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A comparative study of speed and explosive strength of 14 to 20 years football players of rural and urban area of Bilaspur

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Abstract

Aim of the study was to compare the physical fitness variable of 14-20 years of rural and urban area of Bilaspur district in relation to their age. To fulfill the objective of the study 30 football player (15 each) players of Bilaspur was selected. The age of the selected subjects ranged from 14 to 20 years. Only (50 yd. dash and Standing Broad Jump tests) were used to measure the selected physical fitness variables of the players. In order to analyze the data independent t-test was used to analyze the data and investigator observed the significant difference between Rural and Urban football players of Bilaspur.

Keywords: Urban, rural, football, male, speed, explosive strength

Introduction

Physical fitness is ability to perform daily task with energy and alertness without under fatigue and still enjoy leisure time pursuits and to meet the unpredicted Emergencies. Physical fitness is defined as a set of ability to carry out physical ability. Regular physical exercise is an important part to remain fit and healthy. It keeps us active in the long run and we also feel better. Exercise can help you to remove some diseases like diabetes, prevention of cancer and heart problems (Rao, 2010) [6].

Different people have a lot of view regarding physical fitness. Being a common Man to have a good physique is a symbol of physical fitness. According to doctor, the proper functioning of physiological systems is physical fitness. In fact, physical fitness is a simple term with a wide meaning. For a common man, Physical fitness means the capacity to do the routine work without any fatigue or exertion and after doing his work he has also energy to do some more work and the recovery is quicker. Physical fitness is more than the possession of strength and endurance. It means to maintain good physical fitness with the capacity to do ones everyday task to engage in recreational pursuits and to meet emergencies, when they arise. In fact, physical fitness is possessed by the individual with enthusiast with vigorous (Sharma, 2010) [8, 9].

The physical fitness was the sum of five motor abilities namely; speed, strength, endurance, flexibility and co-ordination abilities and their complex form like strength, endurance, maximum strength, explosive strength, maximum speed, and agility were the basic prerequisites of human motor action. Therefore, the sports performances depend to a greater extend on these abilities. (Ahmed, 2010) [1].

In earlier time physical fitness has been define from different perspectives and estimated by using many methods. The conception of physical fitness based on military or athletic purpose which has survived centuries since the ancient Chinese and Athenian In 20th century, the definition of physical fitness has shifted slowly towards a work-or living-related conception. (Sharkey, 1991) [7].

Review of Related Literature

Bhowmick, (2002) conducted a fitness profile study of athletes participating in track and field, gymnastics, swimming and boxing. In total fitness, the gymnastics group had the highest fitness score whereas the swimming group had the lowest.

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In speed, the track and field, gymnastic and boxing groups were found to be better than the swimming group. Track and field and gymnastic groups were superior to that of the swimming and the boxing groups in legs explosive strength. Khan and Rahman, (2003) tested BKSP basketball players in selected motor fitness

Components and prepared a profile. They observed that the basketball players had a very good status in respect of speed, endurance, agility and flexibility. With regard to explosive strength of legs and arms they needed to undertake more training loads to improve.

Uppal *et al.* (1987) [11] conducted a study to assess the motor fitness components as a predictor of soccer playing ability. Male soccer players (n=200) were selected for the study. They were administered five tests of motor fitness components, namely, speed (50 yard dash), agility (4x10M shuttle run), maximum leg strength (by dynamo-meter), explosive leg strength (standing broad jump) and cardio-respiratory endurance (Cooper's twelve minute run/walk test). The soccer playing ability was assessed with the help of a panel of three judges. Statistical treatment of the data shows all the independent variables (speed, agility, maximum leg strength, explosive leg strength and cardio-respiratory endurance), have been found to be significantly related to dependent variable (soccer playing ability). The regression equation developed was = 11.72 (standing broad jump) + .52 (Cooper's 12 minute run/walk test horses in 100th unit) - 2.06 (4x10m shuttle run) +4.94.

Gupta *et al.* (2002) conducted a study of the physical fitness, spinal mobility and flexibility in footballers. The study deals with physical fitness spinal mobility, and flexibility of 95 footballers of national and inter-university levels. The player's performances were compared with adequate controls. Three physical fitness tests viz, sit-ups standing broad jump and shuttle run, anterior and lateral spinal flexion and spinal Extensions were conducted on all the subjects. The results of this study indicated a greater physical fitness in footballers.

RUDI M, *et.al.* (2001) A total of 146 professional rugby league football players, contracted to 2 teams competing in England (n = 45) and Australia (n = 101), participated in this study. All players completed the following series of physical fitness performance tests: 1 repetition maximum squat and bench press, 15- and 40-m sprint, agility run, 5-minute run for

distance, 60-second sit-up, 30-second plyometric push-up, and measurement of body weight and subcutaneous skin fold (4 sites).

Analysis of variance with a criterion α level of $p < 0.05$ was used to determine if any significant difference could be found when grouping players into 3 different positional categories typically identified in the sport. There were a number of significant differences with respect to test results between categories, and this was apparent for all 3 systems of categorization. On the basis of these findings, we recommend that to more efficiently structure the physical fitness training of players, the players should be grouped either according to the 2 broad positional categories of forwards or backs or according to the 4 categories of forwards, distributors, adjustable, and outside backs. Grouping players according to the 9 specific positions played on the team is not warranted.

Methodology

Selection of the Subjects

The subjects were selected in following basis:

- The players should be male student only.
- The age should not less than 14 years and not more than 20 years.
- The players should be study in Bilaspur.
- Only rural and urban players were considered for the study.

Criterion Measures

The criterion measures were used to collect the data in a deal and systematic way to record in a correct unit and style for each test item.

- Explosive leg strength was measured by Standing Broad Jump test and scores were recorded in meters.
- Speed was measured by 50 Yards Dash and time was recorded to the nearest 1/100 of a second with the help of digital stopwatch.

Statistical Techniques

For the present study, the mean value, standard deviation and independent 't' test were applied to analyze the data.

Results and Discussion

Table 1: Comparison of Explosive Strength Component of Rural and Urban football male players of Bilaspur in Standing Broad Jump.

Variable	N	Rural		Urban		SED	t-ratio	P value
		Mean	S.D.	Mean	S.D.			
Explosive Strength	30	2.31	.049	2.25	.030	.014	3.84	.001

*Significant at .05 level

The mean score (2.31) of the explosive strength component of physical fitness of rural football players is high than the mean score (2.25) of Urban football players of Bilaspur. However, the t-ratio is 3.84, which is significant at 0.05 level. High score

better Explosive strength. It means that rural football players have better Explosive strength of physical fitness than the urban football players of Bilaspur.

Table 2: Comparison of Speed Component of Rural and Urban football male players of Bilaspur in 50 Yards Dash.

Variable	N	Rural		Urban		SED	t-ratio	P value
		Mean	S.D.	Mean	S.D.			
Speed	30	6.93	.48	7.74	.027	.12	6.43	.00

*Significant at .05 level

The mean score (6.93) of the speed component of physical fitness of rural football players is high than the mean score (7.74) of Urban football players of Bilaspur. However, the t-ratio is 6.43 which is significant at 0.05 level. High score

better speed. It means that rural players of football players have better speed of physical fitness than the urban football players of Bilaspur.

Conclusion

On the basis of the analysis of data the rural football players were having better mean values among speed and Explosive strength than urban football players. Football Rural players performed better than the urban male players.

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