International Advance Journal of Engineering, Science and Management (IAJESM)
ISSN -2393-8048, January-June 2020, Submitted in March 2020, iajesm2014@gmail.com

IMPACT OF LOWER BACK STRENGTH ON SHOOTING ACCURACY OF FOOTBALL PLAYERS

Ashish Kumar Katiyar[1]; Harmanpreet Kaur[2]; Suresh[3]
[1]Assistant Professor, Dept. of Physical Eucation, School of Teachers Education, CSJMU, Kanpur
[2]Associate Professor, Dept. of Physical Eucation, School of Teachers Education Lovely Professional University
[3]Research Scholar, Dept. of Physical Eucation, School of Teachers Education Lovely Professional University

Abstract:

Shooting performance in football is determined by two key factors; how fast the ball moves and how accurately it reaches its target. The physical condition of Football players in sports competitions has improved over the years. The optimal performance of their professional skills in competitive conditions has become essential for victory in Football matches. This article explores the impact of lower back strength on football kicking accuracy aiming at the set that best enables the accuracy of hits through its stability. For the reason 50 (Male) healthy collegiate Football players (age: 24.8 ± 2.7 yrs, stature: 168.0 ± 5.1 cm, body mass: 68.5 ± 6.8 kg) volunteered to participate in this study. All participants were bifurcated and divided into three groups as per their back strength (high, medium, and low back strength). The data were statistically treated. The kicking accuracy of Football players in the group differed in the Football players having high, medium and low Lower Back Strength (P, 0.05).These findings suggest the addition of lower back strength has a positive impact on shooting accuracy as well as shooting velocity. Above all functional strength methods to achieve the goal of improving kicking accuracy, coaches should pay special attention to physical training, an attitude that encourages players to achieve sufficient physical strength for Football games with their kicking skills.

Keywords: Football, Precision, Kicking, Accuracy, Speed, Strength and Velocity

1. INTRODUCTION

The most significant ability used in Football i.e. shooting and accuracy towards goal. Nesser et al. (2008) suggest that athletes with a strong core are better able to transfer force from one end of the body to the other, resulting in increased speed and strength in the limbs. A striker who is starving to score for the winning of the team is very important role play in Football. An extra ordinary striker is one who may pass up on five opportunities yet is never reluctant to take the following one should it come his direction. The distinction of Football is that everyone can score and Football is played for scoring objectives.

Kicking with power is similarly as significant likewise with precision which requires efficient transfers of energy and increases stability of the spine. Regardless of whether you kick precisely, a ball with no force is simple for the goalkeeper to stop. You need to shoot hard with objectives, to score. It is essential to shoot precisely to improve your odds of scoring.

A player needs to find some kind of harmony between being excessively energetic and too hesitant to even consider shooting. Shots ought to in a perfect world be both exact and incredible, despite the fact that it is simpler to accomplish each of these in turn. Regardless of whether one ought to pick either relies upon the circumstance. The decision of the piece of objective to focus on is a combative issue and relies upon what numbers of players are covering the objective. At the point when just confronting a goalkeeper, shots ought to be set near one of the posts. In a perfect world, a shot ought to likewise be set simply under the crossbar, yet it is less troublesome and furthermore powerful to shoot along the floor, towards the lower comers, requires a high degree of Lower Back Strength, which is important for the shooting accuracy.

By recognizing of the current scenario of the research studies that had been conducted on the shooting ability of the Football players are the major source of performance, which aims to examine the performance of the players. By keeping lower back strength as a criterion to target shooting accuracy of Football players.

With all this concern, the work may be used as a protocol for examination of the Football players to enhance their engine just as explicit abilities. With the help of this study authors may persuade with the use of different tools and techniques to take up comparable

investigation on different components related with the game. Which will be fruitful to examine and support the players, coaches and mentors to set their own objective of coaching and training to improve the level of athletic performance of football players yielded for the purpose of evaluation, classification, and selection procedures in different levels of play/competitions.

2. METHODOLOGY AND PROCEDURE

2.1 Participants: In this study participant was 50 (Fifty) skilled Male Football Player (age: 24.8 ± 2.7 yrs, stature: 168.0 ± 5.1 cm, body mass: 68.5 ± 6.8 kg) were selected from Guru Nanak Dev University, Amritsar by using random sampling technique, having 02 years training age and experience of play at National and club Level for the study. All the participants were physically fit.

2.2 Administration and Procedure of Test: The data was collected by using Lower back strength of the player and Shooting accuracy of the player in Football.

Procedure: The procedure investigator was used perceived test of Lower Back Strength and Shooting Accuracy with 10 items. All instructions regarding rules and procedure of the test were explained. The doubts of the subjects were cleared before the attempt. They were given enough time to warming up and stretching. The respondents were assured that their data was kept confidential and used for research purpose only.

2.3.1 Test 01: Lower Back Strength Test

Objective: To measure the Lower Back Strength of the player by researcher.

Equipment required: Strength dynamometer, copy pen

Procedure: Make sure the dial is reset to zero before you start. Stand upright on the base of the dynamometer with your feet shoulder-width apart. Let your arms hang straight down to hold the center of the bar with both hands, and with the palms facing toward the body. Adjust the chain so that the knees are bent at approximately 110 degrees. In this position your back should be bent slightly forward at the hips, your head should be held upright, and you should look straight ahead. Then without bending your back, pull as hard as possible on the chain and try to straighten your legs, keeping your arms straight. Pull against the weight steadily (no jerky movements), keeping the feet flat on the base of the dynamometer. Maximum performance will result when your legs are almost straight at the end of the lift. If not, adjust the chain length and starting position.

Scoring: Note the final attempt on the back and leg dynamometer in terms of kilogram (kg). Lower back strength of an athlete will be measured using leg back strength dynamometer.

Fig. 1: Shows the Lower Back Strength test on Male Football players

2.3.2 Test 02: Shooting Accuracy Test

Objective: To measure the shooting accuracy of the Football players.

Equipment required: Footballs, rope, nails, flags, pen

The whole goal was divided by rope into 7 parts as shown in figure 3&4. Outside the penalty area a shooting arc was drawn extension of approximately 45 degree angle from each goal post. The player stands on the starting point as 20 yards away from the goal post. The three balls in front of the goal post placed on each angles i.e. right, center and left. The angles of the scoring were well explained to the performer i.e. 5, 3 and 1 as shown in figure 3. Only instep kick was allowed to check the accuracy of the test. After nine attempts one more

attempt was given as per the preference of the player. Total 10 balls were given to the performer for the test. Maximum 50 point and least 0 point for the shoot at outside of the goal post for the test. Total score of the ten shoot was recorded.

Scoring: 3 different points as 5, 3, & 1 were given according to the area where the ball went through, which is shown in fig 2. If, the ball hits the rope: the adjacent higher point was given. The total numbers of point from 10 successive kicks were recorded as the score of the subject.

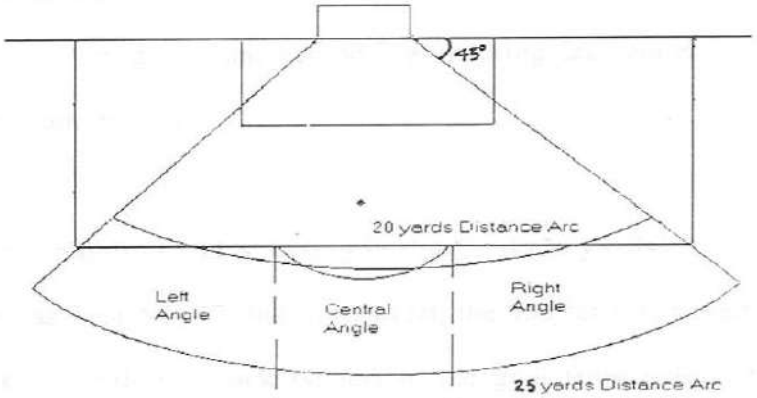

Fig.2: Angles of the Shooting Area of The accuracy Test

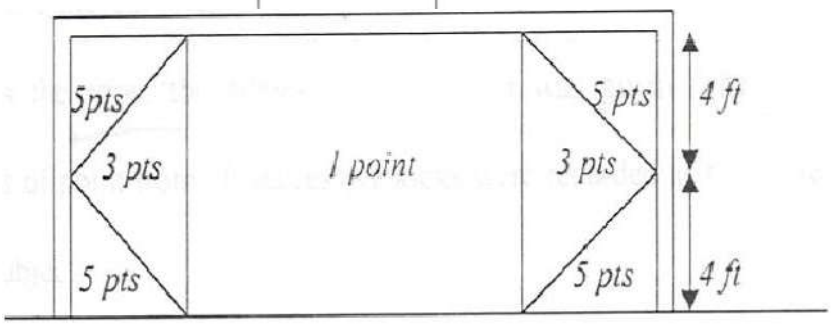

Fig:3: Criteria of points of accuracy test

Fig. 4: Show the target of the accuracy test

3. RESULTS AND CONCLUSION

In order to test the data, descriptive statistics such as (mean, standard deviation) and ANOVA was employed to analyze the Lower Back Strength and Shooting Accuracy Performance, level of significance was set at 0.05.

The discussion of results and findings was given below:

Table 1 Comparison of Lower Back Strength in male Football players at different levels of Lower Back Strength

Football	N	Mean	S.D	ANOVA			Post Hoc Test		
				SS BG	S S WG	F. ratio	LSB Vs HSB	LSB Vs MSB	HSB Vs MSB
High Lower Back Strength	16	151.63	7.25	13065.23	1837.99	167.05*	2.21*	1.85*	2.09*
Medium Lower Back Strength	17	134.53	5.28						
Low Lower Back Strength	17	112.00	6.14						

(df, 47) Table Value (0.05), F ratio =3.20
(df, 31) Table value t. (0.05) value=1.68 *Significant at (0.05) level

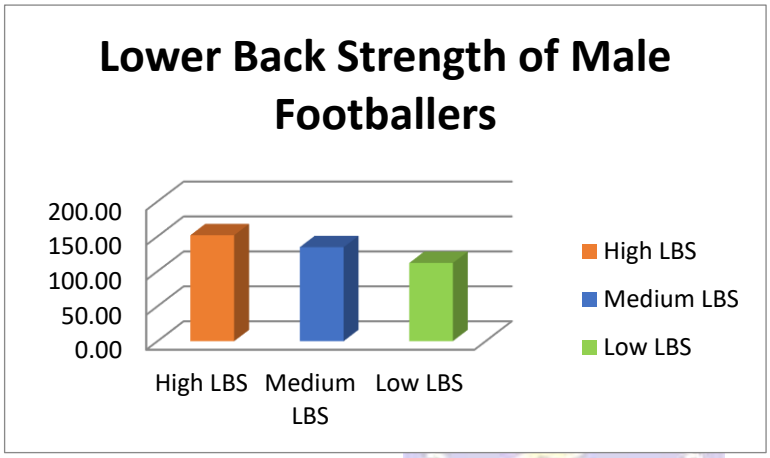

Fig. 4: Show the mean value of Lower Back Strength of Football players

Table 1 shows the comparison of Lower Back Strength in male Football players at possessing different levels of back strength (i.e high, medium and low lower back strength). The mean value of lower back strength 151.63, 134.53 and 112.00 respectively and F. ratio was found to be significant (F =167.05 df - 47). Male Football players have possessed greater Lower Back Strength 145 -166 kg medium Lower Back Strength 125 – 142 kg and high Lower Back Strength 102 – 123 kg. Post –hoc test indicates that all group of Lower Back Strength (LSB vs HSB t = 2.21, LSB vs MSB t = 1.85 and HSB vs MSB t = 2.29 respectively). The result show significant difference between low Lower Back Strength vs high Lower Back Strength, low Lower Back Strength vs medium Lower Back Strength and high Lower Back Strength vs medium Lower Back Strength.

Table 2 Effect of Lower back strength on shooting accuracy in male Football players at different levels of Lower Back Strength

Football	N	Mean	S.D	ANOVA			Post Hoc Test		
				SS BG	S S WG	F. ratio	LSB VS HSB	LSB VS MSB	HSB VS MSB
High Lower Back Strength	16	20.88	8.3	389.69	2254.81	4.06*	2.29*	2.00*	2.52*
Medium Lower Back Strength	17	23.06	7						
Low Lower Back Strength	17	16.41	5.22						

(df – 47) Table Value F. ratio – 3.20 *Significant at 0.05 level
(df – 31) Table value t. value-1.68

Fig. 3 Show the mean value of Shooting Accuracy of Football players

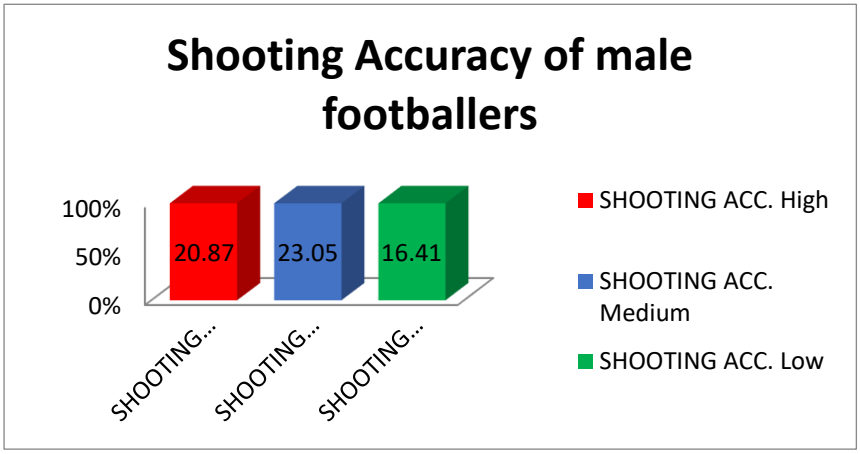

Table of 2 shows the effect of shooting accuracy in male Football players at different levels of Lower Back Strength i.e high, medium and low Lower Back Strength. The mean value of lower back strength 20.88, 23.06 and 16.41 respectively and F. ratio was found to be significant (F = 4.06 df - 47). Post –hoc test indicates that all group of shooting accuracy (LSB vs HSB t = 2.29, LSB vs MSB t = 2.00 and HSB Vs MSB t = 2.52 respectively). The result show significant difference between low Lower Back Strength vs high Lower Back Strength, low Lower Back Strength vs medium Lower Back Strength and high Lower Back Strength vs medium Lower Back Strength. The result was found statistically significant that there is no significant effect of Lower Back Strength on shooting accuracy of male Football Players due to the major muscle involvement in the in step kick is lower back so its directly effect on accuracy while shooting in Football as it was also supported by (Scurr,et.al. 2009).

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