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Impact of SAQ training on selected bio-motor variables among male cricket players

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Abstract

The purpose of the study was to find out the impact of SAQ training on selected Bio-motor variables among male cricket players. To achieve the purpose of the study thirty male cricket players have been randomly selected from affiliated colleges of Alagappa University, Karaikudi in the state of Tamil Nadu, India. The age of the subjects were ranged from 18 to 25 years. The subjects were randomly divided into two equal groups of fifteen each such as experimental group and control groups. The experimental group participated in the SAQ training for 8 weeks, 3 days a week, one session per day. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any between the groups. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups. The results of the study showed that there was significant differences exist between SAQ training group and control group. And also SAQ training group showed significant improvement on speed, agility and flexibility compared to control group.

Keywords: SAQ training, speed, agility

Introduction

Cricket is one of the world's most popular field sports particularly in Commonwealth nations (Petersen et. al., 2010) [5] and is played in three formats at elite level: Test, One Day and Twenty20 (MacDonald et. al., 2013) [7]. In fact, this game is a deceptively demanding sport; the physiological demands of cricketers vary considerably between batsmen, fast bowlers, spin bowlers, wicketkeepers and fielders. The volume and duration of sprinting that a player in a particular position undertook appears to depend largely on the game circumstances, whereas the distances covered walking and jogging are more consistent from game to game (Petersen et. al., 2009) [6].

SAQ is a system of training aimed at the development of motor abilities and the control of body movement through the development of the neuromuscular system. It aims to improve the athlete's ability to perform explosive multi-directional movements by reprogramming the neuromuscular system to work effectively. SAQ training is an acronym for Speed Agility and Quickness training. Speed is one of the basic components necessary bio motor in some sports. Every sports activities both games, competitions, and games always require speed bio motor components. Speed is the ability of the complex, because in general, speed is an ability that allows a basketball player to move as quickly as possible at the level of specific resistance (Jovanovic et al 2011) [1]. Nageswaran opined that SAQ training consists of increases in muscular power in linear, horizontal and multi-planer movements. Specific speed and agility and quickness training (SAQ) training process, can be considered a useful tool for the improvement of agility and endurance among Cricket players Mahesh Singh Dhapola (2017) [3]. Agility is closely related to balance because it requires athletes to regulate shifts in the body's centre of gravity while subjecting them to postural deviation. Many athletes and coaches believe that agility is primarily determined by genetics and is therefore difficult to improve to any significant degree Mohanasundaram and Vasanthi (2013) [4].

Methodology

To achieve the purpose of the study thirty male cricket players have been randomly selected

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from affiliated colleges of Alagappa University, Karaikudi in the state of Tamil Nadu, India. The age of the subjects were ranged from 18 to 25 years. The subjects were randomly divided into two equal groups of fifteen each such as experimental group and control groups. The experimental group participated in the SAQ training for 8 weeks, 3 days a week, one session per day. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any

between the groups. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups.

Table 1: Criterion measures

| S. No | Variables | Test/Equipment used | Measuring unit |
|----------------------------|-------------|---------------------|----------------|
| Bio-Motor variables | | | |
| 1 | Speed | 30mts. dash | In seconds |
| 2 | Agility | Shuttle run | In seconds |
| 3 | Flexibility | Sit and reach | In centimeters |

Results

Table 2: Descriptive analysis of speed, agility and flexibility among experimental and control groups

| S. No | Variables | Group | Pre-Test Mean | SD (±) | Post –Test Mean | SD (±) | Adjusted Mean |
|-------|-------------|-------|---------------|--------|-----------------|--------|---------------|
| 1 | Speed | SAQTG | 4.70 | 0.11 | 4.32 | 0.08 | 4.33 |
| | | CG | 4.77 | 0.12 | 4.51 | 0.22 | 4.51 |
| 2 | Agility | SAQTG | 5.77 | 0.08 | 5.35 | 0.09 | 5.35 |
| | | CG | 5.82 | 0.07 | 5.61 | 0.21 | 5.61 |
| 3 | Flexibility | SAQTG | 19.75 | 0.75 | 22.94 | 0.53 | 22.86 |
| | | CG | 19.49 | 0.93 | 21.53 | 1.78 | 21.61 |

SAQTG=SAQ training group, CG=Control group

The tables-2 the pre, post-test means, standard deviations and adjusted means on speed, agility and flexibility of cricket players were numerical presented. The analysis of covariance

on selected variables of SAQ training group and control group is presented in table – 3.

Table 3: Computation of analysis of covariance on selected bio-motor variables among cricket players

| S. No | Variables | Test | Sum of variance | Sum of squares | DF | Mean square | F ratio |
|-------|-------------|----------------|-----------------|----------------|----|-------------|---------|
| 1 | Speed | Pre-test | B.G. | 0.030 | 1 | 0.030 | 2.22 |
| | | | W.G | 0.379 | 28 | 0.014 | |
| | | Post-test | B.G | 0.271 | 1 | 0.271 | 9.03* |
| | | | W.G | 0.839 | 28 | 0.030 | |
| | | Adjusted means | B.S. | 0.218 | 1 | 0.218 | 7.13* |
| | | | W.S. | 0.823 | 27 | 0.030 | |
| 2 | Agility | Pre-test | B.G. | 0.020 | 1 | 0.020 | 2.98 |
| | | | W.G | 0.191 | 28 | 0.007 | |
| | | Post-test | B.G | 0.522 | 1 | 0.522 | 19.24* |
| | | | W.G | 0.760 | 28 | 0.027 | |
| | | Adjusted means | B.S. | 0.486 | 1 | 0.486 | 17.28* |
| | | | W.S. | 0.759 | 27 | 0.028 | |
| 2 | Flexibility | Pre-test | B.G. | 0.507 | 1 | 0.507 | 0.70 |
| | | | W.G | 20.174 | 28 | 0.720 | |
| | | Post-test | B.G | 14.905 | 1 | 14.905 | 8.58* |
| | | | W.G | 48.636 | 28 | 1.737 | |
| | | Adjusted means | B.S. | 11.372 | 1 | 11.372 | 7.54* |
| | | | W.S. | 40.711 | 27 | 1.508 | |

*Significant at 0.05level of confidences

(The table values required for significance at 0.05 level of confidence for 1 & 28 and 1 & 27 are 4.20 and 4.21 respectively).

In the table the results of analysis of covariance on breathe holding time and vital capacity. The obtained ‘F’ ratio of 2.22, 2.98 and 0.70 for Pre-test means was less than the table value of 4.20 for DF 1 and 28 required for significance at 0.05 level of confidence on speed, agility and flexibility. The obtained ‘F’ ratio of 9.03, 19.24 and 8.58 for post-test means was greater than the table value of 4.20 for DF 1 and 28

required for significance at 0.05 level of confidence on speed, Agility and flexibility. The obtained ‘F’ ratio of 7.13, 17.28 and 7.54 for adjusted post-test means was greater than the table value of 4.21 for DF 1 and 27 required for significance at 0.05 level of confidence on speed, agility and flexibility. The result of the study indicated that there was a significant difference among the adjusted posttest means of SAQ group and control group on speed, agility and flexibility. And also SAQ training group showed significant improvement on speed, agility and flexibility compared to control group.

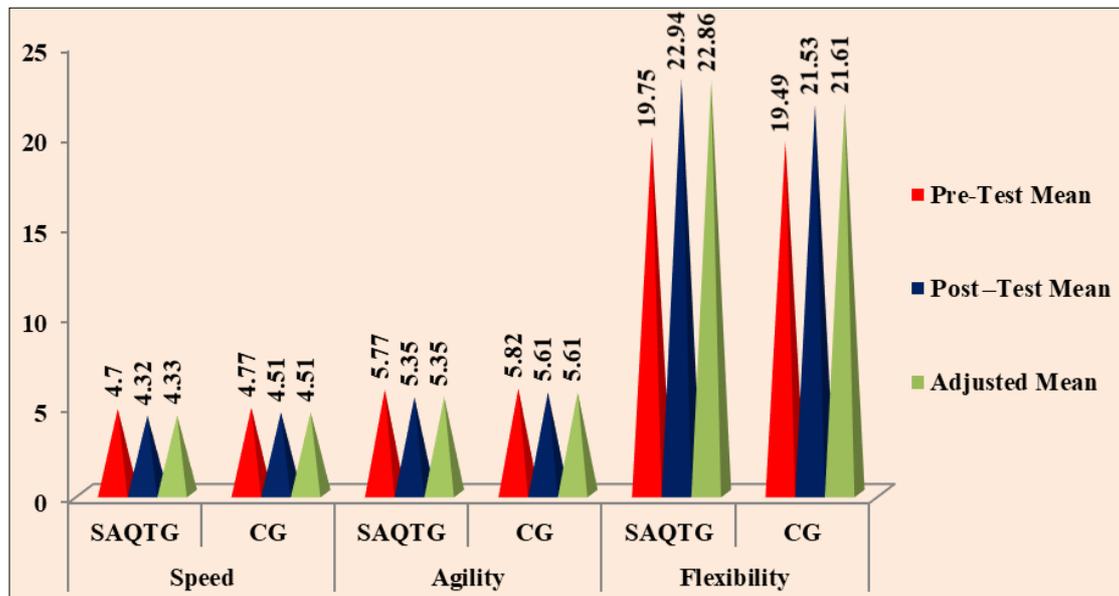


Fig 1: the pre, post and adjusted mean values of speed, agility and flexibility of both experimental and control groups are graphically represented in the figure-I.

Discussion of findings

The results of the study indicate that the experimental group which underwent SAQ training group had showed significant improvement on speed, agility and flexibility compared to control group. The control group did not show significant improvement on speed, agility and flexibility. The past studies on selected speed, agility and flexibility reveals of Kyu-Sik Shim and Jong-Won Kim (2017), Burke et al (2011), Gary (2004), Fagard (2001) and Izquierdo (1999).

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