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A comparative study on selected physical fitness variables of inter collegiate cricket and football players of Goa

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Abstract

The purpose of the present study was to compare the selected physical fitness variables of professional college football and cricket players who actively participate in inter collegiate sports tournaments. Total sixty four (64) (32 from Football and 32 from cricket) male players from various colleges of Goa were selected for this study. Their age ranged between 19-24 years. AAHPER youth physical fitness test was utilized to measure selected physical fitness components. It was hypothesized that no significant difference would be found between selected physical fitness variables for football and cricket players. For analysis of the data Mean & SD were calculated and to examine the significance difference between the group mean of different physical fitness variables, 'T' test was applied, and level of confidence was set at .05 levels. Study concluded that significant difference found between the means of selected physical fitness variables such as speed and agility (shuttle run), explosive strength of legs (SBJ), speed of lower extremities (50mt. dash) and explosive strength, cardio-vascular endurance (12 min run & walk) and no significant difference found between the means of muscular strength (dynamic) and endurance of arm & shoulders (Pull-ups), muscular strength and endurance of trunk (bent-knee sit ups) of college level football and cricket players.

Keywords: Physical Fitness, Football and Cricket Players

Introduction

The word of training methodology has crossed many milestones as a result of different types of researchers in general and their application to the sports development in particular. In the modern scientific age, athletes are being trained by highly sophisticated means for better achievement in their concerned sports. They are being exposed to the exercises and training methods which have proved beneficial for achieving higher standards. Much progress has been made in the recent years in the acquisition of knowledge about training means and techniques of sports skills. (Lamani, Chandu 2016)

With the constant demand for "high sports performance" the concept of soccer, to date, has been changed. The concept of "Total Soccer" applies skill development, tactical development, development of all important motor components and physiological parameters which are closely associated and contributes to performance in soccer. Not only the technical, physiological and physical development, the sports scientists are also making efforts to develop the intellectual ability of the soccer players. The existing literature in the field of soccer shows that endurance, speed, agility, maximum leg strength, upper body strength, leg power, muscular endurance, flexibility, coordination and reaction time are important pre requisites for efficient soccer performance. Football (Soccer) is a sport, which requires physical, psychological, technical and tactical qualities with all the required conditional abilities, soccer has become faster paced as skilled athletes from all over the world continue to be attracted towards it. It is a sport of rapid acceleration and velocity. (Santosh Singh, 2016)

Cricket is a sport in which fitness is traditionally not thought of as very important. The importance of fitness in any sport cannot be underlined. The fitter you are the better you'll play. But Cricket is one such sport which tests your game skills, mental strength, stamina and physical endurance as well. The success in the 1990s and 2000s of the world beating Australian team has been attributed to their professionalism, and in part to the way they

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addressed their fitness. (Bob, Woolmer 2003)
 Physical fitness is defined as the state of general well-being, physically sound and healthy, along with mental stability. Previously fitness was commonly defined as the capacity of the person to meet the physical demands of daily life and carry out the day’s activities without undue fatigue. However, because of increased leisure time, changes in lifestyles rendered this definition insufficient. These days, physical fitness is considered a measure of the body’s ability to function efficiently and effectively in work and leisure activities.

Fitness is important at all levels of the game, whilst being essential for top level players. It is beneficial for beginners who will improve both their effectiveness and enjoyment through good standards of fitness.

Purpose of the study

Purpose of this study was to compare the selected physical fitness variables of various inter collegiate level Football and cricket players who actively participate in inter collegiate sports tournaments organized by Goa University.

Significance of the Study

It is hoped that the data generated and interpreted in this study will help the Professional College Football and Cricket players, the information collected can be used for monitoring the training programme as well as for counselling, providing information about the standard of motor fitness one should have among Football and Cricket Players. The author also assumes that this study will help the Professional college

Football and Cricket Players to improve the standard of the game.

Limitations of the Study

1. It is assumed that the players who play for professional colleges are selected through a rigorous selection process and are of high standard.
2. All the subjects were expected to have taken sufficient rest and proper food the previous night.
3. It was assumed that all the players gave their 100% effort while testing.

Delimitations of the Study

1. The concept of Physical Fitness involves many abilities, however only few motor abilities, which are deemed to be essential to effective performance, are measured and recorded.
2. Because of paucity of time, only the players who have represented the SDM Institute team are considered for the study.

Methodology

Subjects - Total 64 subjects were selected for this study. 32 players from Football game and 32 players from cricket game as sample for the study. The test were conducted when they were practicing for their inter collegiate level tournament. Their age ranged between 19- 24 years. necessary Permission was taken from the institution head and sports department head.

Table 1: List Variables tested and recorded

Sr. No	Subjects	Numbers	Test	Equipment’s
01	Cricket players	N=32	50 meter dash	Stop Watch/ Nearest 0.001 seconds.
	Football Players	N=32		
02	Cricket players	N=32	Shuttle Run	Stop Watch / Nearest 0.001 seconds.
	Football Players	N=32		
03	Cricket players	N=32	12 Minutes run	Stop Watch / Nearest 0.001 seconds.
	Football Players	N=32		
04	Cricket players	N=32	Sit Ups	Unlimited Repetitions
	Football Players	N=32		
05	Cricket players	N=32	Pull ups	Unlimited Repetitions
	Football Players	N=32		
06	Cricket players	N=32	Standing Broad Jump	In CM
	Football Players	N=32		

Test

For measurement of selected physical fitness variables of various college level Football and cricket players AAHPER youth physical fitness test was utilized. The entire Test on

Players was conducted at BITS Pilani K.K.Birla Goa campus Deemed University cricket ground

Subjects and Number

Table 2: Selected Students from Colleges for the study

Sports	College / University / Institution			Number	Total
Cricket	Salgaocar Law college	M.E.S College	Don Bosco	32	64
	Number	12	10		
Football	Salgaocar Law college	M.E.S College	Don Bosco	32	
	Number	12	10		

Statistical Procedure

Mean and Standard Deviation was computed. Comparison was made on the basis of activity i.e. football and cricket. For this purpose ‘T’ test was applied. For testing the hypothesis

the level of confidence was set at.05 level of significance. Computation was done with the help of SPSS version 21.

Results and Findings of the Study

Table 3: Comparison of Means of Selected Physical Fitness Variables of selected College Level Football and Cricket Players of Goa University

Components	Group	Mean	S.D.	T
Pull – ups (in counts)	Football	7.47	3.22	0.733
	Cricket	8.08	3.43	
Bent – knee sit ups (in counts)	Football	29.34	6.32	1.235
	Cricket	27.66	4.38	
Shuttle – run(in seconds)	Football	10.12	0.42	2.976*
	Cricket	10.48	0.54	
Standing Broad Jump (in CM)	Football	198	22.04	4.267*
	Cricket	175	21.07	
50 Yard dash(in seconds)	Football	6.58	0.54	6.495*
	Cricket	7.49	0.58	
12- Minutes Run & walk (in meter)	Football	2410.22	240	7.622*
	Cricket	1980.48	210	

Significance at .05 levels –“T” Value required to be significant at .05 levels with 62 degree of freedom is 1.98

Table III - shows the comparison of means of selected physical fitness variables of Professional College level Football and cricket players.

- In pull-ups mean value of Football players is 7.47 and cricket player is 8.08.
- In bent-knee sit ups mean value of Football players is 29.34 and cricket player is 27.66.
- In shuttle-run -mean value of Football players is 10.12 and cricket player is 10.48.
- In standing broad jump mean value of Football players is 198 and cricket player is 175.
- In 50 yards dash mean value of Football players is 6.58 and cricket player is 7.49.
- In 12 min. run & walk mean value of football players is 2410.22 and cricket player is 1980.48.
- There is significant difference found between the means of selected physical fitness variables (Speed and agility (Shuttle-run), Explosive strength of legs (Standing broad jump), Speed of lower extremities and explosive strength (50 yards dash),
- There is no significant difference found between the means of selected physical fitness variables {Muscular strength (dynamic) and endurance of arm & shoulders (Pull- ups), Muscular strength and endurance of trunk (Bent-knee sit ups) Cardio-vascular endurance (12 min. run & walk)} of college level football and cricket players,
- As “t” value required Pull-ups (in count) Football 7.47 3.22 0.733 Cricket 8.08 3.43 Bent-knee sit ups (in count) Football 29.34 6.32 1.235 Cricket 27.66 4.38 Shuttle-run (in seconds) Football 10.12 0.42 2.976* Cricket 10.48 0.54 Standing broad jump (in cm) Football 198 22.04 4.267* Cricket 175 21.07 50 yards dash (in seconds) Football 6.58 0.54 6.495*Cricket 7.49 0.58 12 min. run & walk (in meter) Football 2410.22 240 7.622* Cricket 1980.48 210* Significant at .05 level “T” value required to be significant at .05 levels with 62 degree of freedom is 1.98
- There is significant difference found between the means of selected physical fitness variables {Speed and agility (Shuttle-run), Explosive strength of legs (Standing broad jump), Speed of lower extremities and explosive strength (50 yards dash),
- There is no significant difference found between the means of selected physical fitness variables {Muscular strength (dynamic) and endurance of arm & shoulders (Pull- ups), Muscular strength and endurance of trunk (Bent-knee sit ups)} Cardio-vascular endurance (12 min. run & walk)} of college level football and cricket players,
- As “t” value required to be significant is 1.98 and

calculated value is more compare to tabulated value. Of college level football and cricket players, as “t” value required to be significant is 1.98 and calculated value is less compare to tabulated value.

Conclusion

- Significant difference found between the means of selected physical fitness variables such as speed and agility, explosive strength of legs, speed of lower extremities and explosive strength, cardio-vascular endurance of college level football and cricket players.
- Mean value indicates that in shuttle run (speed and agility) cricket players are better than Football players, but in Standing broad jump (explosive strength of legs), 50 yards dash (speed of lower extremities and explosive strength), and 12 min. run & walk (cardio-vascular endurance) football players are better than cricket players.
- No significant difference found between the means of selected physical fitness variables {Muscular strength (dynamic) and endurance of arm & shoulders (Pull-ups), Muscular strength and endurance of trunk (Bent-knee sit ups)} of professional college level Football and cricket players.
- Mean value indicates that in Pull- ups (Muscular strength and endurance of arm & shoulders) cricket players are better than Football players, but in Bent- knee sit ups (Muscular strength and endurance of trunk) football players are better than cricket players.

As a result it was concluded that Specific Motor fitness tests should be used for monitoring and talent identification purposes need to replicate the demands of the sport as closely as possible.

Practical Application

It is vital that cricket and Football strength and conditioning coaches properly test and monitors motor fitness abilities in their athletes.

- The assessment used for talent identification and squad selection, and the monitoring of physical conditioning, should best represent the requirement of the sport. The research clearly demonstrates the need for specific speed and physical testing in cricket and Football.

Recommendation for Future Research work

Extensive research have been undertaken in several sports disciplines to identify Fitness characteristics of young cricket and Football players which enables coaches to identify promising talent in their respective sports disciplines. However, no research is traceable which identify Fitness and

other characteristics of young cricketers and Footballers. Therefore it is recommended to undertake research which might identify the fitness profiles of young cricketers and Footballers from normal population or other sporting population.

- In the present study sample size of young cricket and Football players was very small. Therefore, it is recommended to replicate such an investigation with larger sample size.
- Within each sports disciplines the demands placed on various specialists differs. Therefore Investigation of Motor Fitness profiles of cricket and Football specializing in bowling, batting, wicket keeping, striker, defender, Goal keepers is recommended.
- The present investigation involved cricketer and Footballers at College level. The Fitness profile at national and international level may be accentuated for various reasons. Therefore an investigation involving cricketers and Footballers of national and international repute may be undertaken.

Recommendation for Coaches and Administrators

- Therefore it is recommended that either training regime be made demanding or select candidates with Fitness Profiles.
- On the research findings involving young children in sports, identify talented cricketers and Footballer at early age and coach them right.
- It is recommended that coaches based on their knowledge of Motor Fitness profile required for various departments of the game of cricket and Football.

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