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## Physical fitness and skill performance variables response to the influence of sports specific training among adolescent girls

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### Abstract

The purpose of the study was designed to find out the influence of sports specific training on physical fitness and skill performance variables of adolescent girls. To achieve the purpose of the study, forty high school girls were randomly selected from Thamarai matriculation school, Thamaraipalayam, kodumudi, erode., Their age ranged from 14 to 18 years. They were divided into two equals groups. The group consists of 20 each and named experimental group and control group. The investigator did not made any attempt to equate the group. The experimental group was given sports specific training 3days per week for a period of eight weeks and control group was not given any treatment. Agility assessed by 4\*10mts shuttle run Test and the unit of measurement was in seconds, dribbling was assessed by warner's soccer test and the unit of measurement was in seconds. The collected data on physical fitness and skill performance was analyzed by using 't' test at 0.05 level of confidence. The result of the present study explored that the agility and dribbling significantly improved due to the influence of sports specific training on physical fitness and skill performance variables of adolescent girls.

**Keywords:** Sports specific training, adolescent girls, agility and dribbling

### Introduction

Soccer is a game in which the ball is propelled towards the goal by skillful advancing and controlling it with feet, body and head (Jeffery, 1970).

The game of soccer requires many skills, which are commonly taught at various levels of programs; but skill levels been have been quite difficult to evaluate. Soccer includes many skills such as positional play, feints and pivots, running, dribbling, passing and kicking which are frequently performed by the soccer players during the game. In a true sense one can state that soccer is a game with a complex system of motor actions. (Burden, 1955).

When examining the complex system of motor actions used in the game of soccer, the instep kick obviously occupies a place of fundamental importance. The player tries to exhibit different levels of speed and trajectories of the ball, all with high levels of precision in the execution of this skill. The only way to reach these chosen objectives is by controlling the kinematics variables. The dynamics and motor co-ordination of various joints and body segment, especially of the lower limbs. According to soccer coaches, the soccer instep kick is more like to result in maximum ball velocity and in greater accuracy compared to "toe-kick", "inside-kick" or "out side kick". It is the type of kick in which the ball is contacted with the instep (over the shoelace) of the kicking foot and is especially advantages in scoring, free kicking and passing situations With his present study "Impact of positional play on speed agility and kicking accuracy of inter-collegiate men soccer players. (Heyward, 1971).

Sport Specific Training introduces & refines the necessary skills to excel at any sport. Your young athlete will feel more confident in their agility, speed, & hand/eye coordination. Group or individual training is available. Strength training is an essential element of fitness for every sport. Resistance exercises only add unnecessary bulk to athletes and hinders their ability to execute skill and perform that their best. Strength training and conditioning is an integral part of athletic performance. Performance in endurance events can be improved with a well-structured strength routine.

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Sport specific resistance training requires a refined approach. It is far more complex than simply lifting heavy weights to complete exhaustion. Most athletes require explosive power, muscular endurance, maximal strength or any combination of the three in order to excel. Pure muscle bulk is rarely the primary concern.

Outside of passing, dribbling is the primary method of moving the ball up the field. This works best when you have open field in front of you without pressing defenders. Most players find success using the top of their foot to push the ball along the ground when passing and the more advanced you get the more parts of your foot you will be able to use when dribbling. The goal of dribbling is to move the ball quickly while keeping the ball close to your body, so that you can make a quick decision to pass, shoot or change direction when ever needed.

### Methodology

To achieve the purpose of the study, forty high school girls were randomly selected from Thamarai matriculation school, Thamaraipalayam, kodumudi, Erode, Their age ranged from 14 to 18 years. They were divided into two equals groups. They were divided into two equals groups. The group consist of 20 each and named control group and experimental group. The investigator did not made any attempt to equate the group. The control group was not given any treatment and the experimental group was given sports specific training for 3days per week for a period of eight weeks.

### Design

Agility assessed by 4\*10mts shuttle run Test and the unit of measurement was in seconds, dribbling was assessed by warners soccer test and the unit of measurement was in seconds. The experimental group was given sports specific

training 3days per week for a period of eight weeks.

### Training Programme

The training program was lasted for 45 minutes per session in a day, 5 days in a week for a period of eight weeks duration. This 45 minutes included 5 minutes warm up and 5 minutes warm down remaining 35 minutes allotted for training programme. Every two weeks of training 5% of intensity was increased from 65% to 80% of work load. The training load was increased from the maximum working capacity of the subjects during the pilot study.

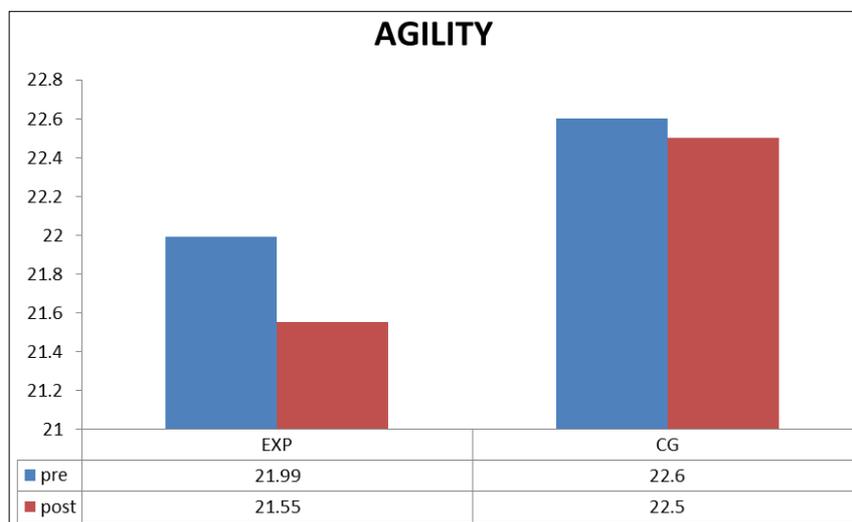
**Table I:** Computation of 't'- ratio between pre and post test means of experimental and control group on agility (Scores in Seconds)

Group	Mean	Standard deviation	t- ratio
Pre test	21.99	0.152	12.85
Post test	21.55		
Pre test	22.60	0.092	1.69
Post test	22.50		

Insignificant at 0.05 level of confidence (2.09)

Table I reveals that the computation of 't' ratio between mean of pre and post-test of  $VO_2$ max of adolescent girls. The mean values of pre and post test of experimental and control group were 21.99, 21.55, 22.60 and 22.50 respectively. Since, the obtained 't' ratio of experimental and control group were 12.85\* and 1.69. Hence the required table value 2.09, for the degree of freedom 1 and 19 at 0.05 level of significance. The results clearly indicated that the agility of the experimental group improved due to the influence of sports specific training when compared to control group.

The following bar diagram shows the mean values of pre-test and post-test on agility of experimental group and control group.



**Fig I:** Bar diagram shows the mean values of pre and post test on agility of control and experimental groups

**Table II:** Computation of 't' ratio between pre and post test means of control group on dribbling (Scores in Metres)

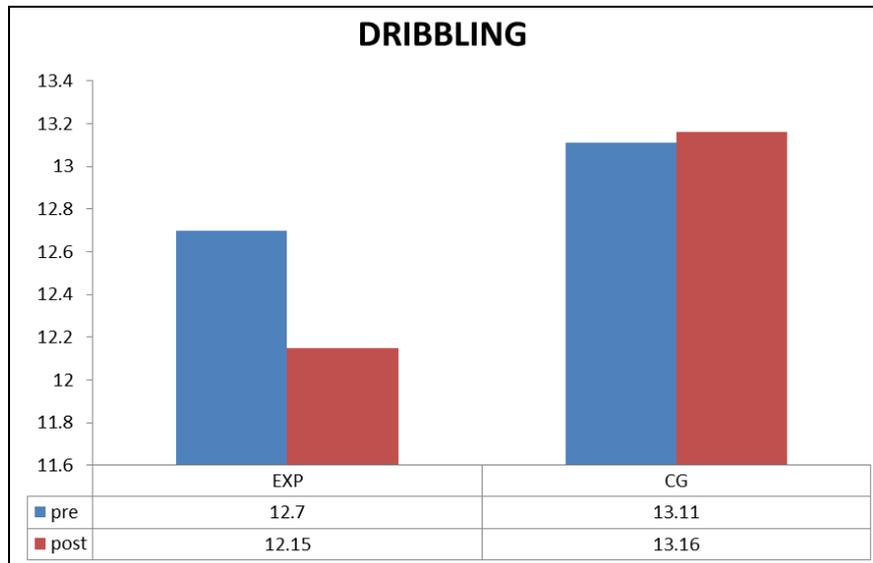
Group	Mean	Standard deviation	t- ratio
Pre test	12.70	0.547	16.92*
Post test	12.15		
Pre test	13.11	0.049	0.99
Post test	13.16		

Insignificant at 0.05 level of confidence (2.09)

Table II reveals that the computation of 't' ratio between mean of pre and post-test of dribbling of adolescent girls. The

mean values of pre and post test of experimental and control group were 12.70, 12.15, 13.11 and 13.16 respectively. Since, the obtained 't' ratio of experimental and control group were 16.92\* and 0.99. Hence the required table value 2.09, for the degree of freedom 1 and 19 at 0.05 level of significance. The results clearly indicated that the dribbling of the experimental group improved due to the influence of sports specific training when compared to control group.

The following bar diagram shows the mean values of pre-test and post-test on dribbling of experimental group and control group.



**Fig II:** Bar diagram shows the mean values of pre test and post test on dribbling of experimental and control group

### Discussion on findings

The study experimented that the physical and skill performance variables response to the influence of sports specific training among adolescent girls. The result of the present study indicated that the sports specific training program improved the physical and skill performance variables such as agility and dribbling. The findings of the present study had similarity with the findings of the investigator referred in this study. Ramachandran and Pradhan (2014) <sup>[1]</sup> Sport specific training in basketball players should focus on vertical jump height and agility in consistent with demands of the sport. Stone and Oliver (2009) <sup>[2]</sup> examined the effect of fatigue, developed during prolonged high-intensity intermittent exercise, on the performance of soccer shooting and dribbling skill Memarzadeh and Moghadasi (2014) <sup>[3]</sup> investigated the effect of PT on skill performance in soccer players Halder and Chakraborty (2014) <sup>[4]</sup> assessed the impact of specific training programme on development of physical fitness and soccer playing ability 18 players were selected from inter district school championship to form experimental group. Reilly and Wong (2013) <sup>[5]</sup> examined the effects of 60 minutes of soccer-specific training on skill performance, hydration status, and core temperature (T<sub>c</sub>) of soccer players after ingesting either a carbohydrate-containing (CHO) or a carbohydrate-free (CHO-F) drink. Gharbi and Masmoudi (2013) <sup>[6]</sup> investigated the diurnal variation in some specific skills performance during field testing in boy's footballer. The discrepancy between the result and the result of the previous study might be attributed to several reasons, such as the training experience, level of the subjects, the training program, the intensity and the duration of the training.

### Conclusions

1. Based on the results of the study it was concluded that the eight weeks of sports specific training have been significantly improved agility of adolescent girls.
2. The eight of sports specific training significantly improved dribbling of adolescent girls.
3. From the findings of the present study it is postulated that the sports specific training is suitable mode to bring out the desirable changes over physical fitness and skill performance variables of adolescent girls.

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