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Effects of saq training on selected physical fitness parameters and kicking ability of *high school level* football players

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Abstract

Objective: This study was designed to investigate effects of SAQ training on selected physical fitness parameters and kicking ability of High School Level male Football Players. To achieve the purpose of the study (N=30) High School Level male Football Players were selected from Government Higher Secondary School, Thummanatty, The Nilgiris.

Methods: The subjects will be randomly assigned to two equal groups (n=15). Group- I SAQ Training (SAQTG) and Group - II was act as a control group (CG). The selected selected physical fitness parameters were speed (50 m) and agility (10 X4) kicking ability (Warner soccer test). The initial test was taken for both the groups. After the initial test respective training was given to the experimental groups for 3 days per week (Monday, Wednesday and Friday) days the period of twelve weeks. The control group was not be given any sort of training except their routine. The data collected from the subjects was statistically analyzed with 't' ratio to find out significant improvement if any at 0.05 level of confidence.

Results: The result of this speed, agility and kicking ability improved significantly due to effects of SAQ training with the limitation of (diet, climate, life style) status and previous training the result of the present study coincide findings of the investigation don by different experts in the field of sports sciences.

Conclusion: Due to the influence of effects of SAQ training significantly improved selected physical fitness parameters and kicking ability of High School Level male Football Players.

Keywords: SAQ Training, Speed, Agility and Kicking Ability.

Introduction

Soccer requires players to perform numerous actions that require strength, power, speed, agility, balance, stability, flexibility and endurance (Bloomfield *et al.*, 2007; Gorostiaga *et al.*, 2004; Helgerud *et al.*, 2001) ^[1, 5] suggesting that the physical conditioning of players is a complex process. During a soccer match, players cover about 10 km in total, which includes a sprint every 90 seconds (11% of overall activity) with each action lasting on average of 2 to 4 seconds and covering a distance of 15 m (Stolen *et al.*, 2005) ^[11]. Although speed represents a very important component of fitness for a soccer player, quickness (acceleration speed during the first steps) is probably more important. This is because sprints in soccer are mainly performed over short distances undertaken at maximal intensity although the longest distances tend to be about 40 m and usually involves several changes in direction (Jovanovic *et al.*, 2011; Rienzi *et al.*, 2000) ^[6, 8]. High-speed actions in soccer have been categorized as requiring acceleration, maximal speed or agility skills (Gambetta, 1996) ^[3] whilst Chapman *et al.* (2008) ^[2] described speed in soccer as consisting of running speed, reaction speed and acceleration speed during the first steps (referred to as quickness).

Both of these categorizations imply that the SAQ (speed, agility and quickness) training method should be a useful component of fitness training in soccer (Pearson, 2001) ^[7]. A typical SAQ session involves explosive movements with the goal of progression from fundamental movement patterns to highly positional specific movements (Yap and Brown, 2000) ^[12]. Indeed, SAQ training seeks to improve speed, agility and quickness through a range of soccer specific exercises designed to address both the common and unique characteristics of each of these components. In one such study, Rösch *et al.* (2000) ^[9]

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concluded that elite players, but not amateurs, were able to adapt their body positions as a result of SAQ training such that they could perform soccer movements with better balance, strength and control without any loss of speed. In order to enhance abilities of speed and explosiveness we use speed, agility, and quickness training (SAQ). At present, there is a huge amount of information that showed that the SAQ training significantly enhances explosive properties such as sprinting, agility, coordination, reaction speed, and maximum explosive power, acceleration, maximum speed, vertical jumping ability, quantitative and qualitative activation of the knee extensor muscle, and even situational effectiveness of players

Baechle (1994) [19] defined speed as “the rapidity of movement” (Brown, Woodman & Yap, 2000) [16]. Agility is the rapid whole body movement with change of velocity or direction in response to a stimulus (Sheppard & Young, 2006) [18]. Moreno (1995) [20] defined quickness as “the ability to read and react to a situation; it is a multidirectional skill that combines explosiveness, reactivity, and acceleration” (Brown, Woodman & Yap, 2000) [16]. SAQ aims to coach the necessary techniques to provide the basic skill to complete the movements. Polman, Bloomfield & Edwards (2009) [17] stated that the SAQ training method “involves progressive exercises to develop an athlete’s ability to be more skilful at faster speeds and with greater precision”. Reilly (1997) [21] suggested that games players require a high level of physical fitness to cope with the demands of the game (Brown, Woodman & Yap, 2000) [16]. Therefore it is essential that coaches condition their athletes in an effective manner to improve their sport specific attributes and prepare them for competition.

Materials and Methodology

This study was designed to investigate effects of SAQ training on selected physical fitness parameters and kicking ability of High School Level male Football Players. To achieve the purpose of the study (N=30) High School Level male Football Players were selected from Government Higher Secondary School, Thummanatty, The Nilgiris. The subjects will be randomly assigned to two equal groups (n=15). Group- I SAQ Training (SAQTG) and Group - II was act as a control group (CG). The selected physical fitness parameters were speed (50 m) and agility (10 X4) kicking ability (Warner soccer test).

Criterion measures

Variables	Test items	Unit of measurements
Speed	50m dash	In second
Agility	10X4 shuttle run	In second
Kicking ability	Warner soccer test	In meters

Training programme

The training programme was lasted for 45 minutes for session in a day, 3 days in a week for a period of 12 weeks duration. These 45 minutes included 10 minutes warm up, 25 minutes SAQ training and 10 minutes warm down. Every three weeks of training 5% of intensity of load was increased from 65% to 80% of work load. The volume of SAQ training is prescribed based on the number of sets and repetition. The equivalent in SAQ training is the length of the time each action is held for and the number action in total 3 day per weeks (Monday, Wednesday and Friday) the selected subjects underwent regular physical exercise on other 3 days (Tuesday, Thursday, Saturday) straight leg run, Double leg hops, Alternate leg bound, Single leg hops right and left, wall pass and 1 vs 1 passing in a week.

Table I: Computation of ‘t’ ratio on selected physical fitness parameters and kicking ability of high school level football players on SAQTG and Control Group

Groups	Variables	Mean	SD	MD	‘t’ ratio	
Experimental Group	Speed	Pre test	7.22	0.50	0.20	4.10*
		Post test	7.02	0.40		
	Agility	Pre test	11.24	0.35	0.33	3.80*
		Post test	10.91	0.36		
	Kicking Ability	Pre test	54.41	5.71	2.48	2.65*
		Post test	56.89	5.21		
Control Group	Speed	Pre test	7.33	0.44	0.01	0.20
		Post test	7.32	0.45		
	Agility	Pre test	11.37	0.38	0.09	1.78
		Post test	11.28	0.28		
	Kicking Ability	Pre test	53.87	5.32	1.09	0.90
		Post test	54.95	6.34		

*significant level 0.05 level (2.14,1 and 14)

Table I reveals the computation of mean, standard deviation and ‘t’ ratio on speed, agility and kicking ability of SAQ training. The obtained ‘t’ ratio on speed, agility and kicking ability were 4.10, 3.80 and 2.65 respectively. The required table value was 2.14 for the degrees of freedom 14 at the 0.05 level of significance. Since the obtained ‘t’ values were greater than the table value it was found statistically significant.

Table I reveals the computation of mean, standard deviation and ‘t’ ratio on speed, agility and kicking ability of control group. The obtained ‘t’ ratio on speed, agility and kicking ability were 0.20, 1.78 and 0.90 respectively. The required

table value was 2.14 for the degrees of freedom 14 at the 0.05 level of significance. Since the obtained ‘t’ values were lesser than the table value it was found statistically insignificant.

Discussion on Findings

The present study experiment the impact of 12 weeks SAQ training significantly improved the selected physical fitness parameters and kicking ability of High School Level male Football Players. The results of this study indicated that SAQ training is more efficient to bring out desirable changes over the speed, agility and kicking ability.

Kicking ability of the soccer players improves as a result of strength training. The result of this study is in line with the findings of Manolopoulos *et al.* (2004) ^[13], Perez-Gomez *et al.* (2008) ^[14] and Sedano Campo *et al.* (2009) ^[15]. We observed the ball velocity was followed by an increase in ball kicking velocity after the SAQ training. SAQ aims to coach the necessary techniques to provide the basic skill to complete the movements. Polman, Bloomfield & Edwards (2009) ^[17] stated that the SAQ training method “involves progressive exercises to develop an athlete’s ability to be more skilful at faster speeds and with greater precision”.

Conclusion

It was concluded that 12 weeks SAQ training significantly improved the selected physical fitness parameters (Speed, agility) and kicking ability of High School Level male Football Players than the control group. It was an incorporated component in the training schedule for the football players.

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