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Effect of fitness training and yogic practices on football passing skill

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Abstract

The aim of the study is to find out the effect of fitness training along with yogic practices on the passing skill of football players. Eighty two male college football players divided randomly into treatment and control group with the age range from 18-24 years. Each player underwent Bobby Charlton passing skill test before and after intervention period of 4 months. The results shows significant pre-post improvements in the treatment group Passing (P) ($p < 0.006$) variable where as control group showed insignificant. In conclusion, the short period training program of fitness exercises along with yogic practices is helpful in enhancing the skill level of football players.

Keywords: Football skill, fitness training, yogic practices

Introduction

Physical fitness is the ability to carry out day to day actions with no excessive tiredness. The health related physical fitness components enhance the regular health and also fitness level, if an individual take part regularly in the fitness activities. Poor physical fitness and inactive living habits will lead to a negative impact of both health and daily living. The regular practice of yoga shall improve one's health and also keep fit for day to day activities. The measurement of skillfulness is hardly ever built-in when the fitness of players is monitored. Soccer is a complex sport, requiring the repetition of many disparate actions, and several tests are currently being used to assess the physical ability of players (Rampinini *et al.*, 2007) [1]. For example, aerobic capacity can be assessed using the Yo-Yo test (Krustrup *et al.*, 2003) [2], simple running tests can be used to monitor speed, agility and repeated sprint performance, and countermovement jumps can be used to assess leg power. The development of game performance is generally seen in learning tactical and technical skills and their integration into the game context (Mitchell, Oslin, Griffin, 2006; Grehaigne, Richard & Griffin, 2005) [3]. Skill is the sportsman's ability to perform the proper techniques in proper time, successfully with less effort. It is the ability to carry out physical or intellectual tasks with a greatest level of success. A more recent definition of skill is: 'the consistent production of goal-oriented movements, which are learned and specific to the task' (McMorris, 2004) [4]. In order for players to acquire and execute soccer skills adequately, it is important that they are equipped with the fundamental motor skills, such as sprinting, agility, acceleration, etc. (e.g., Strand & Wilson, 1993; Burton & Miller, 1998; Seefeldt, 1980). Fundamental motor skills are seen as essential precursors or related factors to technical skills and therefore excellence in soccer (Moore, Collins, & Burwitz, 1998) [5]. Technical skills are classified as on-the-ball-performance actions and consist of: ball control, passes, crosses, dribbles, tackles, headers, shots, corners, free-kicks and throwing (Rampinini *et al.*, 2007; Taylor, Mellalieu, James, & Shearer, 2008) [1, 6]. Technical skills are a prerequisite for playing soccer and are crucial in soccer performance. These crucial moments consist of winning possession of the ball, deceiving an opponent by passing or dribbling, and most importantly to score a goal (Bangsbo, 1994; Reilly *et al.*, 2000b; Rienzi *et al.*, 2000) [7]. All the sports, to unbalanced extents, occupy the submission of cognitive, perceptual or motor skill (Bate, 1996) [8]. The motor skills required to successfully control, pass, dribble and shoot the ball at goal are fundamental skills of the soccer player (Ajmal Ali, 2010) [9]. Since, the performance in skill tests depends on physical fitness abilities, it is challenging for measurements of skill development.

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The passing and dribbling skill tests comprise of extensive amount of running. Hence, the predictors of successful performance in many skill tests have been shown to depend on measured tasks (Malina *et al.*, 2005) [10]. In football game, a player might have good patterns of technique (movements) but if he does not perform the right action (skill) at the right time, then he becomes useless player (Knapp, 1977) [11]. The physical fitness training along with yogic practices helps a player to enhance his skill related physical fitness. In this regard, this study was done on male football player's, to know the effect of fitness training along with yogic practices on passing skill of college football players.

Methods

Eighty two male football player's age 18 to 24 years were voluntarily involved in the present study for four months. All the participants were informed about the possible benefits associated with the study and experimental procedures. The informed consent letter was collected from the subjects before the pre test. The subjects were given freedom to withdraw from the study at any point of time. The participants were divided into Treatment group and control group randomly. The physical fitness training of pushups, squat thrust, bench

dips, sit ups, back extension, step up and shuttle run training was given to the treatment group along with dynamic Suryanamaskar, asana, breathing practices, Kapalabhati and pranayama for 4 months. The control group was not provided any training.

Assessment

Bobby Charlton's passing test is intended to encourage the use of both feet by passing over short distance.

Experimental design

The physical fitness training along with yogic practices was planned for four months to the college football players from Monday to Friday for one hour. The pre-test was taken for both treatment (n=41) and control (n=41) group before start of the intervention. The subjects were allowed to take 20 min warm up including jogging, stretching and football specific exercises every day. Squat thrust, bench dips, sit ups, back extension, step up and shuttle run training were included in the intervention to measure the possible changes or improvement in the football passing skill. The physical fitness components, training methods, related tests and its criterion measures are as shown in table 1.

Table 1: Football skills and Bobby Charlton's soccer sports tests.

| S. No | Variable | Test | Criterion Measures |
|-------|---------------|-----------------------------|--------------------|
| 1 | Short Passing | Passing over short distance | Scores |

Statistical Analysis

At base line there was no significant difference between groups for passing ($p = 0.824$). Repeated measures anova

difference between pre-post scores, and group-time interaction scores for football skill variables are as shown in Table 2.

Table 2: Comparison of the Tests Executive Functions of Treatment and Control group by using SPSS 23 version software.

| | Treatment (n=41) | | | | Control (n=41) | | | | Pre vs pre | Post vs post | Group* time |
|-----------------|------------------|---------------|------------------|-------|----------------|--------------|------------------|------|------------|--------------|-------------|
| | Pre | Post | P values (% cha) | % | PRE | POST | P values (% cha) | % | | | |
| | Mean ± SD | Mean± SD | | | Mean ± SD | Mean ± SD | | | | | |
| Passing (score) | 79.27± 48.70 | 100.00± 43.30 | 0.006 | 26.15 | 76.83± 50.12 | 81.71± 47.11 | 0.505 | 6.35 | 0.824 | 0.071 | 0.128 |

Results: Passing showed a difference between times [$F(1,80) = 6.185, p= 0.015$] but, there is non-significant difference in

group-time interaction [$F(1,80) = 2.370, p=0.128$] as shown in fig.1.

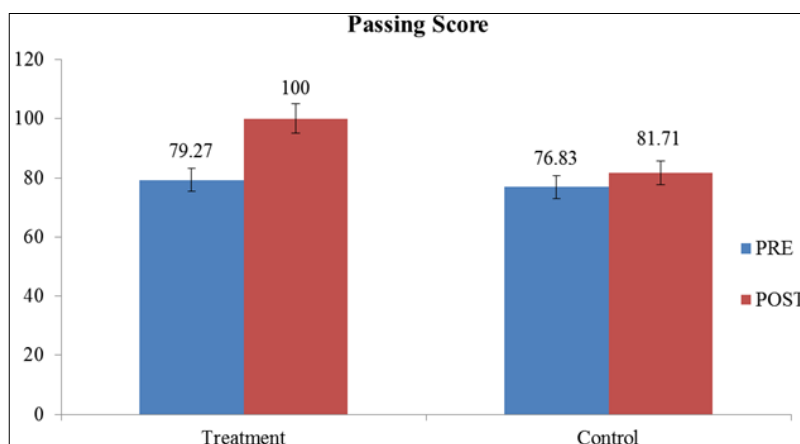


Fig 1: Passing in scores

Significant pre-post improvements were seen in the treatment group in the variable passing ($p < 0.006$) whereas control group showed insignificant.

Discussion of Findings

The four months intervention program of physical fitness training along with yogic practices was mainly consisting of

the actual performing fitness and yogapractices. The importance was given on specific fitness training of particular fitness components and selected yogic practices. There is a significant improvement on passing. Control group showed no significant gains in passing skill. The significant improvements in accuracy passing by the treatment group may be due to increase in pelvic rotation. Kicking opens the hips, allowing the pelvis to move through a greater range of motion and prolonging ball contact time, which may have positive benefits for accuracy (Barfield, 1998) ^[12], Lees and Nolan (2002) ^[13].

Enhancing muscle activation of the Tibialis anterior (TA) and biceps femurs (BF) and reducing gastrocnemius muscle (GAS) activation may assist players to kick accurately against top targets. In contrast, players who display higher Tibialis anterior (TA) and rectus femurs (RF) activation may be less accurate against a bottom target. It was concluded that muscle activation of the kicking leg represents a significant mechanism which largely contributes to soccer kick accuracy (Athanasios Katis *et al.*, 2013) ^[14].

Conclusions

The treatment group showed significant improvement in passing skill is mainly due to regular physical fitness training of pushups, squat thrust, bench dips, sit ups, back extension, step up and shuttle run training along with dynamic Suryanamaskar, asana, breathing practices, Kapalabhati and pranayama. Rhythmic exercises like asana practice increased the flexibility thereby players are able to rotate pelvic during ball kick which opens the hips, allowing the pelvis to move through a greater range of motion. This will help during kicking, shooting for accuracy (Barfield, 1998) ^[12]. Therefore the present study shows that, the short time training program of fitness exercises and yogic practices helpful in improving motor related physical fitness components there by enhances passing skill of football players. It is also suggested that, long duration training program may be more effective as compared to short duration by considering high level competitions.

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