



## EFFECT OF YOGA ON PHYSICAL FITNESS COMPONENTS OF INTER-COLLEGIATE LEVEL FOOTBALL PLAYERS

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### ABSTRACT

The purpose of study was to find out the effect of Yoga and physical fitness training on physical fitness of Inter-collegiate Football players. The study was incorporated for 40 Inter-collegiate level football players. The age range of the football players was 19 to 26 years. The physical fitness training (Push-up, Pull-ups, Sand Training, Circuit training and aerobic and general physical Exercises) and yogic practices were planned for 12 weeks for Inter-collegiate level football players from Monday to Friday for one hour. The pre-test was taken for both treatment and control group before start of the intervention. The physical fitness test were conducted to measure the muscle strength, muscular endurance, cardiovascular endurance, strength, sprints, change of direction with speed and flexibility. The results of study indicated that Inter-collegiate level Football players of control group were found similar in all the components of physical fitness i.e. muscular strength, muscular Endurance, cardiovascular endurance, flexibility and BMI and Football players of treatment group were also found dissimilar in flexibility. The effect of yoga on flexibility was observed among Inter-collegiate level football players.

**Keywords:** Yoga, Physical fitness, Football players, physical training exercise

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## I. INTRODUCTION

Better health is need of the hour and can be achieved by yogic practices. Yoga literature from Upnishads, Purans and in Bhagvad Geeta claims the higher goal of life. At present, worldwide yoga was accepted as the best system of exercise for health benefits. The philosophy behind the yoga was explored by Maharshi Patanjali which was condensed in 195 sutras to master yogic practices. Regular yoga practices have a positive influence on physical (Hadi, 2007), psychological, social, emotional, spiritual (Madanmohan, 2008) and enhance the overall functioning of the human systems (Upadhyay et al., 2008). Asana and Pranayama have been integrated into the remedial treatment system.

Yoga posture (asanas), yoga breathing (pranayama) and meditation can interact with various somatic and neuroendocrine mechanisms and produce therapeutic effects (Malhotra and Singh, et.al., 2002). The asanas are made with slow, gentle, calm and graceful movements. They are also short at the average rated training intensity (Ray, Pathak & Tomer, 2011) and on the physical, mental and emotional level power and extend Fitness (Nagarathna & Nagendra, 2013). Yoga has received a lot of awareness from the sciatic community over the past two decades because of its efficiency in improving muscle strength, endurance, body flexibility (Woodyard, 2011), generating balanced energy, liveliness (Arora and Bhattacharjee, 2008) and maintaining the spirit of serenity Nagarathna & Nagendra, 2013).

Football is the most popular alternating team sports due to the growing popularity and financial importance of football. Many types of research on movement science have been taking place depending upon the basis of match data collection and analysis. (Reilly and Thomas, 1976). Football is a multifaceted team game that requires the replication of numerous different measures and different assessment is underway to measure the physical abilities of the athletes (Rampinini et al., 2007). The development of game performance is usually seen in the teaching and learning process of various skills according to the game situation. (Mitchell et al., 2006, Grehaigne et al., 2005).

Fitness is an important factor, even though the team is made up of extremely talented, precise and competent players. This is protected by game performance and this results from many factors. The usual fitness factors are muscle strength, muscular endurance, cardiovascular endurance, strength, sprints, change of direction with speed and flexibility. The experts observed that the techniques and strategy of a player or group, physically and physiologically unique, contributed to improving performance (Deba Prasad Shahu, 2016).

The purpose of study was to find out the effect of Yoga and physical fitness training on physical fitness of Inter-collegiate Football players.

## 2. METHODOLOGY

### 2.1 Subjects

The study was incorporated for 40 Inter-collegiate level football players All the participants were informed about the possible benefits associated with the study and experimental procedures. The participants were divided into Treatment group (N=20) and control group (N=20) randomly. The age range of the football players was 19 to 26 years.

### 2.2 Administration of Test

The following physical fitness test were conducted to measure the muscle strength, muscular endurance, cardiovascular endurance, strength, sprints, change of direction with speed and flexibility.

1 Muscular strength- Hand Grip Dynamiter , 2 Muscular Endurance -Bent Knee Sit-ups Test, 3. Cardio-vascular Endurance - Harvard step test , 4. Flexibility- Sit and reach Test, 5 Body Composition BMI Formula

### 2.3 Experimental design

The physical fitness training (Push-up, Pull-ups, Sand Training, Circuit training and aerobic and general physical Exercises) and yogic practices were planned for 12 weeks for Inter-collegiate level football players from Monday to Friday for one hour. The pre-test was taken for both treatment and control group before start of the intervention. The subjects were allowed to take 20 min warm up.

## 3. RESULTS

To find out the effect of yoga on physical fitness of Football players belong to control and experimental groups, t-ratios were computed and data pertaining to this, has been presented in Table 1 and 2.

**TABLE 1**  
SIGNIFICANCE OF DIFFERENCE BETWEEN PRETEST AND POST TEST IN THEIR ON PHYSICAL FITNES OF FOOTBALL PLAYERS BELONG TO CONTROL GROUP

Fitness Components	N	Tests	Mean	MD	DM	t-ratio
Muscular Strength	20	Pre	59.20	2.85	4.45	0.64
	20	Post	62.05			
Muscular Endurance	20	Pre	28.25	2.70	3.15	0.86
	20	Post	30.95			
Cardiovascular Endurance	20	Pre	127.69	1.48	4.92	0.31
	20	Post	126.21			
Flexibility	20	Pre	6.30	2.70	1.42	0.07
	20	Post	9.00			
BMI	20	Pre	20.60	0.11	0.78	0.14
	20	Post	20.71			

Non-significant at .05 Level,  $t_{.05}(38)=2.02$

Table 1 indicates that statistically significant differences were not existed between pre-test and post-test of various components of physical fitness of Inter-collegiate level Football players belong to control group, as the calculated t-values of 0.64, 0.86, 0.31, 0.07 and 0.14 for muscular strength, muscular Endurance, cardiovascular endurance, flexibility and BMI respectively were less than the required  $t_{.05}(38)=2.02$ .

**TABLE 2**  
SIGNIFICANCE OF DIFFERENCE BETWEEN PRETEST AND POST TEST IN THEIR PHYSICAL FITNES OF FOOTBALL PLAYERS BELONG TO TREATMENT GROUP

Fitness Components	N	Tests	Mean	MD	DM	t-ratio
Muscular Strength	20	Pre	89.20	2.80	4.43	0.63
	20	Post	62.00			
Muscular Endurance	20	Pre	28.55	2.40	3.14	0.77
	20	Post	30.95			
Cardiovascular Endurance	20	Pre	111.99	4.33	7.37	0.58
	20	Post	116.33			
Flexibility	20	Pre	6.05	2.95	1.42	2.07*
	20	Post	9.00			
BMI	20	Pre	20.41	0.15	0.75	0.20
	20	Post	20.56			

Significant at .05 Level,  $t_{.05}(38)=1.97$

Table 2 indicates that statistically significant differences were not existed between pre-test and post-test of various components of physical fitness of Inter-collegiate level Football

players belong to treatment group , as the calculated t-values of 0.63, 0.77, 0.58 and 0.20 for muscular strength, muscular Endurance, cardiovascular endurance, and BMI respectively were less than the required  $t_{.05(38)}=2.02$ . But significant difference was observed between pre-test and post-test of flexibility component of physical fitness of Football players belong to treatment group, as the calculated t-value of 2.07 for flexibility was high than the required  $t_{.05(38)}=2.02$

#### 4. DISCUSSION

Football is one of the most popular games in the world because of its participation and its viewers. It is a very alternating and energetic sport with skillful actions (Bloomfield et al., 2007, and Mohr et al., 2003). The usual fitness factors are muscle strength, muscular endurance, cardiovascular endurance, strength, sprints, change of direction with speed and flexibility. Yoga is a widely performed ancient Indian form of conditioning practice. Yoga asanas are postures combined through slow, smooth, steady, and graceful movements. Regular exercise of yoga as well as physical training are useful for developing certain aspects of fitness such as flexibility, strength, stamina, balance and rhythm. Yoga has received much attention from the sciatic community over the last 20 years due to its usefulness in enhancing muscular strength, endurance, body flexibility (Woodyard, 2011), Yoga has received a lot of awareness from the sciatic community over the past two decades because of its efficiency in improving muscle strength, endurance, body flexibility (Woodyard, 2011), Yoga can be as useful or superior as physical work out in enhancing various measures of fitness outcomes (Ross & Thomas,2010). Asana is useful for tightening the nervous system, improving blood circulation, relieving tension and increasing flexibility. Asana is supposed to promote a state of mental and physical health. In present research it is found that yoga has positive effect on the development flexibility of football players. The positive effect of yoga is also observed on case of muscular endurance, cardiovascular endurance and BMI rest components ,of physical fitness

#### 5. CONCLUSIONS

1. Inter-collegiate level Football players of control group were found similar in all the components of physical fitness i.e. muscular strength, muscular Endurance, cardiovascular endurance, flexibility and BMI
2. Inter-collegiate level Football players of treatment group were also found similar in muscular strength, muscular Endurance, cardiovascular endurance, and BMI components of physical fitness.
3. Inter-collegiate level Football players of treatment group were also found dissimilar in flexibility component of physical fitness only..
4. The effect of yoga on flexibility was observed among Inter0collegiate level football players.

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