

## Effect Of SAQ Training Program On Speed And Agility Performance Among Football Players

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### ABSTRACT:

**Purpose:** The main purpose of the present study was to investigate the effect of SAQ training program on speed and agility performance among football players.

**Method:** A total of thirty male football players (age 18 – 25 year) were selected from Manipur University, Canchipur, Imphal, Manipur (India) who participated in the Inter college level competition. The subjects were randomly assigned into two equal groups, experimental group (n=15) and control group (n=15). The groups were measured before the intervention with the Speed and Agility. The parameters selected for the study were 50m dash for Speed and 10m×4 shuttle run test for Agility. The SAQ training program were carried out for the period of six weeks, five days training (Monday to Friday) and 60 minutes each session to the training group where no special exercise was administered to the control group. The pre and post-test scores were statistically examined by the analysis of descriptive statistics and pair‘t’ test was employed. The level of significance was set at 0.05 level of confidence.

**Results:** The experimental group showed improved scores in the speed and agility performance compared to the control group (p<0.05). The mean and standard deviation of the speed and agility performance for pre-test and post-test of the experimental group were 6.56±0.69, 6.09±0.41 and 8.4480±0.45994, 7.4380±0.34266 respectively. The mean and standard deviation of the speed and agility performance for pre-test and post-test of the control group were 6.9800±0.52723, 6.7480±0.36073 and 7.8660±0.47670, 7.8460±0.46814 respectively.

**Conclusion:** It was concluded that the SAQ training program group had shown significantly improved speed and agility performance and the control group had insignificant improvement. It was confirmed that a six weeks SAQ training program was effective to improve the speed and agility performance of football players.

**Keywords:** Speed, Agility, Quickness, Football.

## INTRODUCTION

Now the sports-man have been able to give outstanding performance because of involvement of new scientific substantiated training method and means of execution of sports exercise such as sports techniques and tactics, improvement of sports from grassroots, and equipment as well as other components and condition of the system of sports training (*Hardayal Singh, 1991*). Football is the world's most popular team game. Modern football is very fast by its nature, the spectators and the players enjoy the game. Nowadays with the demand for "high sports performance" the concept of football has been changed. The concept of football has applied skill, technical, tactical development, development of all-important motor components and physiological parameters which are closely associated and contributes to performance in football. Not only technical, physiological development, the sports scientists are also making efforts to develop the intellectual ability of the football players. As in the literature, it has been shown that endurance, speed, agility, maximum leg strength, upper body strength, leg power, muscular endurance, flexibility, coordination and reaction time are important prerequisites for efficient football performance (*Singh L.Santosh, et al., 2018; Singh L.Santosh, et al., 2016*). Football is the most popular and most attended spectacular game in the world at present. It is not merely a game, it is a part of one's life. It is vigorous, fast and skilled game for the well-conditioned sportsman, who must possesses strength, speed, agility, balance, flexibility, endurance, coordination and many other undefined qualities such as dribbling, kicking for passing and shooting at the goal. The playing better football, physical fitness is needed for good strength respect of the height and weight. Football is a fast moving field game involving players of varying body types. It requires a unique mix of physical, mental and technique skills. The failure of success of an individual player depends on the blending of physical ability of perform well under pressure (*William F. Struab, 1972*). Top football players do not necessary have an extraordinary capacity in motor ability specially speed and agility performance. Football training is largely based on the game itself, and a common recruitment pattern from player to coach and manager reinforces this tradition. New development in understanding adapting processes to the circulatory system and endurance performance well as nerve and muscle adaptations to training interventions. The new developments in physical training have important implications for the success of football players. (*Swapan Mallic, 1990*).

## OBJECTIVES OF THE STUDY

The main purposed of the present study was to investigate the effect of SAQ training program on speed and agility performance among football players.

## METHODOLOGY

### Selection of Subjects

For this study, thirty male football players were selected from Manipur University, Canchipur Imphal, Manipur (India) who participated in a National level competition. The age of subjects ranged between 20-26 years.

### Selection of the Test

To measure the speed by using the 50m dash test and the agility by using the 10m×4 shuttle run test was selected as a test administered.

### Criterion Measures

The criterion measures for administering tests for speed by using the 50m dash test and agility by exploiting the 10m×4 shuttle run test were used and measured in seconds.

## Design of the Study

The selected thirty male football players subjects were randomly assigned into two equal groups, as Experimental group (n=15) and the control group (n=15). The specifically selected test items were the 50m dash test and 10m×4 shuttle run test. The groups were measured in the 50m dash test and 10m×4 shuttle run test before the intervention of the SAQ exercise training program. After the initial test, the subjects of the experimental group participated in a supervised SAQ exercise training program, control group was given only football practice, where no special exercise was administered. The SAQ exercise training program was carried out for a period of six weeks, five days of training (Monday to Friday) and 60 minutes for each session. And this research will proceed from 25th October to 25th December 2021.

## Training Program

The objects from this study have been training followed by the Six week SAQ exercise training program. These training program by following the recommended exercise allowance which was suggested in Thompson et al. (2013), we have processed total 60 minutes work out with warm-up exercise for 10 min, main exercise for 40 min, warm-down exercise for 10 min. The exercise was applied for 6 weeks with 5 times a week. With increasing the scale and number of exercise movements which increases the intensity of exercise (Singh L. Santosh 2018), we have composed a routine that does not get out of the previously set maximum exercise intensity. And also when practicing each move, we have focused on safety more than accuracy so we suggested a bit changed movement in parts which was tough to follow. The specific contents are composed as table 1.

**Table 1: Six Weeks SAQ Training Programme (Weekly Programme)**

Day	Warming Up	Particular Training	Particular Drills
Day 1 Mon	15 Min Warm Up 15 Sets X 3 Reps 1:5 Rest Between Sets	Speed	Resisted Knee Drive Weighted Arm Swing
		Agility	10x4m Shuttle Run
		Quickness	Repeated Vertical Jump
Day2 Tue	15 Min Warm Up 15 Sets X 3 Reps 1:5 Rest Between Sets	Speed	Vertical Jump And Sprintweight Amswing
		Agility	Lateral 20m Shuttle Run
		Quickness	Repeated Standing Broad Jumps
Day 3 Wed	15 Min Warm Up 15 Sets X 3 Reps 1:5 Rest Between Sets	Speed	Sit Upand Sprints Weight Arm Swing
		Agility	20m Shuttle Run
		Quickness	Repeated Power Skips
Dar 4 Thu	15 Min Warm Up 15 Sets X 3 Reps 1:5 Rest Between Sets	Speed Agility And Quickness	Push Up And Sprints
		Speed And Quickness	20m Ladder Speed Runs Repeated Vertical Jumps
		Agility And Quickness	20m Shuttle Run Squirm
Day 5 Fri	15 Min Warm Up 15 Sets X 3 Reps 1:5 Rest Between Sets	Speed Agility And Quickness	Ladder Speed And Hop Mini Hurdles
		Speed And Quickness	Hop Drill And Repeated Vertical Jump And Then Sprint Then Sprints
		Agility And Quickness	One Leg Hop And Z Pattern Cut And Run

## Statistical Analysis

The collected data were entered into an excel sheet and statistical analyses were conducted using the IBM SPSS software (version 22.0; SPSS Inc., Chicago, IL, USA). Normality of statistical

distribution was tested by using descriptive statistics; paired t-test was applied to examine differences among groups. The level of significance used in the statistical analyses was 0.05.

## RESULT AND FINDINGS

The result of the study showed that there was significant improvement of speed performance of selected subjects of the experimental group. The descriptive analysis of pre-test and post-test of the experimental group was presented at table 2.

**Table No. 2:** Pre and Post Means Score of Speed performance for Experimental Group

Variables		N	Mean	SD	SEM	df	t-Value
SPEED	Pre-test	15	6.56	0.69	0.18	14	2.24*
	Post-test	15	6.09	0.410	0.16		

\*Significant at 0.05 levels

Tabulated value 0.05 (14) = 2.14

In the above table-1 revealed that the significance of different between Pre-test and Post-test of the mean (M) and standard deviation (SD) of experimental group for the speed performance (50 Meter Dash). The pre-test and post-test of experimental group were  $6.56 \pm 0.69$  and  $6.09 \pm 0.41$  respectively (N=15). In addition, the standard errors of pre and post-test were also found as 0.18 and 0.16 respectively. The analysis calculated pairs 't' value experimental group was found to be significance different as the value obtain was 2.24\*, whereas tabulated value was 2.14 with degree of freedom was 14 at 0.5 level of significance.

The descriptive analysis of pre-test and post-test of control group for speed performance was presented at table 3.

**Table 3:** Pre and Post Test Means Score of Speed performance for Control Group

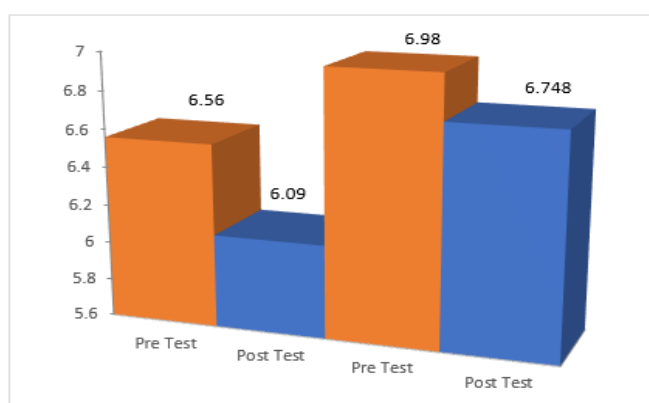
Variable		N	Mean	SD	SEM	df	t-value
SPEED	Pre-test	15	6.9800	.52723	.52723	14	1.600
	Post-test	15	6.7480	.36073	.36073		

\*Significant at 0.05 levels

Tabulated value 0.05 (14) = 2.14

In the above table-2 reveal that the significance of different between Pre- test and Post - test of the mean (M) and standard deviation (SD) of Control group for the speed performance (50 Meter Dash). The pre-test and post-test of control group were  $6.9800 \pm 0.52723$  and  $6.7480 \pm 0.36073$  respectively (N=15). In addition, the standard errors of pre and post-test were also found as 0.52723 and 0.36073 respectively. The analysis calculated pairs 't' value control group was found to be insignificance different as the value obtain was 1.600, whereas tabulated value was 2.14 with degree of freedom was 14 at 0.5 level of significance.

The graphical representation of pre-test and post-test mean comparisons for speed performance of the experimental and control group was shown at figure 1.



**Figure 1:** Pre-test and post-test means comparison of Speed Performance for experimental control group

The descriptive analysis of pre-test and post-test of experimental group for agility was presented at table 4.

**Table 4:** Pre and Post Test Means Score of Agility Performance for Experimental Group

Variable	N	Mean	SD	SEM	df	t-value	
AGILITY	Pre-test	15	8.4480	.45994	.11876	14	11.976*
	Post-test	15	7.4380	.34266	.08847		

\*Significant at 0.05 levels

Tabulated value  $_{0.05} (14) = 2.14$

In the above table-3 revealed that the significance of different between Pre- test and Post - test of the mean (M) and standard deviation (SD) of Experimental group for the agility performance (10×4 Shuttle Run). The pre-test and post-test of experimental group were  $8.4480 \pm 0.45994$  and  $7.4380 \pm 0.34266$  respectively (N=15). In addition, the standard errors of pre and post-test were also found as 0.11876 and 0.08847 respectively. The analysis calculated pairs't' value experimental group was found to be significance different as the value obtain was 11.976\*, whereas tabulated value was 2.14 with degree of freedom was 14 at 0.5 level of significance.

The descriptive analysis of pre-test and post-test of control group for agility performance was presented at table 5.

**Table 5:** Pre and Post Test Means Score of Agility Performance for Control Group

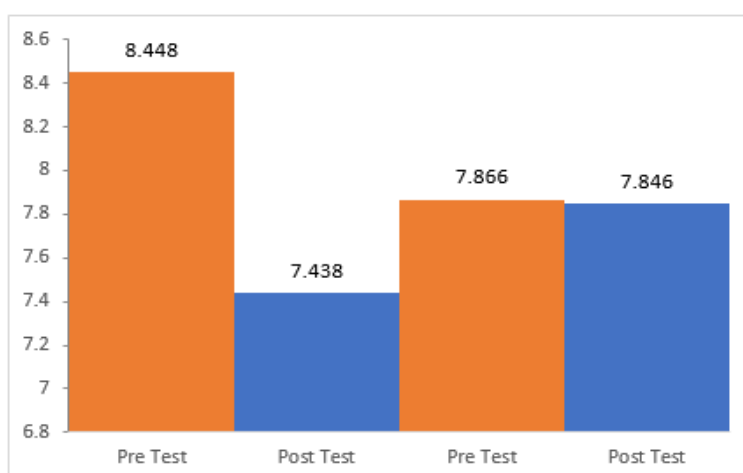
Variable	N	Mean	SD	SEM	df	t-value	
AGILITY	Pre-test	15	7.8660	.47670	.13890	14	2.071
	Post-test	15	7.8460	.46814	.13669		

\*Significant at 0.05 levels

Tabulated value  $_{0.05} (14) = 2.14$

In the above table-4 reveal that the significance of different between Pre- test and Post - test of the mean (M) and standard deviation (SD) of Control group for the agility performance (10X4 Shuttle - Run). The pre-test and post-test of control group were  $7.8660 \pm 0.47670$  and  $7.8460 \pm 0.46814$  respectively (N=15). In addition, the standard errors of pre and post-test were also found as 0.13890 and 0.13669 respectively. The analysis calculated pairs't' value control group was found to be insignificance different as the value obtain was 2.071, whereas tabulated value was 2.14 with degree of freedom was 14 at 0.5 level of significance.

The graphical representation of pre-test and post-test mean comparisons for agility performance of the experimental and control group was shown at figure 2.



**Figure 2:** Pre-test and post-test means comparison of Speed Performance for experimental control group

## DISCUSSION:

Football is the world's most popular game and requiring a high level of fitness. SAQ exercise training program and the fact that this group received proper musculoskeletal coordination to improve speed and agility performance and resulted in the development of more functional and relevant motor programs that control the complex intramuscular coordination. The purpose of the present study was to investigate the effect of SAQ training program on speed and agility performance among football players by giving the SAQ exercise training program that was carried out for the period of six weeks, five days training (Monday to Friday) and 60 minutes each session. The findings of the study also revealed that there were significant effects of SAQ exercise training program on speed and agility performances, which were proved by the application of appropriate statistical techniques as the descriptive analysis and paired t-test was employed.

On the basis of the finding, an experimental group of football players has shown the significant effect on SAQ exercise training program compared with the control group of football players of Manipur University. In the finding, the mean and standard deviation of the speed performance for pre-test and post-test of the experimental group were  $6.56 \pm 0.69$  and  $6.09 \pm 0.41$ . And the control group were  $7.9800 \pm 0.62723$  and  $7.7480 \pm 0.46073$  respectively. The significant improvement on speed performance of football players of the experimental group might be due to the nature of exercises for six weeks and a quick physical adaptation of the football players. The result of speed performance revealed significant improvement among the football players as a result of SAQ exercise training (Tabulated value = 2.14,  $p < 0.00$ ). Thus, daily SAQ exercise training was found better in improving speed performance which is an essential factor to improve football performance. In the finding, the mean and standard deviation of the agility performance for pre-test and post-test of the experimental group were  $8.4480 \pm 0.45994$  and  $7.4380 \pm 0.8847$ . And the control group were  $8.4480 \pm 0.45994$  and  $8.8660 \pm 8.8460$  respectively. The significant improvement on agility performance of football players of the experimental group might be due to the nature of exercises for six weeks and a quick physical adaptation of the football players. The result of agility performance revealed significant improvement among the football players as a result of SAQ exercise training (Tabulated value = 2.14,  $p < 0.00$ ). Thus, daily SAQ exercise training was found better in improving agility performance which is an essential factor to improve football performance. The results of this study indicate that SAQ training is effective in improving speed and agility performance of football players.

Previous research indicates that SAQ exercise of six weeks has shown significant improvement in speed and agility performance of football players. Milanovic, et al. (2013) conduct a study on the effects of a 12 week conditioning programme involving speed, agility and quickness (SAQ) training and its effect on agility performance in young soccer players. Soccer players were randomly assigned to two groups: experimental group (EG; n = 66, body mass:  $71.3 \pm 5.9$  kg; body height:  $1.77 \pm 0.07$  m) and control group (CG; n = 66, body mass:  $70.6 \pm 4.9$  kg; body height:  $1.76 \pm 0.06$  m). Agility performance was assessed using field tests: Slalom; Slalom with ball; Sprint with 90° turns; Sprint with 90° turns with ball; Sprint with 180° turns; Sprint with backward and forward running; Sprint 4 x 5 m. Statistically significant improvements ( $p < 0.05$ ) between pre and post training were evident for almost all measures of agility, with and without the ball, with the exception being the Sprint with backward and forward running. SAQ training appears to be an effective way of improving agility with and without the ball in young soccer players Soccer coaches could use this training during pre-season and in-season training Compared with pre-training, there was a statistically significant improvement in all but one measure of agility, both with and without the ball after SAQ training. Remco Polman et al., (2004) associated the efficacy of three physical conditioning programmes provided over a 12 week period (24 h in total) on selected anthropometric and physical fitness parameters in female soccer players. Two of the groups received physical conditioning training in accordance with speed, agility and quickness (SAQ); one group used specialized resistance and speed development SAQ equipment (equipment group; n = 12), while the other group used traditional soccer coaching equipment (non-equipment group; n = 12). A third group received their regular fitness sessions (active control group; n = 12). All three interventions decreased ( $P < 0.001$ ) the participants' body mass index (-3.7%) and fat percentage (-1.7%), and increased their flexibility (+14.7%) and maximal aerobic capacity (VO<sub>2</sub>max) (+18.4%). The participants in the equipment and non-equipment conditioning groups showed significantly ( $P < 0.005$ ). It was concluded that SAQ training principles appear to be effective in the physical conditioning of female soccer players through the implementation of SAQ training programmes. Jovanovic et al. (2011) evaluates the effects of the SAQ training method on power performance in soccer players. Soccer players were assigned randomly to 2 groups: Experimental group (EG; n = 50) and control group (CG; n = 50). Power performance was assessed by tests of quickness - sprint 5 meters (SP5), test of acceleration - sprint 10 meter (SP10), tests of maximal speed – sprint 20 and 30 meters (SP20) and (SP30) along with Bosco jump tests - squat jump (SJ), counter-movement jump (CMJ), maximal countermovement jump (MAX) and continuous jumps with straight legs (CJS). The initial testing procedure took place at the beginning of the in-season period, eight weeks of a specific SAQ training program was implemented after which final testing took place. The SAQ training program appears to be an effective way of improving some segments of power performance in young soccer players during in-season period. Soccer coaches could use this information in process of planning in-season training. Without proper planning of the SAQ training soccer players will most likely be confronted with decrease in power performance during in-season period.

## CONCLUSIONS

It was concluded that the SAQ training program group had shown significantly improved speed and agility performance and the control group had insignificant improvement. It was confirmed that a six weeks SAQ training program was effective to improve the speed and agility performance of football players.

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