

A Comparative Study between Explosive Power Muscle Girth and Kicking Ability of Football Players

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Abstract: *The purpose of the study was invested and compares the explosive power muscle girth and kicking ability of the football players. The subjects selected for the study were thirty Male football players. The subjects were selected from the Chhota Jagulia High School and their aged between 12 to 14 years. To determine the significant difference between the explosive power muscle girth and kicking ability of the football players by the co-efficient correlation. The relation between muscle girth and kicking ability, kicking ability and explosive power, muscle girth and explosive power was significant because the r value was greater than 0.361 to at 0.5 level.*

Keyword: Strength, Explosive power, kicking ability

1. Introduction

Physical education trends have developed recently to incorporate a greater variety of activities besides typical sports. Introducing students to activities. Early age can help students develop good activity habits that will carry over into adulthood.

Physical education has an important role in our society. Play, game; sports are sub-discipline of Physical education. Strength, power, speed, agility, endurance, body structure, explosive powers are very essential for any type of games and sports. Football is very popular game in the world also in India. Top class footballer have good bodyweight muscle girth, explosive power, speed etc. and those components help to develop skills like kicking, passing, heading, covering and so on.

Strength is a conditional component in the field of games and sports or movement activity. Strength is the ability to overcome the resistance or the ability to act against resistance.

Explosive power is the rate of force development is at the maximum for any type of muscle action is explosive power. In activities requiring high acceleration and output, explosive power training is necessary for maximum development.

Some examples of these activities would include soccer, hurdling and football. This type of training is effective in enhancing athletic performance.

The general exerciser doesn't usually need to include explosive power training in a regular workout. Cardiovascular and strength training in a slow, steady manner will give adequate results. In contrast, Athletic movements need to be performed at high speeds. The muscles have to be developed and trained outside of the sport in order to do this. The types of exercises used in explosive power training are determined by the type of sport that is being trained for. For example, for a basketball player

trying to improve his jump shot would have a training program that would include weighted vertical jumps. Explosive power exercises should be taught and supervised by fitness professionals to reduce the risk of injury. They should also be done in conjunction with a regular workout program to ensure that the athlete is balanced in all exercise areas.

Explosive is the combination of strength and speed. Standing broad jump, running broad jump, and vertical jump are the determinates of leg explosive power. Power ability is an important fundamental skill for any athletic activities. Many coaches consider explosive power is very important for contributing to higher performance in numerous sports, including football, basketball. Volleyball and badminton etc.

The measurement around anything or circumference that is girth. The girth is measures are with the anthropometric tape at the right angles to the long axis of a bone or body segment. Useful attention must be given to the girth specification. Muscle girth helps to provide source and strength to the athletes and the all players.

Kicking is the very important part of ball game, kick is divided to high drive and low drive kicking ability is very important in modern football. Goal keepers use high drive kick for a better attack.

2. Methodology

The methodology is the area where the researcher reported about the study location population and subject criterion measure, design and statistical procedure etc.

a) Subject

Thirty male footballers were selected as the subject from the Chhota Jagulia High School (H.S), North 24 Parganas, and West Bengal. All the subjects were residential players and their ages ranged between 12 to 14 years.

b) Instrument and Tools

The following instruments and tools were used for conducting the test-

- One measuring tape, take off board and nails used for measuring standing broad jump (explosive power)
- Anthropometric tape for measuring muscle girth.
- Football and measuring tape for measuring the distance covered due to football kicking.

c) Collecting the Personal Data

- Age: Ages of the subjects were recorded from their birth certificate.
- Height: Each subject was asked to stand erect on a horizontal surface and stretch as much as possible a wall. The highest point of the head which touched the wall was recorded in centimeter.
- Weight: The subject stand on the standing weighing machine maintaining erect posture. The body weight was recorded in kilogram.

d) Measurement

In this study the researcher measurement by-

- Standing broad jump
- Kicking ability
- Muscle girth
- Calf girth

e) Statistical Procedure

The researcher is used mean, SD, and Co-efficient of correlation in this study.

3. Result

In this study the data of the present study have been presented for statistical analysis.

Table 1: Mean and SD of age, height and weight of the subjects

Subject	Age(Year)		Height(cm)		Weight(kg)	
	Mean	SD	Mean	SD	Mean	SD
Football players (N=30)	13.53	0.56	159.87	4.62	44.86	3.00

Table-1 shows the mean and SD of age, height, and weight of the subjects. It appears from the table that the mean age of the subjects was 13.53 years and the SD was 0.56. The height and SD of the subject was 159.87 cm and 4.62. the mean weight of the subjects was 44.86 kg and the SD was 3.00.

Table 2: Co-efficient of correlation between muscle girth and kicking ability of the footballers

Variables	Co-efficient of correlation	Remarks
Mid thigh girth / Kicking ability	$r = 0.752$	Significant
Calf girth / Kicking ability	$r = 0.564$	Significant

To be Significant the r value, should be greater than .361 at .05 levels.

The table-2 indicates that there was relationship between mid thigh girth and kicking ability. Also table-2 indicates

that there was relationship calf muscle girth and kicking ability was Significant because the r value has greater than 0.361 at 0.05 levels.

Table 3: Co-efficient of correlation between kicking ability and explosive power of the footballers

Variables	Co-efficient of correlation	Remarks
Kicking ability / Explosive power	$r = .471$	Significant

To be Significant the r value, should be greater than .361 at .05 levels.

The table-3 indicates that there was relationship between kicking ability and explosive power. From the statistical analysis it was cleared that there was relationship between kicking ability and explosive power of the footballers. The relationship between kicking ability and explosive power was significant because the r =value was greater than 0.361 at 0.5 level.

Table 4: Co-efficient of correlation between muscle girth and explosive power of the footballers

Variables	Co-efficient of correlation	Remarks
Mid thigh girth / Explosive power		Significant
Calf girth / Explosive power		Significant

To be Significant the r value, should be greater than .361 at .05 levels.

The table -4 indicates that there was relationship between mid thigh girth and explosive power. It is significant at 0.05 levels. There is positive relationship between mid thigh girth and explosive power and there was relationship between calf muscle girth and explosive power. It was significant at 0.5 level.

4. Conclusion

On the basis of the data collected and the results derived in the study the following conclusions may be drawn:

- 1) There was relationship between mid thigh muscle girth and kicking ability of the footballers.
- 2) There was relationship calf muscle girth and kicking ability of the footballers.
- 3) There relationship between kicking ability and explosive power of the footballers.
- 4) There is positive relationship between mid thigh girth and explosive power of the footballers.
- 5) There was relationship between calf muscle girth and explosive power of the footballers.

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