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RESEARCH ARTICLE

COMPARATIVE STUDY OF FLEXIBILITY IN MALE PLAYERS OF DIFFERENT SPORTS

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ABSTRACT

Background: Fitness may be divided in three areas physical, mental and social fitness .In physical fitness flexibility is one of the very important component. Ground flexibility may increase the level of performance and low level of flexibility may produce injury proneness.
The aim of the study was to compare three major joints flexibility of cricket, basket and football players.
Method: 30 male university level players 10 from each sports (cricket, basketball and football) were selected conveniently for this study. For flexibility of the shoulder, trunk and lower back and ankle joint were chosen in this study for data analysis Mean, SD, ANOVA and 'T' test were adopted.
Results: Footballers were higher in shoulder, trunk and lower back flexibility whereas cricketers were better in ankle flexibility. Flexibility of different joints very sports to sports due to the use of different joints may.
Conclusion: It may be from this study footballers level of flexibility were better than basketball and cricket players. To measure the flexibility more sophisticated accurate instruments were recommended for future study.

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INTRODUCTION

Flexibility is the movement available at our joints, usually controlled by the length of our muscles. This is often thought to be less important than strength, or cardiovascular fitness. However, if we are not flexible our movement decreases and joints become stiff. Flexibility in sports allows us to perform certain skills more efficiently, but it is also important in other sports to aid performance and decrease the risk of injury. There are different factors that affect flexibility such as age, gender, activity, heredity, injury and pain. The relationship of flexibility to athletic performance is likely to be sport-dependent. Decreased flexibility has been associated with increased in-line running and walking economy. Increased stiffness may be associated with increased isometric and concentric force generation, and muscle energy storage may be best manifested by closely matching muscle stiffness to the frequency of movement in stretch-shorten type contractions. (Dr Gilbert W. Gleim, Malachy P. McHugh, 1997) Improving flexibility through stretching is another important preparatory activity that has been advocated to improve physical performance. Maintaining good flexibility also aids in the prevention of injuries to the musculoskeletal system. (Dr Frank G. Shellock, William E. Prentice, 1985)

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Flexibility is one of the main fitness components, important for success in many sports. Certain sports, such as gymnastics, it is one of the most important physical attributes. In many other sports, including team field sports, good flexibility is an important part of the overall fitness profile. Good flexibility is also important for injury prevention. Stretching exercises can be used in injury rehabilitation, preparation for sport (warm up), and for recovery after exercise.(topendsports.com, n.d.)

MATERIALS AND METHODS

The present study was carried out in the Department of Physical Education, Visva-Bharati, Santiniketan. The study was carried out in 30 male players (10 from each game namely cricket, basketball and football) aged between 20 to 28 yrs. who were selected for university team and still playing at university level.

In this study different regional flexibility was measured by the following tests:

Lower Back Flexibility Test (Wells & Dillon, 1986) to measure Lower Back Flexibility.
Shoulder Flexibility Test (Johnson & Nelson, 1986) to measure Shoulder Flexibility.
Ankle Flexibility Test (Johnson & Nelson, 1986) to measure Ankle Flexibility.

To make a logical conclusion the mean, standard deviation (SD), 'ANOVA' and independent 'T' test was employed.

RESULTS

Table 1 shows that the difference among cricket, basketball and football players of lower back flexibility "f" ratio was employed and the level of significance was set at 0.05. The mean value of cricket, basketball and football players were 6, 7.16 and 8.9 respectively. The obtained "f" ratio 3.02 was lesser than the table value 3.35, so it was found to be insignificant.

Table 1. Lower Back Flexibility

	Cricket	Basket	Football	'f' ratio	Table Value of 'F' Ratio (df =2,27)
Mean	6(inch)	7.16(inch)	8.9 (inch)	3.02	3.35
SD	3.57	2.20	1.86		

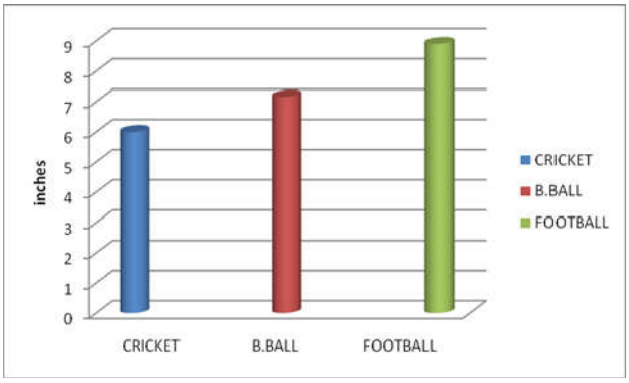

Figure 1. The mean of cricket, basket ball and football players for lower back flexibility

Table 2. Shoulder Flexibility

	Cricket	Basketball	Football	'f' ratio	Table value of 'f' ratio (df=2,27)
Mean	20.6(inch)	18.56(inch)	21 (inch)	1.08	3.35
Sd	5.19	2.44	3.77		

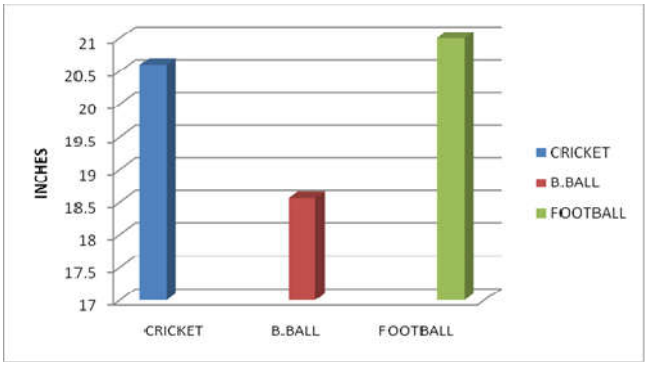

Figure 2. The mean of cricket, basket ball and football players for shoulder flexibility

Table 2 shows that the difference among cricket, basketball and football players of shoulder flexibility "f" ratio was employed and the level of significance was set at 0.05. The mean value of cricket, basketball and football players were 20.6, 2.20 and 21 respectively. The obtained "f" ratio 1.08 was lesser than the table value 3.35, so it was found to be insignificant.

Table 3. Ankle Flexibility

	Cricket	Basketball	Fooball	'f' ratio	Table value of 'f' ratio (df=2,27)
Mean	32.25 (inch)	26.22(inch)	29.65(inch)	8.85*	3.35
Sd	2.77	3.09	3.70		

*Significant at 0.05 level

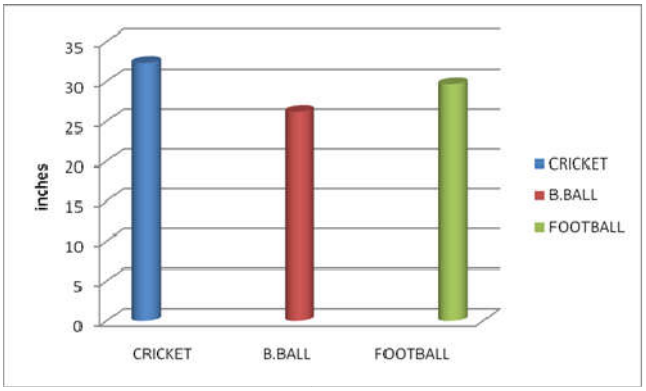

Figure 3. The mean of cricket, basket ball and football players for ankle flexibility

Table 3 shows that the difference among cricket, basketball and football players of ankle flexibility "f" ratio was employed and the level of significance was set at 0.05. The mean value of cricket, basketball and football players were 32.25, 26.22 and 29.65 respectively. The obtained "f" ratio 8.85 was lesser than the table value 3.35, so it was found to be insignificant.

Table 4 shows the individual difference in ankle flexibility between cricket and basketball player, basketball and football player, and cricket and football players, the calculated "t" values are respectively 9.77, 5.33 and 4.43 which are greater than the table value at 0.05 level. So in between all three individual groups' significant difference was observed.

Table 3.1. 'T 'values of ankle flexibility of cricket, basketball, and football groups

	Cricket	Basketball	Football	Table value of 't'
Cricket		9.77*	4.43*	2.05 (df=27)
Basketball			5.33*	

*significant at 0.05 level

Finding of the study

Finding of the study reveals that no significance difference was observed in lower back and shoulder flexibility among players of three different sports, cricket basketball and football. In case of ankle flexibility among players of three different sports was found significant because the calculated F value was greater than the tabulated F value at 0.05 level of significance. Further to assess which player was better among the three sports LSD post Hoc was applied. In case of ankle flexibility in between Cricket and Basketball, Basketball and Football, and Football and Cricket players' significance difference was observed which may due to the movement of ankle involve in sports.

Conclusion

Based on result of the present study and within the limitation following conclusions are drawn-

I. No significant difference was observed in lower back and shoulder flexibility but in this two component cricket players are better than basketball player and football players are better than cricket and basketball players.
II. In case of ankle flexibility significant difference was observed among cricket football and basketball players. In this football players are better than basketball players and cricket players are better than basketball and football players.

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