players is 4.804. Whose standard error was calculated which is 2.312. After that 't' test was applied. It was found that there is significant difference in flexibility between Basket Ball and Football player because calculated 't' = 3.373 which is more than Tabulated 't' = 2.02 at 0.05 level of significance



Graph-1 Showing Comparison Between Basket Ball and Football Players in Forward flexibility (Trunk)

Table-2 Showing Comparison Between Basket Ball and Football Players in Backward flexibility (Trunk)

Group	Mean	S.D.	S.E.	M.D.	O.T.	T.T.	D.F.
Basket Ball	**82.900**	**7.601**	**2.105**	**6.050**	**2.874**	**2.02**	**38**
Football	**76.850**	**5.556**					

***Significant at 0.05 level of confidence.**
Tabulated 't' 0.05 (38) = 2.02

Table-1 shows that there is significant difference between means of Basket Ball and Football Players of Backward flexibility (Trunk). Where mean value of Basket Ball players is 82.900 and that of Football player Mean Value is 76.850 whose mean difference is 6.050 To check the significant difference between Basket ball and Football players of flexibility. The data was again Analyzed by applying 't' test S.D. was calculated S.D. of Basket ball is 7.601 and that of Football players is 5.556. Whose standard error was calculated which is 2.105. After that 't' test was applied. It was found that there is significant difference in flexibility between Basket Ball and Football player because calculated 't' = 2.874 which is more than Tabulated 't' = 2.02 at 0.05 level of significance

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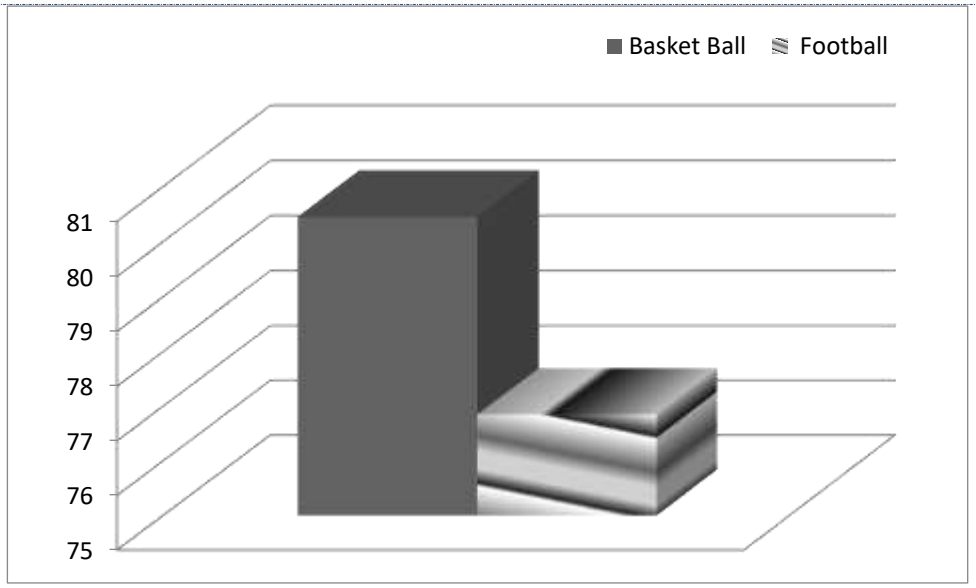

Graph-2 Showing Comparison Between Basket Ball and Football Players in Backward flexibility (Trunk)

Table-3 Showing Comparison Between Basket Ball and Football Players in Right flexibility (Trunk)

Group	Mean	S.D.	S.E.	M.D.	O.T.	T.T.	D.F.
Basket Ball	**49.70**	**5.449**	**1.576**	**3.70**	**2.347**	**2.02**	**38**
Football	**46.00**	**4.472**					

***Significant at 0.05 level of confidence.**
Tabulated 't' 0.05 (38) = 2.02

Table-1 shows that there is significant difference between means of Basket Ball and Football Players of Right flexibility (Trunk). Where mean value of Basket Ball players is 49.70 and that of Football player Mean Value is 46.00 whose mean difference is 3.70 To check the significant difference between Basket ball and Football players of flexibility. The data was again Analyzed by applying 't' test S.D. was calculated S.D. of Basket ball is 5.449 and that of Football players is 4.472. Whose standard error was calculated which is 1.576. After that 't' test was applied. It was found that there is significant difference in flexibility between Basket Ball and Football player because calculated 't' = 2.347 which is more than Tabulated 't' = 2.02 at 0.05 level of significance

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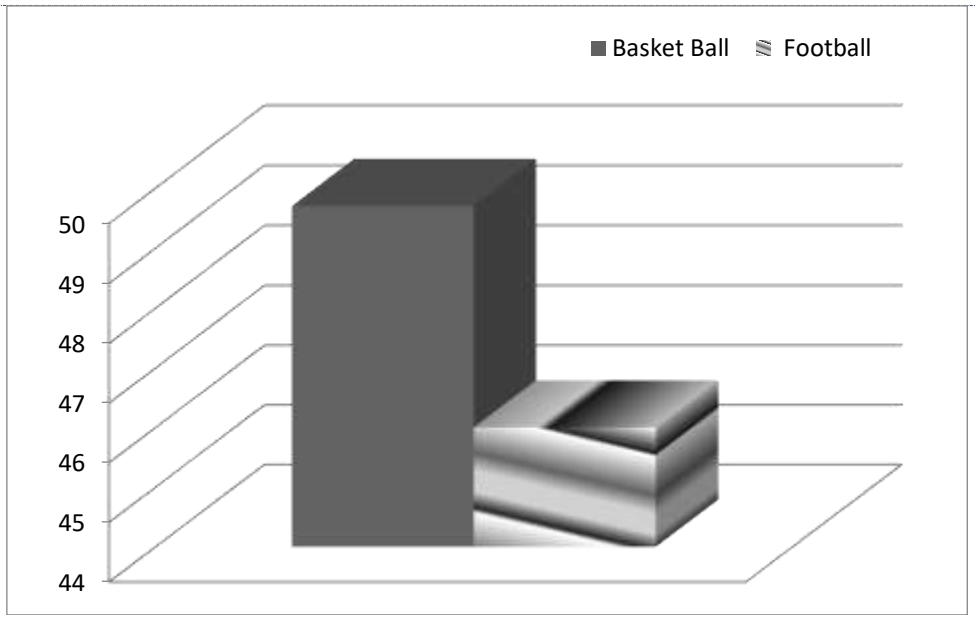

Graph-3 Showing Comparison Between Basket Ball and Football Players in Right flexibility (Trunk)

Table-4 Showing Comparison Between Basket Ball and Football Players in Left flexibility (Trunk)

Group	Mean	S.D.	S.E.	M.D.	O.T.	T.T.	D.F.
Basket Ball	**47.40**	**5.195**	**1.506**	**3.60**	**2.390**	**2.02**	**38**
Football	**43.80**	**4.287**					

***Significant at 0.05 level of confidence.**
Tabulated 't' 0.05 (38) = 2.02

Table-1 shows that there is significant difference between means of Basket Ball and Football Players of Left flexibility (Trunk). Where mean value of Basket Ball players is 47.40 and that of Football player Mean Value is 43.80 whose mean difference is 1.506 To check the significant difference between Basket ball and Football players of flexibility. The data was again Analyzed by applying 't' test S.D. was calculated S.D. of Basket ball is 5.195 and that of Football players is 4.287. Whose standard error was calculated which is 1.506. After that 't' test was applied. It was found that there is significant difference in flexibility between Basket Ball and Football player because calculated 't' = 2.390 which is more than Tabulated 't' = 2.02 at 0.05 level of significance

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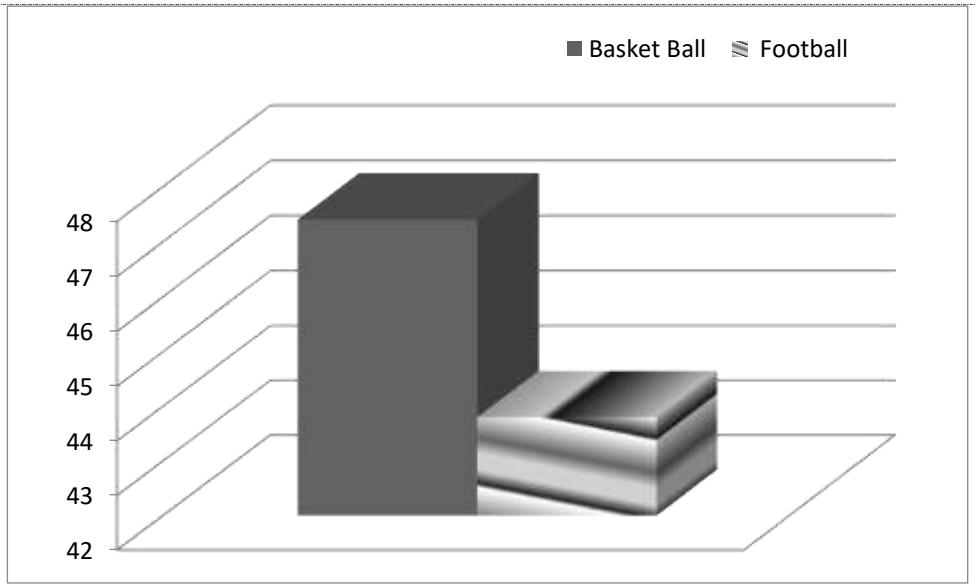


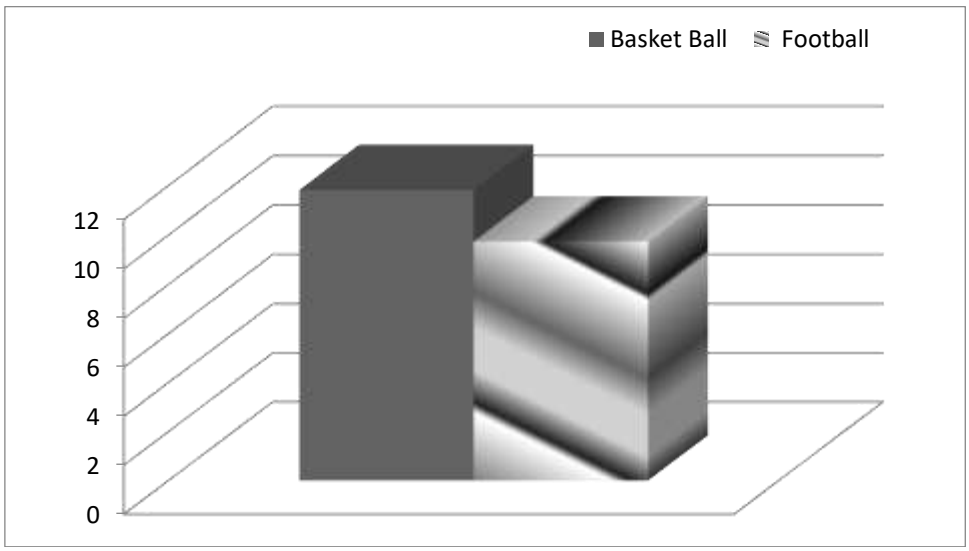
Graph-4 Showing Comparison Between Basket Ball and Football Players in Left flexibility (Trunk)

Table-5 Showing Comparison Between Basket Ball and Football Players in Agility

Group	Mean	S.D.	S.E.	M.D.	O.T.	T.T.	D.F.
Basket Ball	**11.815**	**1.184**	**0.288**	**2.085**	**7.234**	**2.02**	**38**
Football	**9.730**	**0.510**					

***Significant at 0.05 level of confidence.**
Tabulated 't' 0.05 (38) = 2.02

Table-2 shows that there is significant difference between means of Basket Ball and Football Players of Agility. Where mean value of Basket Ball players is 11.815 and that of Football player Mean Value is 9.730, whose mean difference is 2.085. To check the significant difference between Basket ball and Football Players of Agility. The data was again Analyzed by applying 't' test S.D. was calculated S.D. of Basket ball is 1.184 and that of Football players is 0.510. Whose standard error was calculated which is 0.288. After that 't' test was applied. It was found that there is significant difference in agility between Basket Ball and Football player because calculated 't' = 7.234 which is more than Tabulated 't' = 2.02 at 0.05 level of significance.



Graph-5 Showing Comparison Between Basket Ball and Football Players in Agility

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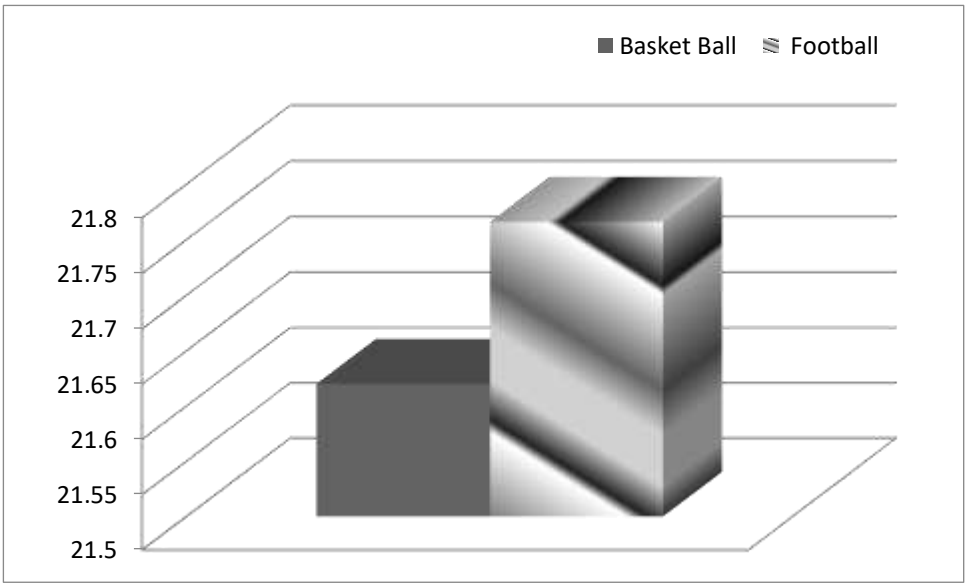
Table-6 Showing Comparison Between Basket Ball and Football Players in Body mass index

Group	Mean	S.D.	S.E.	M.D.	O.T.	T.T.	D.F.
Basketball	**21.620**	**1.238**	**0.489**	**0.146**	**0.298**	**2.02**	**38**
Football	**21.766**	**1.805**					

***Significant at 0.05 level of confidence.**
Tabulated 't' 0.05 (38) = 2.02

Table-3 shows that there is not significant difference between means of Basket Ball and Football Players of Body mass index. Where mean value of Basket Ball players is 21.620 and that of Football player Mean Value is 21.766, whose mean difference is 0.146. To check the significant difference between Basket ball and Football players of Body mass index. The data was again Analyzed by applying 't' test S.D. was calculated S.D. of Basket ball is 1.238 and that of Football players is 1.805. Whose standard error was calculated which is 0.489. After that 't' test was applied. It was found that there is no significant difference in Body mass index between Basket Ball and Football player because calculated 't' = 0.298 which is less than Tabulated 't' = 2.02 at 0.05 level of significance.



Graph-6 Showing Comparison Between Basket Ball and Football Players in Body Mass Index

VII. DISCUSSION OF FINDING:

The findings of this study show that there was partially significant difference among the Basket ball and Football players (inter college level players) of Sant Gadge Baba Amravati University, Amravati.

A comparison of flexibility, agility and body mass index indicated significant difference. The basketball and Football player showed significant difference in flexibility and agility, but in significant difference in body mass index.

VIII. TESTING OF HYPOTHESIS

In the light of above results it was found that the assumption made by the researcher was partially correct in beginning, it was hypothesized that there might be significant difference between the flexibility, agility and body mass index of basketball and Football players, at college level of Sant Gadge Baba Amravati University, Amravati.

On the overall comparison of flexibility, agility and body mass index of basketball and Football players at college level of Sant Gadge Baba Amravati University, Amravati, it was found there was partial significant

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difference between basketball and Football players at college level of Sant Gadge Baba Amravati University, Amravati, therefore the hypothesis was accepted

IX. CONCLUSION

On the basis of finding and within the limitation of the presents study following.

It was seen in table – I there was a significant difference in Forward flexibility (Trunk) between the Basketball and Football players As 't' value to be significant at 0.05 level with 38 degree of freedom was 2.02 where obtained 't' was 3.373.

It was seen in table – II there was a significant difference in Bakward flexibility (Trunk) between the Basketball and Football players As 't' value to be significant at 0.05 level with 38 degree of freedom was 2.02 where obtained 't' was 2.874.

It was seen in table – III there was a significant difference in Right flexibility (Trunk) between the Basketball and Football players As 't' value to be significant at 0.05 level with 38 degree of freedom was 2.02 where obtained 't' was 2.347.

It was seen in table – IV there was a significant difference in Left flexibility (Trunk) between the Basketball and Football players As 't' value to be significant at 0.05 level with 38 degree of freedom was 2.02 where obtained 't' was 2.390.

It was seen in table – V there was a significant difference in Agility between the Basketball and Football players As 't' value to be significant at 0.05 level with 38 degree of freedom was 2.02 where obtained 't' was 7.234.

It was seen in table – VI there was no significant difference in Body mass index between Basketball and Football players As 't' value to be significant at 0.05 level with 38 degree of freedom was 2.02 where obtained 't' was 0.298

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