



Development of norms for selected physical fitness parameters of male football forwards

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Abstract

Availability of norms for different selection parameters in sports with the view to maintain objectivity is very essential. In the Football context, much research have not been done in this regard. Hence, this study was aimed to develop norms for selected physical fitness parameters of Football Forwards. A sample of 36 Football Forwards was recruited purposively from the Guru Nanak Dev University, Amritsar. Subjects were tested for selected physical fitness parameters viz. Muscular strength, Muscular power, Muscular endurance, Running agility, Running speed, Jumping ability, Throwing ability, Flexibility and Balance. Percentile scale was used in order to develop the norms. The scores were ordered in to five grades viz. very poor, poor, average, good and very good.

Keywords: norms, physical fitness, football, forwards

1. Introduction

In the order of physical instruction and sports, assessment has a dynamic influence since the start. The dimensions of the physical instruction and sports process are explained with the tests, estimations and assessments. These contain techniques to measure the understudy's advancement and status of development, their enhancement and the achievements (Singh and Singh, 2013) ^[1]. Estimation and Evaluation are basic to identify ability in the games. The act of assessment all in all training and Physical instruction is a persistent procedure. Estimation and assessment of execution are critical to choose to which degree the encircled purposes have been accomplished, how viable the movement has been, and how much huge the result is (Singh and Singh, 2013) ^[1]. The results indicate the bearing and the level of advancement in execution. In sports and physical training, as in instruction and throughout everyday life, understudy's execution is continually estimated and assessed by the instructor and mentor (Sarkar, 2010) ^[2].

Fitness

Fitness is characterized as the quality or condition of being fit. Around 1950, maybe steady with the Industrial Revolution and the treatise of World War II, the expression "fitness" expanded in western vernacular by a factor of ten. The advanced meaning of wellness portrays either an individual or machine's capacity to play out an explicit capacity or an all-encompassing meaning of human versatility to adapt to different circumstances. This has prompted an interrelation of human fitness and allure that has assembled worldwide fitness and fitness hardware enterprises. With respect to work, fitness is credited to people who have critical vigorous or anaerobic capacity, i.e. continuance or quality. A balanced workout schedule enhances an individual in all parts of fitness contrasted with rehearsing just a single, for example, just cardio/respiratory perseverance or just weight preparing. A far reaching work out regime custom-made to an individual commonly centers around at least one explicit abilities, and on age or wellbeing related needs, for example, bone health. Many sources

additionally refer to mental, social and passionate wellbeing as a critical piece of by and large fitness. This is frequently displayed in reading material as a triangle made up of three points, which speak to physical, passionate, and mental fitness. Physical wellness can likewise anticipate or treat numerous incessant wellbeing conditions expedited by unfortunate way of life or aging. Working out can likewise enable a few people to rest better and potentially reduce some inclination issue in specific people.

Football

Football, at first a game filled the need of entertainment, step by step, developed into aggressive game that request a larger amount of physical wellness and aptitudes (Sarkar, 2010) ^[2]. It has been contended that the most legal system of assessment is the utilization of very much engrained standards, as an inside for appraisals. "Standards are the qualities viewed as the agent of a predefined populace. A test that has going with standards is unquestionably wanted to one that is generally founded on age, weight, review, stature or different mix of these qualities" (Johnson and Nelson, 1988) ^[3].

This highlights the greater need of establishing norms for selection of football players in order to make the selection criteria more objective and meritocratic. This study is an attempt to develop the norms for some selected physical fitness parameters with special consideration to the fitness of Forwards of Football.

Forwards

Forwards are the players on an affiliation football crew who play closest to the contradicting group's objective, and are in this manner most in charge of scoring objectives. Their propelled position and restricted guarded obligations mean Forwards ordinarily score a greater number of objectives in the interest of their group than different players. Present day group developments for the most part incorporate one to three Forwards; for instance, the regular 4- 2- 3- 1 arrangement incorporates one Forward. Unconventional developments may incorporate multiple Forwards, or none.

2. Methods and procedures

2.1 Selection of subjects and variables

A sum of thirty (N=36), male college level Football Forwards between the age gathering of 18-25 years were selected from the different college of the Guru Nanak Dev University, Amritsar, Punjab, India. The purposive sampling technique was utilized to achieve the ideal sample. Physical fitness factors and their particular tests are given in table-1:

Table 1: Physical Fitness parameters and their respective tests

Variable	Test	Measuring unit
Muscular strength	Handgrip strength test	Kilograms
Muscular Power	Vertical jump test	Centimeters
Muscular Endurance	Pull-up test	Maximum performed
Running Speed	20 meter dash	Seconds
Running Agility	Illinois agility test	Seconds
Jumping Ability	Standing long jump	Meters
Throwing Ability	Overhead medicine ball throw test	Meters
Flexibility	Sit and reach test	Inches
Balance	Stork balance test	Seconds

2.2 Statistical Technique

Descriptive data was expressed as mean and standard deviation. Percentile Scale was used as a statistical tool in order to determine the norms of different variables. Further, the scores were classified into five grades i.e. very good, good, average, poor and very poor.

3. Results

Table 2: Descriptive Statistics (Mean & Standard Deviation) and Percentile Plot (Hi & Low) of specific Physical Fitness Test Items of Forwards (N=36) for Football game Selection.

Sr.	Test Item	Mean + Standard Deviation		Hi	Low
		Mean	SD		
1	Muscular strength	Mean	49.222	55	42
		SD	3.300		
2	Muscular power	Mean	46	50	41
		SD	2.560		
3	Muscular endurance	Mean	6.083	8.000	4.000
		SD	1.341		
4	Running speed	Mean	4.555	4.8	4.2
		SD	0.149		
5	Running agility	Mean	17.408	18.5	16.2
		SD	0.593		
6	Jumping ability	Mean	2.5233	3.36	1.70
		SD	0.544		
7	Throwing ability	Mean	12.527	15	10
		SD	1.499		
8	Flexibility	Mean	3.611	5	1
		SD	1.137		
9	Balance	Mean	33.222	48	23
		SD	6.403		

Table 2 shows that in Muscular Strength, the mean score was 49.222 and standard deviation score was 3.300. In Muscular Power, the mean score was 46 and standard deviation score was 2.560. In Muscular Endurance, the mean score was 6.083 and standard deviation score was 1.341. In Running Speed, the mean score was 4.555 and standard deviation score was 0.149. In Running Agility, the mean score was 17.408 and standard deviation was 0.593. In Jumping Ability, the mean score was 2.5233 and standard deviation was 0.544. In Throwing Ability, the mean score was 12.527 and standard

deviation score was 1.499. In Flexibility, the mean score was 3.611 and standard deviation score was 1.137. In Balance, the mean score was 33.222 and standard deviation score was 6.403 of Forwards.

Graphical portrayal of mean and standard deviation of physical fitness parameters

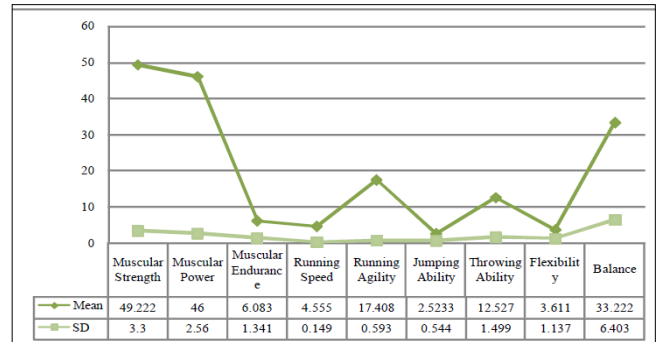


Fig 1

4. Discussion

The examination was intended to build up the standards for chose physical wellness factors of Football Forwards. Sarkar (2010) [2], in his doctoral research featured the need of foundation of physical wellness standards for Football players playing at different positions. On this record this investigation was expected to develop the standards for chose physical wellness parameters of Football Forwards. The after effects of this examination shows minor varieties with the standards for the comparative physical wellness parameters of Kabaddi players (Sharma *et al.*, 2014) [5]. This could be because of the shifted idea of these two amusements. Scarcely any different investigations have taken a shot at the improvement of standards for physical wellness parameters as the there is a more prominent need to chip away at this topical territory in various physical training and sports settings (Singh *et al.*, 2014; Sharma, 2017; Singh and Singh, 2013) [5, 5, 17].

Distribution of grades under normal distribution of scores

The values listed in table 3 gives a guide to expected scores of Forwards of Guru Nanak Dev University, Amritsar for the specific Physical Fitness Test Item. In Muscular Strength, the scores below 42.622 are considered very poor, from about 42.622-45.92 is considered poor, 45.92-52.522 is considered average, 52.522-55.822 is considered good and the scores above 55.822 are considered very good. In Muscular Power, the scores below 40.88 are considered very poor, from about 40.88 43.44 is considered poor, 43.44-48.56 is considered average, 48.56-51.12 is considered good and the scores above 51.12 are considered very good. In Muscular Endurance, the scores below 3.401 are considered very poor, from about 3.401-4.742 is considered poor, 4.742-7.424 is considered average, 7.424-8.765 is considered good and the scores above 8.765 are considered very good. In Running Speed, the scores above 4.853 are considered very poor, from about 4.853-4.704 is considered poor, 4.704-4.406 is considered average, 4.406-4.257 is considered good and the scores below 4.257 are considered very good. In Running Agility, the scores above 18.594 are considered very poor, from about 18.594-18.001 is considered poor, 8.001- 16.815 is considered

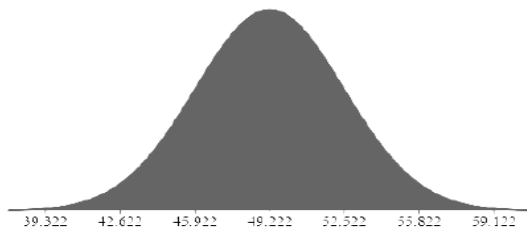
average, 16.815-16.222 is considered good and the scores below 16.222 are considered very good. In Jumping Ability, the scores below 1.435 are considered very poor, from about 1.435-1.979 is considered poor, 1.979-3.067 is considered average, 3.067-3.611 is considered good and the scores above 3.611 are considered very good. In Throwing Ability, the scores below 9.529 are considered very poor, from about 9.529-11.028 is considered poor, 11.028-14.026 is considered average, 14.026-15.525 is considered good and

the scores above 15.525 are considered very good. In Flexibility, the scores below 1.337 are considered very poor, from about 1.337-2.474 is considered poor, 2.474-4.748 is considered average, 4.748-5.885 is considered good and the scores above 5.885 are considered very good. In Balance, the scores below 20.416 are considered very poor, from about 20.416-26.819 is considered poor, 26.819-39.625 is considered average, 39.625-46.028 is considered good and the scores above 46.028 are considered very good.

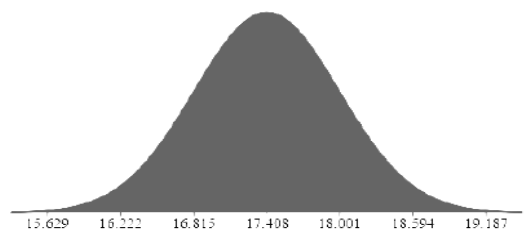
Grading for forwards (N=30) of guru Nanak Dev university, Amritsar for the specific physical fitness test item.

Table 3

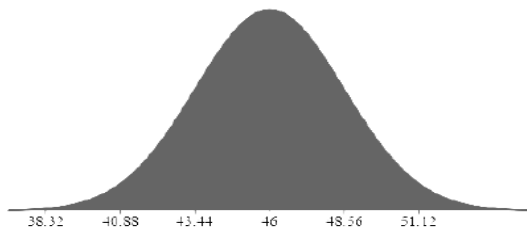
Test Items	Very Poor	Poor	Average	Good	Very Good
Muscular Strength	Less than (<)42.622	42.622-45.92	45.92-52.522	52.522-55.822	Greater than (>)55.822
Muscular Power	Less than (<)40.88	40.88-43.44	43.44-48.56	48.56-51.12	Greater than(>)51.12
Muscular Endurance	Less than (<)3.401	3.401-4.742	4.742-7.424	7.424-8.765	Greater than(>)8.765
Running speed	Greater than(>)4.853	4.853-4.704	4.704-4.406	4.406-4.257	Less than (<)4.257
Running Agility	Greater than (>)18.594	18.594-18.001	18.001-16.815	16.815-16.222	Less than (<)16.222
Jumping Ability	Less than (<)1.435	1.435-1.979	1.979-3.067	3.067-3.611	Greater than(>)3.611
Throwing Ability	Less than (<)9.529	9.529-11.028	11.028-14.026	14.026-15.525	Greater than(>)15.525
Flexibility	Less than (<)1.337	1.337-2.474	2.474-4.748	4.748-5.885	Greater than(>)5.885
Balance	Less than (<)20.416	20.416-26.819	26.819-39.625	39.625-46.028	Greater than(>)46.028



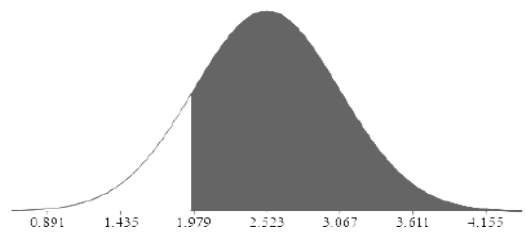
(a)



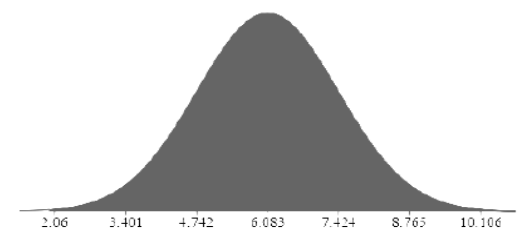
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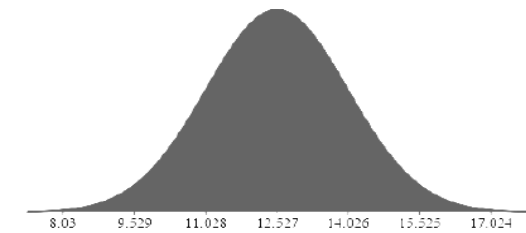
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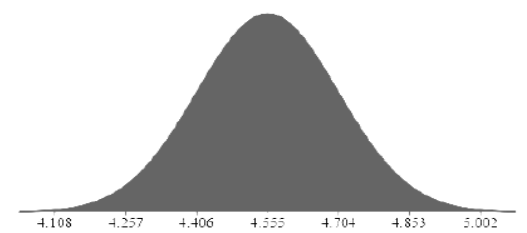
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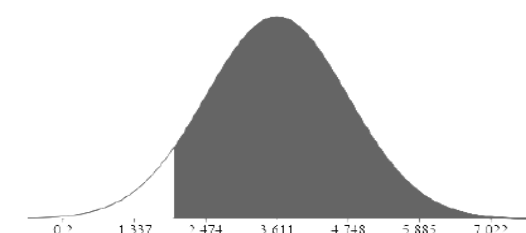
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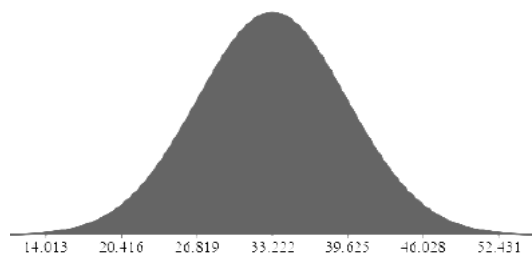
(g)



(d)



(h)



(i)

Fig 2: Values under Normal distribution of selected Physical Fitness parameters (i.e., a. Muscular Strength, b. Muscular Power, c. Muscular Endurance, d. Running Speed, e. Running Agility, f. Jumping Ability, g. Throwing Ability, h. Flexibility & i. Balance)

5. References

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