NORMS FOR BASIC MOVEMENT PATTERN AND NEUROMUSCULAR ABILITIESOF MALE INTER- UNIVERSITY FOOTBALL PLAYERS OF GURU NANAK DEV UNIVERSITY AMRITSAR

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ABSTRACT

The purpose of this study was construct norms for Basic Movement Pattern andNeuromuscular Abilities (i.e., Muscular Strength, Muscular Power, Muscular Endurance, Balance and Flexibility) of Male Inter- University Football Players (N=20) of Guru Nanak Dev University Amritsar. A group of twenty randomly selected male inter- university football players of Guru Nanak Dev University, Amritsar between the age group of 18-25 years (Mean ± SD: age 21.2 ± 1.852 years, height 5.72 ± 1.935ft, body mass 71.4 ± 3.994kg) volunteered to participate in this study.The 50- yard dash test (AAPHER 1976) was used to measure, "running speed", shuttle run test (AAPHER 1976) was used to measure, "running agility", standing long jump test (AAPHER 1976) was used to measure, "jumping ability", throw for distance test (Disch et al. 1977) was used to measure, "throwing ability", stork balance stand test was used to measure, "balance", and sit and reach flexibility test was used to measure "flexibility".In speed, the scores above 19.346 are considered very poor, from about 10.954 - 15.15 is considered poor, 2.562 - 10.954 is considered average, (-1.634) - 2.562 is considered good and the scores below (-5.83) are considered very good. In running agility, the scores above 21.709 are considered very poor, from about 13.355 – 17.532 is considered poor, 5.001 – 13.355 is considered average, 0.824 – 5.001 is considered good and the scores below (-3.353) are considered very good. In jumping ability, the scores below (-3.071) are considered very poor, from about (-1.34) – 0.391 is considered poor, 0.391 – 3.853 is considered average, 3.853 – 5.584 is considered good and the scores above 17.315 are considered very good. In throwing ability, the scores below 23.295 are considered very poor, from about 36.384 - 49.473 is considered poor, 49.473- 75.651 is considered average, 75.651 - 88.74 is considered good and the scores above 101.829 are considered very good. In balance, the scores below (-16.485) are considered very poor, from about (-7.65) – 1.185 is considered poor, 1.185 – 18.855 is considered average, 18.855 – 27.79 is considered good and the scores above 36.525 are considered very good. In flexibility, the scores below 2.728 are considered very poor, from about 6.212 – 9.696 is considered poor, 9.696 – 16.664 is considered average, 16.664 – 20.148 is considered good and the scores above 20.148 are considered very good.

Keywords: *Norms, Speed, Running Agility, Jumping Ability, Throwing Ability, Balance, Flexibility.*

INTRODUCTION:

Football is probably the most popular game worldwide but there is still limited scientific information available concerning the physique, performance qualities and playing abilities of

elite Indian footballers. It is a fact that in India there is still limited information of Inter-university footballers regarding physical profiles and performance level (Kansal et al., 1980a).From the aspect of its structure, football is a very complex sport activity in which quality of the game depends on a number of factors which significantly contribute to the success of a football game. It is a game that requires skill and speed. Speed is the ability to perform a movement within a short period of time (Neiman, 1995). Speed training is an important football related skill related component of physical fitness which enables a player to move from one point to another with faster response time. It has been shown that to improve speed each athlete needs to work on acceleration, starting ability, stride rate, speed endurance, and stride length (Mackenzie, 2001). The twin combination of both skill and physical fitness is indispensible for a player without either of which he will not be able to achieve much, specifically in order to play any ball game competently (Nabhendra Singh, 2010).Football players must combine speed, strength, agility, power and endurance as basic qualities before the individual skills inherent to the playing of football can be utilized. The understanding of the physical and the mental demands of the sport will enable a more scientific approach to the training of soccer players than has been prevalent heretofore. (Raven et.al., 1976)

MATERIAL AND METHODS:

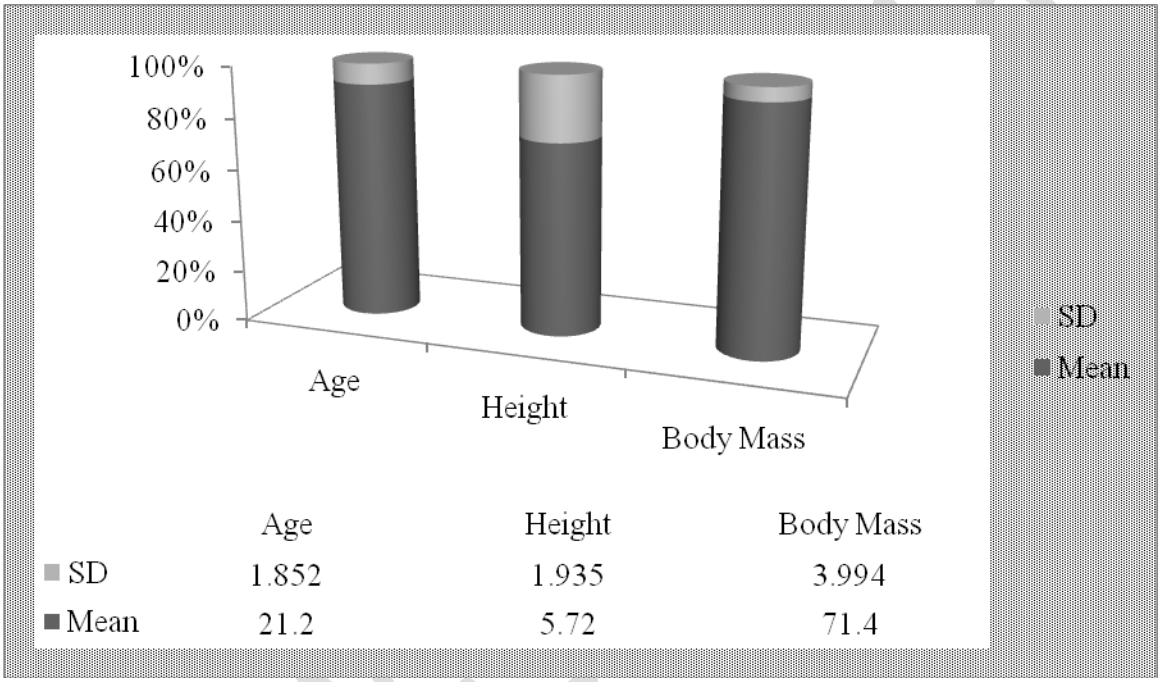
*Subjects:*A group of twenty randomly selected male inter- university football players of Guru Nanak Dev University, Amritsarbetween the age group of 18-25 years (Mean ± SD: age 21.2± 1.852 years, height 5.72± 1.935ft, body mass 71.4± 3.994kg) volunteered to participate in this study. Their characteristics are presented in table 1.

Table-1: Subject's Demographics of Male Inter- University Football Players (N=20) of Guru Nanak Dev University Amritsar.

Variables	*Sample Size (N=20)*	
	Mean	*Standard Deviation (SD)*
Age (years)	*21.2*	*1.852*
Body Height (ft)	*5.72*	*1.935*
Body Mass (kg)	*71.4*	*3.994*

METHODOLOGY:

The 50- yard dash test (AAPHER 1976) was used to measure,"running speed", shuttle run test (AAPHER 1976) was used to measure,"running agility", standing long jump test (AAPHER 1976) was used to measure,"jumping ability", throw for distance test (Disch et al. 1977) was used to measure,"throwing ability", stork balance stand test was used to measure, "balance", and sit and reach flexibility test was used to measure "flexibility".



	Age	Height	Body Mass
SD	1.852	1.935	3.994
Mean	21.2	5.72	71.4

Figure-1: Subject's Demographics of Male Inter- University Football Players (N=20) of Guru Nanak Dev University Amritsar.

STATISTICAL ANALYSIS:

The data, which was collected by administering tests, was statistically treated to develop for all the test items. In order to construct the norms, Percentile Scale was used. Further, the scores were classified into five grades i.e. very good, good, average, poor and very poor.

RESULTS:

Table-1: Descriptive Statistics (Mean & Standard Deviation) and Percentile Plot (Hi & Low) of Basic Movement Pattern and Neuromuscular Ability of Male Inter- University Football Players (N=20) of Guru Nanak Dev University Amritsar.

Sr. No.	Variables	Mean ± Standard Deviation		Hi	Low
1.	Speed	Mean	6.758	7.6	6.12
		SD	4.196		
2.	Running Agility	Mean	9.178	10.19	8.57
		S.D	4.177		
3.	Jumping Ability	Mean	2.122	2.4	1.7
		S.D	1.731		
4.	Throwing Ability	Mean	14.151	17.6	10.85
		S.D	2.060		
5.	Balance	Mean	10.02	36.19	2.13
		S.D	8.835		
6.	Flexibility	Mean	13.18	22.25	9.45
		S.D	3.484		

Table 1 shows that in speed, the mean score was 6.758and standard deviation score was 4.196. In running agility, the mean score was 9.178and standard deviation score was 4.177.In jumping ability, the mean score was 2.122and standard deviation score was 1.731. In throwing ability, the mean score was 14.151and standard deviation score was 2.060. In jumping ability, the mean score was 2.122 and standard deviation score was 1.731. In throwing ability, the mean score was 14.151and standard deviation score was 2.060. In balance, the mean score was 10.02 and standard deviation score was 8.835. In flexibility, the mean score was 13.18and standard deviation score was 3.484,of basic movement pattern and neuromuscular abilitiesof male inter-university football players (N=20) of Guru Nanak Dev University,Amritsar.

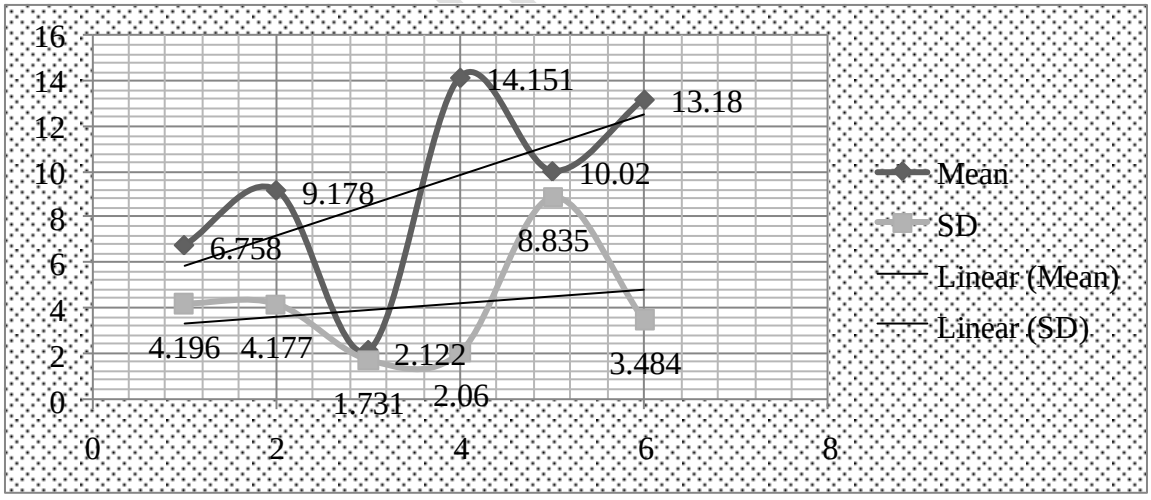


Figure-2: Descriptive Statistics (Mean & Standard Deviation) and Percentile Plot (Hi & Low) of Basic Movement Pattern and Neuromuscular Ability of Male Inter- University Football Players (N=20) of Guru Nanak Dev University Amritsar

Table 2: Grading of Basic Movement Pattern and Neuromuscular Ability of Male Inter-University Football Players (N=20) of Guru Nanak Dev University Amritsar.

Variables	Very Poor	Poor	Average	Good	Very Good
Speed	*Greater than* (>)19.346	10.954-15.15	2.562-10.954	(-1.634)-2.562	Less than (<) (-5.83)
Running Agility	*Greater than* (>) 21.709	13.355-17.532	5.001-13.355	0.824-5.001	Less than (<) (-3.353)
Jumping Ability	Less than (<) (-3.071)	(-1.34)-0.391	0.391-3.853	3.853-5.584	*Greater than*(>) 7.315
Throwing Ability	Less than (<) 7.971	10.031-12.091	12.091-16.211	16.211-18.271	*Greater than* (>) 20.331
Balance	Less than (<) (-16.485)	(-7.65)-1.185	1.185-18.855	18.855-27.79	*Greater than* (>) 36.525
Flexibility	Less than (<) 2.728	6.212-9.696	9.696-16.664	16.664-20.148	*Greater than* (>) 20.148

The values listed in table 2 gives a guide to expected scores for basic movement pattern and neuromuscular abilities of male inter- university football players (N=20) of Guru Nanak Dev University, Amritsar. In speed, the scores above 19.346are considered very poor, from about 10.954 - 15.15is considered poor, 2.562 - 10.954 is considered average, (-1.634) - 2.562is considered good and the scores below (-5.83) are considered very good. In running agility, the scores above 21.709 are considered very poor, from about 13.355 – 17.532 is considered poor, 5.001 – 13.355 is considered average, 0.824 – 5.001 is considered good and the scores below (-3.353) are considered very good. In jumping ability, the scores below (-3.071) are considered very poor, from about (-1.34) – 0.391 is considered poor, 0.391 – 3.853 is considered average, 3.853 – 5.584 is considered good and the scores above 17.315areconsidered very good. In throwing ability, the scores below 23.295are considered very poor, from about 36.384- 49.473 is considered poor, 49.473- 75.651 is considered average, 75.651- 88.74 is considered good and the scores above 101.829 are considered very good.In balance, the scores below (-16.485) are considered very poor, from about (-7.65) – 1.185 is considered poor, 1.185 – 18.855 is considered average, 18.855 – 27.79 is considered good and the scores above 36.525 are considered very good. In flexibility, the scores below 2.728 are considered very poor, from about 6.212 – 9.696 is considered poor, 9.696 – 16.664 is considered average, 16.664 – 20.148 is considered good and the scores above 20.148 are considered very good.

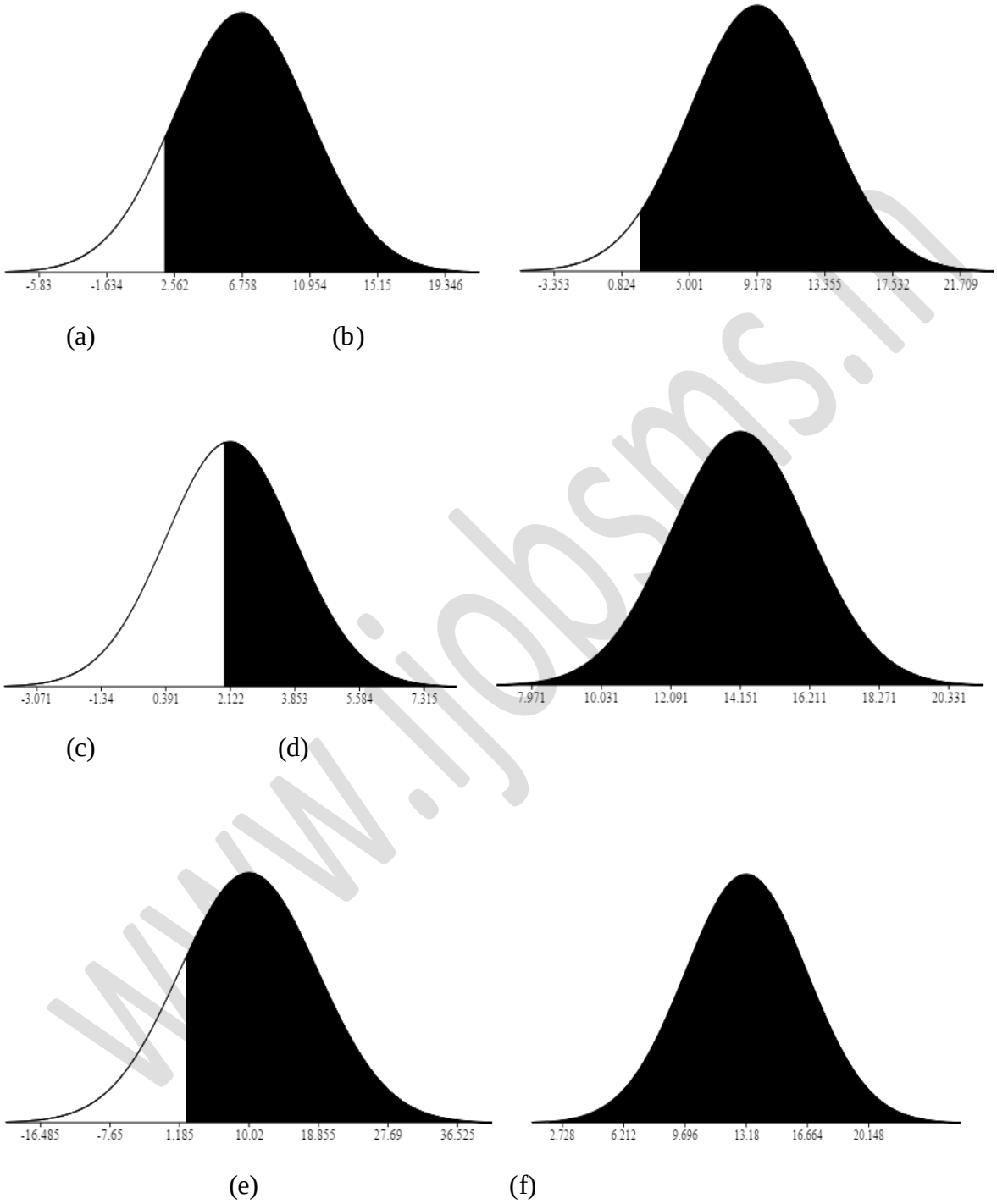


Figure-3: Normal Distribution of Basic Movement Pattern and Neuromuscular Abilities i.e., (a) Speed, (b) Running Agility, (c) Jumping Ability, (d) Throwing Ability, (e) Balance, and (f)

Flexibility of Male Inter- University Football Players (N=20) of Guru Nanak Dev University Amritsar.

CONCLUSIONS

1. In speed, the scores above 19.346are considered very poor, from about 10.954 - 15.15is considered poor, 2.562 - 10.954 is considered average, (-1.634) - 2.562 is considered good and the scores below (-5.83) are considered very good.
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