Implementation of Game Specific Training with and Without Autogenic Training on Speed and Anxiety Among Male Cricket Players

Mr. E. Rajan[1], Dr. G. Kumaran[2]
[1]*Ph.D., Research Scholar, Annamalai University*
[2]*Professor & Research Supervisor, Department of Physical Education, Annamalai University*

***Abstract*—The purpose of the study was to find out the effect of game specific training with and without autogenic training on speed and anxiety. Forty-five male cricket players aged between 19 and 25 years were selected for the study. They were divided into three equal groups, each group consisting of fifteen subjects in which three experimental groups and one control group, in which the group I (n=15) underwent game specific training with autogenic training, group II (n = 15) underwent game specific training for three days (alternative days) per week for twelve weeks and group III, acted as control, which did not participate in any training apart from their regular cricket game practice. The subjects were tested on selected criterion variable as speed and anxiety at prior to and immediately after the training period. For testing the speed was assessed by administering 50 meters run and anxiety was measured by using McPherson anxiety Questionnaire. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the experimental groups and control group on selected criterion variable separately. Since there were three groups involved in the present study, the Scheffé *S* test was used as post-hoc test. The selected criterion variables such as speed WAS improved and anxiety was decreased significantly for all the training groups when compared with the control group.**

***Index Terms*—game specific training, autogenic training, speed, anxiety.**

I. INTRODUCTION

Humans have always aspired to exhibit greater strength, endurance, and skill as well as run faster and leap higher. People are perfectionists in sports shows because they are competitive by nature. Although fascinating and rich in history, traditional methods of conditioning have been abandoned in favour of a new mindset founded on insight and knowledge gained via research, observation, and real-world experience. For a long time, there was little effort made towards better conditioning techniques; but, in recent years, significant advancements have led to some amazing performance increases (Boucher and Malina, 1993).

Essentially, two teams of eleven players play a bat and ball game called cricket. A prevalent game among most Commonwealth nations is cricket. It used to only be played during a certain season. But during the past three decades, its popularity has grown significantly, and it is now played all year round. The schedules of cricket players are more rigorous, requiring them to dedicate more time to training and practice (Davies et al., 2008).

In cricket, there are many transitions between intense play and relaxation. Player must expend energy fast during high-intensity intervals in order to maximise the speed, strength, and power output. The capacity of the body to absorb, distribute, store, and use energy is known as stamina, and it's a crucial cricket fitness factor. The duration of a match might range from one-to-many hours. Therefore, one aspect of fitness that might help them to perform better is endurance (Khabiruddin and Mondal, 2016).

In the team sport of cricket, players must do a variety of tasks, including throwing, bowling, and batting, as well as bowling, fielding, and batting and maintaining score throughout the same match (Scanlan, *et al*., 2016). The intermittent nature of this game puts a significant strain on the neuromuscular and physiological systems (Ali and Khan, 2013). People must perform a variety of motions at different intensities, including running, leaping, twisting, and striding. It has been suggested that increasing muscle strength can improve the efficacy of cricket-related

activities. Fielders use upper body strength for accurate throws, bowlers use upper body and leg strength to improve deliveries, batters use arm and core strength for powerful strokes and balance, and wicketkeepers use strong wrists and forearms to catch and stump.

According to Petersen et al. (2010), cricket is one of the most popular field sports in the world, especially in Commonwealth countries. It is played at the elite level in three formats: Twenty20, One Day, and Test (MacDonald et al., 2013). The physiological needs of cricket players differ significantly depending on their position in the game, since batters, fast bowlers, spin bowlers, wicketkeepers, and fielders all have different demands. when the distances reached when walking and running are more consistent from game to game, the volume and length of sprinting that a player in a given position did appears to rely considerably on the game circumstances (Petersen et al., 2010).

Running, striding, sprinting, turning quickly, and leaping all require strong legs (Ali and Khan, 2013). Changes in several resistance training dose factors have been shown to improve strength gains (Medicine ACoS., 2009). The most crucial dosage factors in resistance training have been identified as frequency, duration, volume, follow-up period, exercise order, and rest length (Grgic, *et al*., 2018).

Cricket has gone through emotional changes lately, with the improvement of 1-day and Twenty 20 cricket modifying a portion of the imperative qualities of the game. The more limited game organizations will quite often be all the more truly serious when connected with match span, consolidating more maximal runs while handling, bowling, and batting (Petersen, *et al*., 2009). Because of these requests, running rate has turned into a fundamental athletic quality for cricketers and hence should be evaluated accurately.

The apprehension about failing to meet expectations in key matches can cause cricketer's huge pressure. Numerous players experience apprehension, absence of rest, and fretfulness paving the way to significant games. Execution nervousness frequently causes actual side effects like perspiring, shaking, or sickness, making it challenging for competitors to concentrate and execute their abilities.

II. METHODS

The goal of this study was to determine how game specific training with and without autogenic training, affected speed and anxiety. 45 male cricket players who were enrolled at various colleges at Annamalai University, Annamalainagar, Chidambaram, those who were represented in inter-collegiate tournaments, for the academic year 2023–2024 were chosen as subjects to fulfil the goal. They were divided into three equal groups of fifteen each and further divided as two experimental groups and one control group, in which the group I (n=15) underwent game specific training with autogenic training, group II (n = 15) underwent game specific training for three days (alternative days) per week for twelve weeks, and group III (n=15) acted as control which did not participate in any special training apart from the regular curricular activities.

There will be changes to motor fitness and psychological variables and systems with every training regimen. After consulting with the specialists, the researchers decided to use the following variables as criteria: 1. speed, and 2. Anxiety.

A. Analysis of the Data

The differences, if any, between the corrected posttest means on several criteria variables were examined independently using analysis of covariance. The Scheffé S test was used as a post-hoc test if the adjusted posttest mean's "F" ratio was shown to be significant. To evaluate the "F" ratio discovered using analysis of covariance, the level of significance was set at.05 level of confidence.

Table – I

Analysis of Covariance and 'F' ratio for Speed and Anxiety of Sports Specific Training with and without Autogenic training Groups, and Control Group

Variable Name	Group Name	Exp. Group - I	Exp. Group - II	Control Group	'F' Ratio
Speed (in Seconds)	Pre-test Mean ± S.D.	7.482 ± 0.16	7.43 ± 0.16	7.46 ± 0.0.17	0.38

	Post-test Mean ± S.D.	7.43 ± 0.15	7.40 ± 0.16	7.459 ± 0.17	0.52
	Adj. Post-test Mean	7.406	7.426	7.458	28.72*
Anxiety (in Points)	Pre-test Mean ± S.D.	17.60 ± 1.40	14.80 ± 1.32	16.73 ± 1.08	1.89
	Post-test Mean ± S.D.	15.07 ± 1.34	14.80 ± 1.32	16.73 ± 1.62	8.02*
	Adj. Post-test Mean	14.684	14.966	16.950	18.29*

* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.21 and 3.23 respectively).

Table – I show that the speed pre- and post-test "F" ratio value of 0.38 and 0.52 was less than the necessary table value of 3.21 for significant with df 2 and 42 at 0.05 level of confidence. For the adjusted post-test mean 'F' ratio value of 28.72 was greater than the necessary table value of 3.24 for significant. The anxiety pre-test values 'F' ratio was 1.89 which was insignificant. For post-test and adjusted post-test mean 'F' ratio values of anxiety were 8.02 and 18.29 was greater than the necessary table value of 3.24 for significant. Further, to find out which training group has significant improvement on selected criterion variables, Scheffe *S* post-hoc test was applied and presented in table – II.

Table - II

Scheffĕ S Test for the Difference Between the Adjusted Post-Test Mean of Speed and Anxiety

Exp. Group - I	Exp. Group – II	Control Group	Mean Difference	Confidence Interval at 0.05 level
Adjusted Post-test Mean for Speed				
7.406	7.426		0.02*	0.017
7.406		7.458	0.053*	0.017
	7.426	7.458	0.033*	0.017
Adjusted Post-test Mean for Anxiety				
14.684	14.966		0.282	1.018
14.684		16.950	2.284*	1.018
	14.966	16.950	1.983*	1.018

* Significant at 0.05 level of confidence.

III. RESULTS

The corrected post-test means differences in speed between experimental groups I and II, experimental group I and the control group and experimental group II and the control group were 0.02, 0.053 and 0.033, respectively, and were significant at the .05 level of confidence. The results of the study indicate that speed is significantly increased by game specific training with and without autogenic training. Moreover, the game specific training with autogenic training group have better improvement in speed than the game specific training without autogenic training group.

The corrected post-test means differences in anxiety between experimental groups I and control group and experimental groups II and control group were 2.284 and 1.983, respectively, and were significant at the 0.05 level of confidence. However, a mean difference of 0.282 was discovered between experimental groups I and II. This difference was not statistically significant. The results of the study indicate that anxiety is significantly decreased by game specific training with and without autogenic training groups.

IV. CONCLUSIONS

After completing the respective training schedule, the study's results shown a notable increase in the performance of speed. This result is in line with the findings of Bhat and Sreedhar, (2018), found that the cricket specific fitness training has improved the speed among male cricketers. Kumar and Kumar, (2019) found that the field training with and without yogic practice group had shown significant improvement in speed among male cricketers. Dogra, (2015) who found that there was a significant improvement in speed among cricket specific conditioning programme among male cricketers. Kumaravelu, (2020) found that the weight training has improved the speed among male intercollegiate cricketers. Moreover, the result reveals that there was a significant difference was found between the training groups, in favour of game specific field training with autogenic training programme

The results of the study reveals that there was a significant decrease in anxiety after the respective training programmes. The result is in line with the findings of Sutharsingh, (2019) in which the autogenic training has significantly decreased the stress and anxiety among male football players

REFERENCE

[1] Ali, K.; Khan, M.H. (2013). The effects of grass and clay plyometric training on jumping, sprinting and agility in collegiate cricketers. Int J Biomed Adv Res, 4(12): 902–908.

[2] Bhat, Zahoor Ahmad.; Sreedhar, K. (2018). Effect of cricket specific fitness training program on explosive strength and speed among college level men cricketers of J&K state. International Journal of Physiology, Nutrition and Physical Education, 3(1): 17-19.

[3] Boucher C. and Malina, R.M. (1993). Genetics of physical fitness and motor performance. Exercise and Sports Sciences Reviews, 11, 3206.

[4] Davies, Roxanne.; Randt, Rosa du.; Venter, Danie.; Stretch, Richard. (January 2008). Cricket: Nature and incidence of fast-bowling injuries at an elite, junior level and associated risk factors. South African Sports Medicine Association, 20(4): 115-118.

[5] Dogra, Deepak Kumar. (January 2015). Effect of 12 weeks specific conditioning programme on motor fitness of tripura cricketers. International Journal of Management, 6(1): 706-714.

[6] Grgic, J.; Schoenfeld, B.J.; Davies, T.B.; Lazinica, B.; Krieger, J.W.; Pedisic, Z. (2018). Effect of resistance training frequency on gains in muscular strength: a systematic review and meta-analysis. Sports Med., 48(5):1207–1220.

[7] Khabiruddin, S.K.; Mondal, Samiran. (2016). Effect of specific package of training on selected skill performance variables of male cricket players. International Journal of Yogic, Human Movement and Sports Sciences, 1(1): 76-77.

[8] Kumar, R Ananda.; Kumar, S Ramesh. (2019). Impact of field training with and without yogic practice on selected physical and performance variables among cricket players. International Journal of Physiology, Nutrition and Physical Education, 4(1): 1896-1900.

[9] Kumaravelu, P. (2020). Effect of weight training on physical fitness components among spin bowlers and fast bowlers in cricket. Journal of Xi'an Shiyou University, Natural Science Edition, 17(6): 01-05.

[10] MacDonald, D.; Cronin, J.; Mills, J.; Dip, G.; McGuigan, M; Stretch, R. (2013). A review of cricket fielding requirements. The South African Journal of Sports Medicine. 25(3):87-92.

[11] Medicine, ACoS. (2009). American College of Sports Medicine position stand Progression models in resistance training for healthy adults. Med Sci Sports Exerc, 41(3): 687–708.

[12] Petersen, C.; Pyne, D.; Dawson, B.; Portus, M.; Kellett, A. (2010). Movement patterns in cricket vary by both position and game format. Journal of Sports Sciences, 28: 45–52.

[13] Scanlan, A.T.; Berkelmans, D.M.; Vickery, W.M.; Kean, C.O. (2016). A review of the internal and external physiological demands associated with batting in cricket. Int J Sports Physiol Perform, 11(8): 987–997.

[14] Sutharsingh, Jackson. (2019). Effect of autogenic training on selected psychological variable of football players. International Journal of Physiology, Nutrition and Physical Education 4(2): 66-67