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Effect of ladder drill and SAQ training on speed and agility among sports club badminton players

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Abstract

The purpose of the study was to find out the effect of ladder drill and SAQ training on speed and agility among sports club badminton players. In order to achieve the purpose of the study thirty men sports club badminton players were randomly selected from Dindugal city sports clubs and they were equally divided in to three groups of ten each as experimental group-I, experimental group-II and control group. The experimental groups and control group undergone normal routine badminton practices and in addition the experimental group-I underwent ladder drill and experimental group-II underwent SAQ training for one hour in the morning sessions. The control group was not given any special training. The period of training was eight weeks in a schedule of weekly three days for alternate days. The data were collected on the selected dependent variables before and after the training period. The collected data were statistically analyzed by using Analysis of Covariance (ANCOVA) and Scheffe's post hoc test. To test the significance .05 level of confidence was fixed. Based on the results the study it was concluded that the ladder drill and SAQ training were significantly improved the speed and agility among sports clubs badminton players.

Keywords: Ladder drill, SAQ training, Speed and Agility

Introduction

Now a days, more and more individuals particularly boys and girls are affected by sports activities and increasing the number that are representing in the sports area. As preventive and curative health measures, it has become more successful throughout the world and, millions of teenagers should have chance of enjoying sports. Sport is the way which we use our physical capacities to play. Sports is an important in other ways, when one's body works better his mind works better, his brain and his body are interrelated. Sports allows you to blow of tension, to forget your problems for a while and to go out and have a good time no matter what other pressures one may be under in his life.

Badminton is one of the game which require lot of movements on the court. The players should have agility to move on the court forward sideward and backward to do many actions with high speed. Systematic training is required to improve the qualities. Broadly speaking badminton training is similar to conditioning for the other racket sports such as tennis and squash. A simple movement analysis however, reveals a few key differences that will affect the competitive badminton players training. Badminton players also rely much more on the wrist flexors for generating power compared to tennis players. As a badminton match lasts at least 45 minutes shorts, intense periods of activity are underpinned by aerobic endurance. Speed and agility play a crucial role, and lateral movements are called upon to even greater extent than in tennis. To improve the physical fitness qualities they involved is various training programme. (www.Badminton-Information.com)

Ladder drills are an important part of many team sport workouts. They require athletes to move their feet quickly in a precise and specified motion. Athletes must pay attention to perform the agility ladder drills accurately and quickly. Agility ladder drills benefit an athlete by teaching him to move in a swift yet deliberate fashion. This is important for athletes of every shape and size. (www.Buzzle.com) Speed ladder and agility ladder exercises help you move quickly in your chosen sport, ahead of the competition. Speed ladder and agility ladder exercises should be your daily homework assignment when you want to be a standout athlete. If you want to get quicker on the court, you need to think about exercises and agility

ladder drills. Just as with anything, practice does make perfect, so make the time and you'll see the results. (www.BetterSoccerCoaching.com)SAQ training is a system of progressive exercises and instruction aimed at developing fundamental motor abilities to enhance the capability of athletes to be more skilful at faster speeds and with greater precision. Speed, agility and quickness (SAQ) training has become a popular way to train athletes. Any athlete from school children on a soccer field to professionals can benefit from SAQ training. Joe Defranco (2009) SAQ training may be used to increase speed/strength, or the ability to exert maximal force during high-speed movements. Some benefits of SAQ training include increases in muscular power in linear, lateral, horizontal, and reaction force and time. Speed, rapidity and instance are all words that have been used in defining quickness. (Lee E Brown (2011) California State University)

To present study was also with the aim to improve the physical fitness qualities through ladder drill and SAQ training. With analyzing various important fitness qualities of the speed and agility were selected as criterion variables.

Reviews and Literature

Graydon L. Gains., (2010) [2] was examined the effect of ladder drill weight training and iron yoga on agility, speed, flexibility and vital capacity among college badminton players. To achieve the purpose of the study at college forty male players and they were randomly divided into four groups namely experimental groups I, II & III and control group. Each group consists of ten subjects. The period of study was 24 weeks. ANCOVA was used for statistics. It was concluded that the ladder drill, weight training and iron yoga had significantly improved the agility, speed and flexibility and vital capacity among college badminton players.

Jovanovic M *et al.*, (2011) [3] was examined the effects of speed, agility, quickness (SAQ) training method on power performance in soccer players. For achieving the purpose of the study 100 soccer players were selected at randomly they were equally divided in to two groups consisting of 50 subject's difference among the experimental and control

group. The period of study was 8 weeks. Two way ANOVA was used to find out the results. The Study was concluded that there was significant improvement in power performance of soccer players due to the influence of SAQ training.

Methodology

The purpose of study was to investigate the effect of ladder drill and SAQ training on selected speed and agility among sports club badminton players. In order to achieve the purpose of the study 30 men sports club badminton players were selected randomly and they were equally divided in to three groups of 10 each as experimental group-I, experimental group-II and control group. The experimental groups and control group undergone normal routine badminton practices and in addition the experimental group-I underwent ladder drill and experimental group-II underwent SAQ training for one hour in the morning before starting the routine badminton practices. The control group was not given any special training. The period of training was 8 weeks in a schedule of weekly 3 days for alternate days. The data were collected on the variables of speed and agility before and after the training period. The collected data were statistically analyzed by using Analysis of Covariance (ANCOVA) and Scheffe's post hoc test. To test the significance .05 level of confidence was fixed.

Criterion Measures

Table I

Variables	Test	Measurers in Unit
Speed	50mts Run	Seconds
Agility	4x100m Shuttle run	Seconds

Results and Discussion

The analysis of covariance and scheffe's post hoc test on the data obtained on Speed and Agility of Experimental and Control groups have been analyzed and tabulated in Table-II, Table-III, Table-IV and Table-V.

Table II: Analysis of Covariance for Pre and Post Tests Data on Speed of Experimental and Control Groups

	Control Group	Ladder drill	SAQ training	Source of Variance	Sum of Squares	Df	Mean Squares	'F' Ratio
Pretest	7.93	7.82	7.99	Between	0.15	2	0.07	0.18
				Within	10.97	27	0.41	
Post test	8.23	7.38	7.36	Between	4.93	2	2.47	6.40*
				Within	10.40	27	0.39	
Adjusted Post test	8.21	7.47	7.29	Between	4.83	2	2.41	66.13*
				Within	0.94	26	0.04	

*Significance at .05 level, df 2 and 27= 3.35, 2 and 26=3.37

Table - II shows that the pretest means on speed of control, ladder drill and SAQ training groups are 7.93, 7.82 and 7.99 respectively. The obtained 'F' ratio value of 0.18 for pretest mean is less than the required table value of 3.35 for not significance at .05 level. The post-test mean on speed of control, ladder drill and SAQ training groups are 8.23, 7.38 and 7.36 respectively. The obtained 'F' ratio value of 6.40 for post-test data is greater than the required table value of 3.35 for significance at .05 level. The adjusted post-test mean on speed of control, ladder drill and SAQ training groups are 8.21, 7.47 and 7.29 respectively. The obtained 'F' ratio value of 66.13 for adjusted post-test data is greater than the required table value of 3.37 for significance at .05 level. It

reveals that there is significant difference among the groups on speed as a result of ladder drill and SAQ training. The scheffe's post-hoc test was applied to find out the significant paired mean difference.

Table III: Ordered Scheffe's Post Hoc Test for Mean Difference between Groups on Speed

Control	Mean values		Mean Difference	CI
	Ladder drill	SAQ		
8.21	7.47	-	0.75	0.21
8.21	-	7.29	0.93	0.21
-	7.47	7.29	0.18	0.21

Table - III shows that the ordered weighted mean difference of scheffe’s post-hoc test values on speed of the control group, ladder drill and SAQ training. The mean difference of speed is significant at .05 level of confidence. The difference

in means between control group and ladder drill and control group and SAQ training group on speed of the paired means didn’t differ significantly.

Table IV: Analysis of Covariance for Pre and Post Tests Data on Agility of Experimental and Control Groups

	Control Group	Ladder drill	SAQ training	Source of Variance	Sum of Squares	df	Mean Squares	‘F’ Ratio
Pretest	12.09	11.73	12.01	Between	0.71	2	0.35	1.54
				Within	6.28	27	0.23	
Post test	12.47	11.32	11.83	Between	6.64	2	3.32	17.25*
				Within	5.20	27	0.19	
Adjusted Post test	12.35	11.50	11.77	Between	3.43	2	1.71	65.82*
				Within	0.67	26	0.03	

*Significance at .05 level, df 2 and 27= 3.35, 2 and 26=3.37

Table - IV shows that the pretest means on agility of control, ladder drill and SAQ training groups are 12.09, 11.73 and 12.01 respectively. The obtained ‘F’ ratio value of 1.54 for pretest mean is less than the required table value of 3.35 for not significance at .05 level. The post-test mean on agility of control, ladder drill and SAQ training groups are 12.47, 11.32 and 11.83 respectively. The obtained ‘F’ ratio value of 17.25 for post-test data is greater than the required table value of 3.35 for significance at .05 level.

The adjusted post-test mean on agility of control, ladder drill and SAQ training groups are 12.35, 11.50 and 11.77 respectively. The obtained ‘F’ ratio value of 65.82 for adjusted post-test data is greater than the required table value of 3.37 for significance at .05 level. It reveals that there is significant difference among the groups on agility as a result of ladder drill and SAQ training. The scheffe’s post-hoc test was applied to find out the significant paired mean difference.

Table V: Ordered Scheffe’s Post Hoc Test for Mean Difference between Groups on Agility

Mean values			Mean Difference	CI
Control	Ladder drill	SAQ training		
12.35	11.50	-	0.84	0.18
12.35	-	11.77	0.57	0.18
-	11.50	11.77	-0.27	0.18

Table - V shows that the ordered weighted mean difference of scheffe’s post-hoc test values on agility of the control group, ladder drill and SAQ training group. The mean difference of agility is significant at .05 level of confidence. The difference in means between control group and ladder drill and control group and SAQ training group on agility.

Discussion on Findings

In the recent times ladder drill and SAQ training is offered as a better method for developing speed and agility. The results and discussions of the present study proved that the said training procedure was beneficial for improving the ladder drill weight training and iron yoga on agility, speed, flexibility and vital capacity among college badminton players and this study was supported the study conducted by Graydon L. Gains., (2010)^[2] and the found that for twenty four weeks there was significant improved in agility, speed, flexibility and vital capacity among college badminton players due to the influence of ladder drill and another study conducted by Jovanovic M *et al.*, (2011) ^[3] and they found that eight weeks SAQ training was significant improved in

power performance due to the influence of SAQ training among soccer players.

Conclusions

From the results of the study and discussion the following conclusions were drawn.

1. There is a significant difference on speed and agility between all the groups.
2. There is a significance improvement on speed and agility due to ladder drill and SAQ training.

Recommendations

1. Similar study may be conducted for various age groups.
2. The same study may be extended to further time period.
3. The present study is mainly focused on males only. The same study may be done on females

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