



# International Journal of Physical Education, Sports and Health

P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (ISRA): 5.38  
IJPESH 2018; 5(5): 34-36  
© 2018 IJPESH  
www.kheljournal.com  
Received: 28-07-2018  
Accepted: 29-08-2018

**Dr. S Binthu Mathavan**  
Ph.D, Post -Doctoral Fellow,  
Department of Physical  
Education and Sports,  
Pondicherry University,  
Pondicherry, India

**Dr. A Praveen**  
Assistant Professor, Department  
of Physical Education and  
Sports, Pondicherry University,  
Pondicherry, India

## Influence of core training on selected muscular endurance and passing variables for men football players

**Dr. S Binthu Mathavan and Dr. A Praveen**

### Abstract

**Aim:** In this investigation how for core training is influence selected physical variables such as explosive power and flexibility to college level men football players.

**Selection of subjects:** For this study totally 12 men football players were selected who are healthy and minimum participation of intercollegiate / district level football tournament, their age level is minimum 18 and maximum 28 years as per all India university norms from Pondicherry university.

**Methods:** To selected subjects researcher explained this study and it's important to football players. Then twelve weeks selected core exercises were adapted to selected group weekly 3 non-consecutive days per day one evening session minimum 45-90 minutes. The data were collected before and after experiment from selected subject, the collected data were analysed statistically through paired 't' test to identify significant difference with degrees of freedom 1 and 11 as well 0.05 level of significant confidence.

**Results:** in this experiment selected men football group showing positive difference after completion of given core training on selected explosive and flexibility variables this may helpful to develop footballers' skills which are all related with selected variables.

**Keywords:** Football players, variables, training, Pondicherry

### Introduction

Core strength is systematic physical activity training program which develop core muscles it may lead great success in soccer game. Through this core training players can boost their stability and power, functional strength so that they can easily dominate your opponent soccer players. Like this way in soccer game each and every skill such as kicking, dribbling, passing, shooting, heading, heading and so on, these above said movement are closely related with core muscles and core exercises. Through this core exercises soccer players can enhance their stamina, strong core strength, power, agility with fast movement and better passing skill. Through regular involvement of core exercises most of the things we can change in our life such as body shape, maintain weight, produce more force, increase stability, we can start a day with smile with fresh, prevent obesity as well some of communicable and non-communicable diseases.

### Objective

In this investigation to determine influence of Core training on selected muscular endurance and passing skill variables for college level men soccer players from Pondicherry University.

### Hypothesis

There would be positive influence because of selected core training exercises between before and after experimental application in selected muscular endurance and passing variables among men soccer players. at morning for 5 days per week of six weeks for total 45-65 minutes. Control group was not exposed to physical fitness programme.

### Methodology

In this investigation the following procedure were followed for collection of data from selected subjects before and after given experimental training.

### Correspondence

**Dr. S Binthu Mathavan**  
Ph.D, Post -Doctoral Fellow,  
Department of Physical  
Education and Sports,  
Pondicherry University,  
Pondicherry, India

In this inquiry twelve college level men Football players were selected randomly based on their playing capability, as well who are all participated in district /inter collegiate level football tournament as a subject for this study, from Pondicherry University. Since this examination involved with following variables such as muscular endurance and passing skill. The subject's age ranged from 18 – 28 years as per their college/university records. The subjects were undergone CORE training exercises like [Plank, side plank, bridge and side lying hip abduction, oblique crunch straight leg raise, cycling and lying wind screen wipers with various intensity] in the period of twelve weeks. The outlined experimentation was applied 3 days per week one session 45- 90 minutes training programme with exclusion of warming up and cool down at evening session. The data were collected from experimental group college level men soccer players, for following variables such as muscular endurance (bend knee sit-up test) and passing before and after the implementation of CORE training. The collected data were analysed with paired 't' test, the significance level was fixed at 0.05 confidences with degrees of freedom 1&11, for evaluating influence of twelve weeks CORE training experiment to selected men soccer players.

**Table 1:** Pre and post- test mean, standard deviation, standard error mean and 't' ratio on the variable of muscular endurance

Test	Mean	S.D	Sem	N	't' Ratio	df
Pre test	47.75	9.22	2.66	12	4.76*	11
Post test	54.75	8.90	2.57	12		

\*Significant difference degrees of freedom 1 & 11 table value is – 2.201

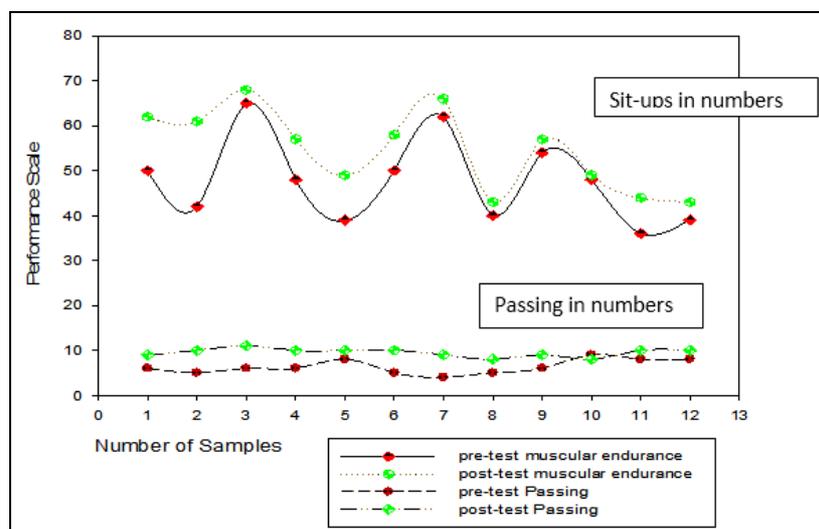
The above table showing results of muscular endurance performance data. The mean values of pre-test are 47.75 is lesser than post- test value 54.75 here itself it's showing positive changes, moreover the standard deviation values are 9.22 and 8.90. The calculated 't' ratio values 4.76 which is higher than required table value 2.201 with degrees of freedom 1 and 11, the level of significance is 0.05. Hence this result showing the effect of twelve-weeks core training is positively influenced to selected men soccer players in the variable of muscular endurance.

**Table 2:** Pre and post- test mean, standard deviation, standard error mean and 't' ratio on the variable of passing

Test	Mean	S.D	Sem	N	't' Ratio	df
Pre- test	6.33	1.56	0.45	12	6.092*	11
Post test	9.50	0.91	0.26	12		

\*Significant difference degrees of freedom 1 & 11 table value is – 2.201

This table presenting results of passing performance per and post-test. The mean value of pre- test is 6.33 and post –test is 9.50 which is indicating that there is positive significant difference in post- test performance than pre-test passing performance. The standard deviation values are pre and post-test are 1.56 and 0.91 this also showing the same results moreover calculated 't' ratio value 6.092 is higher than required table value 2.201. hence this results showing that there is an positive influence by twelve weeks core training on the variable passing to selected college level men soccer players with degrees of freedom 1 and 11 as well 0.05 level of significance.



**Diagram 1**

In this diagram presenting muscular endurance and flexibility performance pre and post test data, it is showing that in both selected physical variables post test data were showing better performance than pre-test performance data. Hence this result indicates that the given core training experiment to selected men football players is positively influenced and it may lead to impact their skill and game performance. So, researcher has been recommending that this core training is helpful to enhance selected muscular endurance and flexibility to football players. Since the research investigator suggesting that given core training may adapt to all other games and sports which all are related with muscular endurance and flexibility sports phenomena.

**Conclusion**

Based on above results the following conclusions has been drawn, in this study the given core training was influenced positively to enhance muscular endurance, because the better results shown in post test data than pre-test on muscular endurance variable. Hence this result declaring that which are the games endurance strength based they can adopt this kind of training to develop their endurance strength like abdominal and core muscle strengthen. The same way passing variable also post test results showed better passing performance than pre- test so that the framed hypothesis was accepted by researcher in this investigation. It's discovered that selected core training exercises will helpful to initiate or improve

Muscular strength and balanced base phenomena in all games and sports.

## References

1. Akuthota V, Nadler SF. Core strengthening. Archives of physical medicine and rehabilitation. 2004; 85:86-92.
2. Ali A, Gardiner R, Foskett A, Gant N. Fluid balance, thermoregulation and sprint and passing skill performance in female soccer players. Scandinavian journal of medicine & science in sports. 2011; 21(3):437-445.
3. Bliss LS, Teeple P. Core stability: the centerpiece of any training program. Current sports medicine reports. 2005; 4(3):179-183.
4. Christou M, Smilios I, Sotiropoulos K, Volaklis K, Piliandis T, Tokmakidis SP. Effects of resistance training on the physical capacities of adolescent soccer players. The Journal of Strength & Conditioning Research. 2006; 20(4):783-791.
5. Ekstrom RA, Donatelli RA, Carp KC. Electromyographic analysis of core trunk, hip, and thigh muscles during 9 rehabilitation exercises. Journal of orthopaedic & sports physical therapy. 2007; 37(12):754-762.
6. Hibbs AE, Thompson KG, French D, Wrigley A, Spears I. Optimizing performance by improving core stability and core strength. Sports medicine. 2008; 38(12):995-1008.
7. Kloubec JA. Pilates for improvement of muscle endurance, flexibility, balance, and posture. The Journal of Strength & Conditioning Research. 2010; 24(3):661-667.
8. Lyons M, Al-Nakeeb Y, Nevill A. Performance of soccer passing skills under moderate and high-intensity localized muscle fatigue. The Journal of Strength & Conditioning Research. 2006; 20(1):197-202.
9. McGill S. Core training: Evidence translating to better performance and injury prevention. Strength & Conditioning Journal. 2010; 32(3):33-46.
10. Sekendiz B, Cug M, Korkusuz F. Effects of Swiss-ball core strength training on strength, endurance, flexibility, and balance in sedentary women. The Journal of Strength & Conditioning Research. 2010; 24(11):3032-3040.
11. Tse MA, McManus AM, Masters RS. Development and validation of a core endurance intervention program: implications for performance in college-age rowers. The Journal of Strength & Conditioning Research. 2005; 19(3):547-552.
12. Willardson JM. Core stability training: applications to sports conditioning programs. The Journal of Strength & Conditioning Research. 2007; 21(3):979-985.