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Effect of SAQ Training on Speed Agility and Balance Among Inter Collegiate Athletes

Physical Education

KEYWORDS :

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ABSTRACT

The purpose of the study was to find out the effect of SAQ (Speed Agility Quickness)Training on Speed, Agility and Balance among Inter Collegiate Athletes. Twenty four male athletes studying from Department of Physical Education and Centre for Research, H. H. The Rajah's College, Pudukkottai were selected randomly as subjects. The age of the subjects ranged from 17 to 23 years. The selected subjects were divided into two groups. Group I underwent SAQ training and Group II acted as control. The experimental group was subjected to the SAQ training for alternative three days per week up to six weeks. The SAQ training was selected as independent variable and the criterion variables speed, agility and balance were selected as dependent variables and the selected dependent variables were assessed by the standardized test items. Speed was assessed by 50m run and the unit of measurement in seconds, agility was assessed by shuttle run and the unit of measurement in seconds and the balance was assessed by stork stand test and the unit of measurement in seconds. The experimental design selected for this study was pre and post test randomized design. The data were collected from each subject before and after the training period and statistically analyzed by using dependent 't' test and analysis of covariance (ANCOVA). It was found that there was a significant improvement and significant different exist due to the effect of SAQ training on speed, agility and balance among inter collegiate athletes when compared to control group.

INTRODUCTION

SAQ is an acronym for "Speed, Agility and Quickness". SAQ training sessions has developed and improved all the athletes motor skills with and without a ball by fine tuning individual balance and core strength. It is used to increase speed strength agility and quickness of the athletes. Some benefits of SAQ training include increases in muscular power in linear, horizontal and multi – planer movements. It has also increased the body spatial awareness, motor skills and reaction time.

All of these skills are necessary to complete in almost any sport or activity and so make up such a big part now training sessions now across the world. It is used to improve the specific sport and it is important that the athlete repeats the exact body mechanics that they have performed on the field. It is also maintained the correct body mechanics, so that the drills correctly reflect the movements in the sport to avoid creating bad habits. It is all about repetition and short burst, the athlete should do drills between 2 – 10 seconds with at least a 20 second rest between repetitions and the complete session can be as short as 5 minutes long.

Baechle (1994) defined speed as "the rapidity of movement" (Brown, Woodman & Yap, 2000). Agility is the rapid whole body movement with change of velocity or direction in response to a stimulus (Sheppard & Young, 2006). Moreno (1995) defined quickness as "the ability to read and react to a situation; it is a multidirectional skill that combines explosiveness, reactiveness, and acceleration" (Brown, Woodman & Yap, 2000). SAQ aims to coach the necessary techniques to provide the basic skill to complete the movements.

Polman, Bloomfield & Edwards (2009) 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) suggested that games players require a high level of physical fitness to cope with the demands of the game (Brown, Woodman & Yap, 2000). Therefore it is essential that coaches condition their athletes in an effective manner to improve their sport specific attributes and prepare them for competition.

Previous research believed that the impressive speed of human runners was due to the anatomical and physiological features that increased both the frequency and length of the athlete's strides. It was also suggested that it was greater ground forces rather than a shorter swing time that increased speed (Weyand et al, 2000). Recent research has supported the later statement and found that greater ground reaction force in a shorter contact time improved sprint speed. It has been hypothesized that a limit on speed is imposed, not by the maximum forces applied to the ground, but by how rapidly they can do so (Weyand et al., 2010). Thus it is essential to couple SAQ training with strength training to increase muscular strength and consequently ground reaction force.

Little & Williams (2005) found that acceleration, maximum speed, and agility share common physiological and biomechanical determinants. This suggests that adaptations of physical and mental skills to improve sprint speed will also offer improvements in agility, specifically improvements in muscular power, brain signal efficiency, motor skills and reaction time (Brown & Ferriano, 2005). Although the key physiological components of sprint speed and agility are related, they are clearly different skills and therefore require the correct technical coaching points in order for athletes to improve (Brechue, Mayhew & Fontaine, 2010).

METHODOLOGY

To achieve the purpose, twenty four men athletes studying from Department of Physical Education and centre for research, H. H. The Rajah's College Pudukkottai were selected randomly as subjects. The age of the subjects ranged from 17 to 25 years. They were assigned randomly into two groups (group I) underwent SAQ training and (group II) acted as control of twelve subjects each. The experimental group was subjected to the training during morning hours for alternative three days for six weeks and group II acted as control. The SAQ training was selected as independent variable and the criterion variables speed, agility and balance were selected as dependent variables and the selected dependent variables were assessed by the standardized test items. Speed was assessed by 50m Run test and the unit of measurement in seconds, Agility was assessed by shuttle run and the unit of measurement in seconds and the balance was assessed by stroke stand test and the unit of measurement in seconds. The experimental design selected for this study was pre and post test randomized design. The data were collected from each subject before and after the training period and statistically analyzed by using dependent 't' test and analysis of covariance (ANCOVA).

RESULTS AND DISCUSSIONS

The data pertaining to the variables in this study were examined by using dependent 't' test to find out the significant improvement and analysis of covariance (ANCOVA) for each variables separately in order to determine the difference and tested at .05 level of significance. The analysis of dependent 't' test on data obtained for speed, agility and balance of the pre test and post test means of experimental and control group have been analyzed and presented in Table I.

TABLE- I
MEAN AND DEPENDENT 't' TEST OF EXPERIMENTAL AND CONTROL GROUPS ON SELECTED VARIABLES

Variables	Mean	SAQ Training Group	Control Group
Speed	Pre test Mean	6.97	7.33
	Post test Mean	6.66	7.34
	't' test	7.40*	0.54
Agility	Pre test Mean	9.96	10.60
	Post test Mean	9.56	10.61
	't' test	5.84*	1.47
Balance	Pre test Mean	27.48	25.73
	Post test Mean	42.79	25.77
	't' test	6.39*	0.87

***Significant at 0.05 level of confidence (11) = 2.201**

The obtained 't' ratio value of experimental group is higher than the table value, it is understood that SAQ training had significantly improved the performance of speed, agility and balance. However, the control group has no significant improvement as the obtained 't' value is less than the table value; because it was not subjected to any specific training. The analysis of covariance on the data obtained on speed, agility and balance due to the effect of SAQ training and control groups have been analysed and presented in Table II.

TABLE- II
ANALYSIS OF COVARIANCE OF EXPERIMENTAL AND CONTROL GROUPS ON SELECTED VARIABLES

Variables	Adjusted Post Test Means		Source of Variance	SS	df	Mean Squares	'F'-Ratio
	SAQ Training Group	Control Group					
Speed	6.83	7.20	Between	0.688	1	0.688	20.24*
			Within	0.709	21	0.034	
Agility	9.88	10.26	Between	0.616	1	0.616	20.53*
			Within	0.637	21	0.03	
Balance	41.97	26.59	Between	1415.23	1	1415.23	40.38*
			Within	735.93	21	35.04	

***Significant at .05 level of confidence, df (1, 21) = 4.32**

Table II shows that the obtained 'F' ratio value are 20.24, 20.53and 40.38 which are higher than the table value 4.32 with df 1 and 21 required to be significant at 0.05 level. Since the obtained value of 'F' ratio is higher than the table value, it indicates that there is significant difference among the adjusted post- test means of SAQ training and control group on speed, Agility and balance.

To the most sports people, SAQ training offered a better method of developing speed, agility and balance. The present study also produced the same result.

CONCLUSIONS

1. The SAQ training had significantly improved the speed, agility and balance.
2. There was significant difference among the adjusted post – test means of SAQ training and control group on speed, agility and balance.

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