NORMS FOR BASIC MOVEMENT PATTERN AND NEUROMUSCULAR ABILITIES OF 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 and Neuromuscular 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 indispensable 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, Amritsar between the age group of 18-25 years (Mean ± SD: age 21.2±
1.852 years, height 5.72± 1.935 ft, body mass 71.4± 3.994 kg) 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.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sample Size (N=20)</th>
<th>Mean</th>
<th>Standard Deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>21.2</td>
<td>1.852</td>
<td></td>
</tr>
<tr>
<td>Body Height (ft)</td>
<td>5.72</td>
<td>1.935</td>
<td></td>
</tr>
<tr>
<td>Body Mass (kg)</td>
<td>71.4</td>
<td>3.994</td>
<td></td>
</tr>
</tbody>
</table>
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”.

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.
Table 1 shows that in speed, the mean score was 6.758 and standard deviation score was 4.196. In running agility, the mean score was 9.178 and standard deviation score was 4.177. In jumping ability, the mean score was 2.122 and standard deviation score was 1.731. In throwing ability, the mean score was 14.151 and 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 13.18 and standard deviation score was 3.484.

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.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Greater than (&gt;19.346)</td>
<td>10.954-15.15</td>
<td>2.562-10.954</td>
<td>(-1.634)-2.562</td>
<td>Less than (&lt; -5.83)</td>
</tr>
<tr>
<td>Running Agility</td>
<td>Greater than (&gt;21.709)</td>
<td>13.355-17.532</td>
<td>5.001-13.355</td>
<td>0.824-5.001</td>
<td>Less than (&lt; -3.353)</td>
</tr>
<tr>
<td>Jumping Ability</td>
<td>Less than (&lt; -3.071)</td>
<td>(-1.34)-0.391</td>
<td>3.853-5.854</td>
<td>3.853-5.854</td>
<td>Greater than (&gt;7.315)</td>
</tr>
</tbody>
</table>

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 19.346 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 - 5.854 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.
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 19.346 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.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.
References


