

EFFECT OF RESISTANCE TRAINING ON SELECTED BIO MOTOR VARIABLES AMONG ENGINEERING COLLEGE MEN CRICKET PLAYERS

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Abstract:

Background: the main aim of this research was to evaluate the effect of resistance training on selected bio motor variables among engineering college men cricket players. **Method:** Therefore the purpose of the study was to investigate the effect of resistance training on speed and agility among men cricket player. In this study thirty (30) subjects, of cricket players were randomly selected from engineering college, Tamilnadu. Selected subjects divided into two groups namely such as resistance training fifteen (15) and control group fifteen (15). (n=30). Timeline: The resistance training was consisted of 45-60 min/day, 3 days in a week till six weeks from the engineering colleges of Tamilnadu, India. Bio motor variables completed of the both groups at zero time and after six weeks of resistance training intervention group. Speed was tested by 50mts (Dash) in seconds and agility was tested by 4×10mts shuttle run, Pre and post-test random group design was used for this study. The Paired 't' test was applied to determine the difference between the means of two group. To find out whether there was any significant difference between the experimental and control groups **Conclusion:** The advantage of resistance training concluded that, there was a significant difference exists between experimental and control groups on speed and agility. The control group did not improve the selected criterion variables. Therefore resistance training covered in this study are beneficial for the cricket players.

Keywords: Resistance Training, Paired 't' test, Bio motor variables, Cricket players.

Introduction

The advent of multimillion dollar team franchises in the shorter, more intense formats of Twenty20 cricket (29) has spurred a need for evidence-based strength and conditioning programs for cricketers (3). Cricket is a sport played around the world and requires the skills of batting, bowling and fielding. When batting, points ('runs') can be scored by hitting the ball and running

shuttles between 2 lines (separated by 17.68 m) before the fielder returns the ball. As such, cricket batting is typical of many team games in that it requires intermittent running with change of direction.

Cricket batting has traditionally been portrayed as physically undemanding because it requires intermittent shuttle running interspersed with long periods of standing and walking (Duffield, et al 2008). Nevertheless, successful batting innings are often prolonged (e.g., typically .2.5 hours when scoring 100 runs in One-Day cricket) and require frequent accelerations, decelerations and changes of direction (Petersen, et al 2010). These actions, repeated over time, contribute to physical fatigue in batting (Noakes et al 2000). Recent findings demonstrated a significant decrease ($\approx 5\%$) in squat jump (SJ) height, an increase in straight-line sprint times and an increase in change-of-direction times across a prolonged, simulated, high-intensity, One-Day hundred (here-in referred to as BATEX; (Houghton, et al 2011). Although physical fatigue has been observed when batting, there has been no research into strength and conditioning programs that aim to improve intermittent shuttle running (running between the wickets) times during a prolonged batting innings (Bartlett, 2003).

It is possible that resistance training may benefit performance during a cricket batting innings because shuttle running requires short, high-intensity accelerations and decelerations. resistance training involves short, high-speed movements that use the stretch-shortening cycle (Potach et al 2000). Previously, the benefits of resistance training have been demonstrated in team sports (basketball and soccer) and individual sports (swimming), but no investigations have been carried out on cricket-specific performance. A recent review concluded that resistance training may improve change-of-direction and straight-line running times (typical in cricket batting), particularly if horizontal and lateral jump exercises are included (4). However, this review did not report any research on the effects of resistance training on prolonged, intermittent shuttle running times as required in a successful batting innings.

Therefore the aim of this research effect of resistance training on selected bio motor variables among engineering college men cricket players.

Methodology:

The purpose of the study was to find out the effect of resistance training on selected bio motor variables among engineering college men cricket players. To achieve the purpose of the

study, thirty engineering college cricketers were selected from in and around tamilnadu colleges. The subjects were randomly assigned in to two equal groups namely, Resistance training group (RTG) and Control group (CG) consist of (n=15). The respective training was given to the experimental group the 3 days per weeks (alternate days) for the training period of six weeks. Design: The bio motor variables such as agility and speed were selected as dependent variables. Speed was tested by 50mts (Dash) in seconds and agility was tested by 4×10mts shuttle run, Pre and post-test random group design was used for this study. After six weeks of resistance training intervention group.

Statistical Analysis:

The collected data before and after training period of 6 weeks on the above said variables due to the influence of resistance training was statistically analyzed with paired 't' test to find out the significant improvement between pre and post-test. In all cases the criterion for statistical significance was set at 0.05 level of confidence. ($P < 0.05$)

Table I

Computation of 't' Ratio on Selected Bio motor Variables of Cricket Players on Resistance Training Group

Group	Variables		Mean	N	Std. Deviation	Std. Error Mean	t ratio
Experimental Group	Speed,	Pre	7.82	15	0.50	0.00	13.03*
		Post	7.76	15	0.51		
	Agility,	Pre	8.96	15	0.99	0.071	4.54*
		Post	8.63	15	1.06		
Control group	Speed,	Post	7.77	15	0.48	0.47	1.68
		Pre	7.85	15	0.45		
	Agility,	Post	8.90	15	0.96	0.003	1.33
		Pre	8.90	15	0.97		

*Significant level 0.05 level degree of freedom (2.14, 1 and 14)

Table I reveals the computation of mean, standard deviation and 't' ratio on selected bio motor fitness parameters namely speed and agility experimental group. The obtained 't' ratio

speed and agility were 13.03, and 4.54 respectively. The required table value was 2.14 for the degrees of freedom 1 and 14 at the 0.05 level of significance. Since the obtained 't' values were greater than the table value it was found to be statistically significant. Further the computation of mean, standard deviation and 't' ratio on selected physical parameters namely Speed and Agility control group. The obtained 't' ratio on Speed and Agility were 1.68, and 1.33 respectively. The required table value was 2.14 for the degrees of freedom 1 and 14 at the 0.05 level of significance. Since the obtained 't' values were lesser than the table value it was found to be statistically not significant.

Discussion on Findings

The present study experiment the effect of resistance training on bio motor variables of men cricketers. The result of the study indicated that the resistance training improved the bio motor variables such as speed and agility.

The findings of the present study had similarity with the findings of the investigations referred in this study. However, there was a significantly changes of subjects in the present study the speed and agility was significantly improved of subject in the group may be due to the in Resistance training. K.Devaraju et al., (2014) reported that twelve impact of Resistance training, the group improved significantly on all functional fitness components. Vairavasundaram et al., (2014) showed that significant improvement in all the selected physical variables namely agility, explosive power, muscular strength endurance and flexibility among handball players. Collectively, it appears that, from a theoretical standpoint, the inclusion of cluster set configurations has the potential to alter the training stimulus and ultimately magnify the adaptive response.

Conclusion:

There was a significant improvement takes place on selected bio motor variables due to the effect of six weeks resistance training. There was a significant difference exists between experimental and control groups on selected bio motor variables such as speed and agility. Therefore resistance training included in this study are helpful for the men cricketers.

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