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The Effect Of Varied Modalities Of Training On Speed, Flexibility And Standing Throw Of Male College Cricket Plyers

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Abstract:

The objective of the study was to find out the varied modalities of training on performance variable of male cricket players. For the purpose of this study, thirty male cricket selected subject from Art and science college Ooty, and their age ranged from 18 to 24 years. The 60 Subjects were randomly selected and they divided into four equal groups of 15 each, such as weight/sprint training group, aerobic training group, combination group and control group. The experimental group 1 underwent weight/sprint training for three days per week for eight weeks. The experimental group 2 underwent aerobic training for three days per week for eight weeks. The experimental group 3 underwent combination of weight/sprint training and aerobic training for alternative days per week for eight weeks The selected criterion variables were assessed using standard tests and procedures, prior to and immediately after the training programme. Analysis of covariance (ANCOVA) was used as a statistical procedure to establish the significant difference, if any, existing between pretest and posttest data on selected dependent variables. The findings of the study revealed that due to the effect of eight weeks combination of weight/sprint and aerobic training showed the better improvement. The selected physical variables such as speed, flexibility and standing throw have significantly improved.

Keywords : *weight/sprint training, aerobic training, combination of weight/sprint and aerobic training, speed, flexibility, cricket ball standing throw.*

1.Introduction

Cricket is a popular team game in most Common wealth countries. In past it was played solely in a specific season (in Asian countries it was winter and in western countries it was summer). But its popularity has gained tremendous momentum since last three decades and now it is played throughout the year. The cricketers are exposed to more demanding schedules, with longer period of time for training and practicing (Davies et al., 2008). Training and technique are very important in developing or improving a sport skill. Generally as the adaptation to training takes place, the efficiency of the skill improves (Martin & Coe, 1991). Strength training, like speed, flexibility and standing throw have now become an important ingredient in the total programme, particularly where strength is essential in the sport. Among sport conditioning coaches, there is considerable discussion regarding the efficiency of training methods that improve body strength and power. Strength training is a well-established training method and vital necessary for cricket players; but most of the cricketers are not concentrate on aerobic and weight/sprint training and its importance. Sprint/weight training improves the amount of contractile proteins, actions and myosin, in the fibers. Thus each type of training stimulates particular adaptations of the muscle fibers. This would include weight training with machines or free weights and an assortment of calisthenics. Specific sprint/weight training involves conditioning the muscles, tendons and ligaments by using motions that closely or exactly duplicate those used in the sport. These would include a variety of methods, depending on the sport. (Sleamaker, 1989)

2.Methodology

For the purpose of this study, sixty male cricket players were selected as a subjects from Art and science college Ooty , at the age group of 18 to 24 years, with their consent. The selected subjects were divided into four equal groups of 15 in each, such as weight/sprint training group, aerobic training group, combination group and control group. The experimental group 1 underwent weight/sprint training for three days per week for eight weeks. The experimental group 2 underwent aerobic training for three days per week for eight weeks. The experimental group 3 underwent combination of weight/sprint training and aerobic training for alternative days per week for eight weeks The selected criterion variables were assessed using standard tests and procedures, prior to and immediately after the training programme. The selected physical fitness components such as speed, flexibility and standing throw were assessed by using 50 mt dash, Sit and reach, Cricket

ball standing throw. Analysis of covariance (ANCOVA) was used as a statistical procedure to establish the significant difference, if any, existing between pretest and posttest data on selected dependent variables. The selected criterion variables were assessed using standard tests and procedures, prior to and immediately after the training regimen.

3.Training Protocol

The experimental group 1 underwent weight/sprint training regimen for a period of eight weeks. The training regimen for weight/sprint training group consisted of three set of four exercises a day, three days a week. After selecting the exercise 1 RM was found for each subject of the experimental group for each exercise separately. 1 RM is the maximum amount of weight a person can successfully lift one time only through the full range of motion. The initial intensity was fixed at 60% and it was increased once in two weeks by 10%. The rest interval of two minutes between repetition and five minutes between set was given followed by sprint training.

4.Sprint Training Workout

- Ten minutes pre- exercise stretching workout
- Two repetition of 10 second sprint at 50% of subjects maximum effort.
- Three repetition of 10 second sprint at 100% of subjects maximum effort.
- One repetition of 20 second sprint at 100% of subjects maximum effort.
- The subjects were given a 30 second rest period between each sprint. The control group did not participate in any specialized training during the period of study.

Duration of training weeks	**Intensity of training**	**Set**	**Duration of training**
3 days per week	60 to 90% Low intensity to high intensity	2(total exercise 15) (In by count 16 no) (1 set carry 15 min)	30 mins

Table 1: Aerobic Training

5.Result Of The Study

Variables		Mean ± S.D	M.D	S.E.M	't' ratio	Sig
Speed (sec)	Pre test	8.79 ± 0.33	0.86	0.17	8.09	0.00
	Post test	7.92 ±0.43				
Flexibility (cm)	Pre test	26.53 ±1.12	3.53	0.40	8.82	0.00
	Post test	30.07 ±1.49				
Cricket ball Standing throw (mts)	Pre test	58.53 ±2.61	3.40	0.23	14.47	0.00
	Post test	61.93 ±2.58				

Table 2: Significance of mean gains / losses between pre and post tests of weight/sprint training on speed, flexibility and standing throw of variables of male cricket players Significant at 0.05 level

Table 2 shows the obtained 't' ratios for pre and post tests mean difference in the selected variables of Speed (8.09), flexibility (8.82), and skill performance variables of standing throw (14.47). The obtained 't' ratios when compared with the table value of 2.14 for the degrees of freedom 1 and14. It was found to be statistically significant at 0.05 level of confidence. It was observed that the mean gains and losses made from pre to post tests were significantly improved in performance variables of speed (0.86 $p< 0.05$), flexibility (3.53 $p< 0.05$and skill performance variables of standing throw (3.40 $p<0.05$).

Variables		Mean ± S.D	M.D	S.E.M	't' ratio	Sig
Speed (sec)	Pre test	8.80 ± 0.38	0.61	2.89	6.78	0.00
	Post test	8.20 ±0.41				
Flexibility (cm)	Pre test	26.47 ±0.99	2.60	0.21	12.16	0.00
	Post test	29.07 ±1.09				
Cricket ball Standing throw (mts)	Pre test	58.60 ±3.06	2.67	0.19	14.27	0.00
	Post test	61.27 ±3.24				

*Table 3: Significance of mean gains / losses between pre and post tests of aerobic training on speed, flexibility and standing throw of variables of male cricket players * Significant at 0.05 levels (2.14)*

Table 4.2 shows the obtained 't' ratios for pre and post tests mean difference in the selected variables of Speed (6.78), flexibility (12.16) and skill performance variables of standing throw (14.27). The obtained 't' ratios when compared with the table value of 2.14 for the degrees of freedom 1 and14. It was found to be statistically significant at 0.05 level of confidence. It was observed that the mean gains and losses made from pre to post tests were significantly improved in performance variables of speed (0.61 $p< 0.05$), flexibility (2.60 $p< 0.05$), and skill performance variables of standing throw (2.67 $p<0.05$.

Variables		**Mean ± S.D**	**M.D**	**S.E.M**	**'t' ratio**	**Sig**
Speed (sec)	Pre test	8.77 ± 0.33	1.32	2.96	13.82	0.00
	Post test	7.44 ±0.26				
Flexibility (cm)	Pre test	26.60 ±0.83	4.20	0.42	10.09	0.00
	Post test	30.80 ±1.86				
Cricket ball Standing throw s(mts)	Pre test	58.67 ±2.74	5.00	0.36	13.69	0.00
	Post test	63.67 ±2.66				

Table 4: Significance of mean gains / losses between pre and post tests of combination of weight/sprint and aerobic training on speed, flexibility and standing throw of variables of male cricket players

** Significant at 0.05 levels (2.14)*

Table 4 shows the obtained 't' ratios for pre and post tests mean difference in the selected variables of Speed (13.82), flexibility (10.09), and skill performance variables of standing throw (13.69). The obtained 't' ratios when compared with the table value of 2.14 for the degrees of freedom 1 and14. It was found to be statistically significant at 0.05 level of confidence. It was observed that the mean gains and losses made from pre to post tests were significantly improved in performance variables of speed (1.32 $p< 0.05$), flexibility (4.20 $p< 0.05$), and skill performance variables of standing throw (5.00 $p<0.05$).

Variables		Mean ± S.D	M.D	S.E.M	't' ratio	Sig
Speed (sec)	Pre test	8.91 ± 0.46	0.11	2.63	1.84	0.09
	Post test	8.80 ± 0.34				
Flexibility (cm)	Pre test	26.67 ± 1.76	0.20	0.20	1.00	0.33
	Post test	26.87 ± 1.85				
Cricket ball Standing throw (mts)	Pre test	58.73 ± 2.43	0.13	0.19	0.69	0.50
	Post test	58.87 ± 2.64				

Table 5: Significance of mean gains / losses between pre and post tests of control group on speed, flexibility and standing throw of variables of male cricket players
Significant at 0.05 level

Table-1 shows the obtained 't' ratios for pre and post tests mean difference in the selected variables of Speed (1.84), flexibility (1.00) and skill performance variables of standing throw (0.69). The obtained 't' ratios when compared with the table value of 2.14 for the degrees of freedom 1 and14. It was found to be statistically not significant at 0.05 level of confidence. It was observed that the mean gains and losses made from pre to post tests were significantly not improved in performance variables of speed (0.11 $p< 0.05$), flexibility (0.20 $p< 0.05$) and skill performance variables of standing throw (0.13 $p<0.05$).

Test	Sources	Sum of Squares	DF	Mean Square	F-ratio	Sig
Pre Test Means (sec)	B/G	0.21	3	2.69	0.49	0.69
	W/G	7.84	56	0.14		
Post Test Means (sec)	B/G	14.51	3	4.84	36.13	0.00
	W/G	7.50	56	0.13		
Adjusted Post Test Means (sec)	B/G	12.64	3	4.21	45.61	0.00
	W/G	5.08	55	2.92		

Table 6: Analysis of variance on pre-post test means and analysis of co-variance on post test means among the WSTG, ATG, CWSAG and CG on speed (sec)
**Significance at 0.05 level (2.77)*

Test	Sources	Sum of Squares	DF	Mean Square	F-ratio	Sig
Pre Test Means (cm)	B/G	0.33	3	0.11	0.07	0.97
	W/G	84.40	56	1.51		
Post Test Means (cm)	B/G	131.60	3	43.87	17.05	0.00
	W/G	144.00	56	2.57		
Adjusted Post Test Means (cm)	B/G	136.58	3	45.53	29.21	0.00
	W/G	85.72	55	1.56		

Table 7: Analysis of variance on pre-post test means and analysis of co-variance on post test means among the WSTG, ATG, CWSAG and CG on flexibility (cm)

**Significance at 0.05 level (2.77)*

Test	Sources	Sum of Squares	DF	Mean Square	F-ratio	Sig
Pre Test Means (kg)	B/G	0.33	3	0.11	0.06	0.99
	W/G	415.60	56	7.42		
Post Test Means (kg)	B/G	177.80	3	59.27	7.60	0.00
	W/G	436.93	56	7.80		
Adjusted Post Test Means (kg)	B/G	184.60	3	61.53	62.67	0.00
	W/G	53.99	55	0.98		

Table 8: Analysis Of Variance On Pre-Post Test Means And Analysis Of Co-Variance On Post Test Means Among The WSTG, ATG, CWSAG and CG On Standing Throw (Mts)

**Significance at 0.05 level (2.77)*

6.Results And Discussion

6.1.Speed

The weight/sprint training group, aerobic training group, and combination of weight/sprint, and aerobic training group significantly improved the speed from pre to post test. Speed increased in the weight/sprint group pre test (8.79±33) to post test (7.92±43) aerobic pre test (8.80±38) to post test (8.20±41) combination of weight/sprint, aerobic training group per test (8.77±33) to post test (7.44±26) The speed significantly improved from pre test to post test in all three experimental groups. With no changes in control group.The present study demonstrated that an increase in the speed of 9.78%, 6.93%, 15.05% estimate with 50 mts dash weight/sprint training group, aerobic training group, and combination of weight/sprint training group, aerobic training group respectively.The combination of weight/sprint, aerobic training group improved the speed by 15.05% better than the weight/sprint training group 9.78% and aerobic training group 6.93%. The weight/sprint training group improved the speed 9.78% better than the aerobic training group 6.93%. the results of this study illurtrsted that weight/sprint training programme has a significant effect on speed as measured by the 50 yards dash test, O' Shea (1985) believes that the dynamic nature of this training is highly conductive to enchancing neuromuscular efficiency (e.g) Facilitating the stretch reflex) this in turn allow for excellent transfer of power to other bio mechanically similar movement that required a powerfull thrust from the hips and thighs, such as running.

6.2.Flexibility

The weight/sprint training group, aerobic training group, and combination of weight/sprint, and aerobic training group significantly improved the flexibility from pre to post test. Speed increased in the weight/sprint group pre test (26.53±1.12) to post test (30.07±1.49) aerobic pre test (26.47±99) to post test (29.07±1.09) combination of weight/sprint, aerobic training group per test (26.60±83) to post test (30.80±1.86) The speed significantly improved from pre test to post test in all three experimental groups. With no changes in control group. The present study demonstrated that an increase in the flexibility of 13.30%, 9.82%, 15.78% estimate with sit &reach weight/sprint training group, aerobic training group, and combination of weight/sprint training group , aerobic training group respectively. The combination of weight/sprint, aerobic training group

improved the flexibility by 15.78% better than the weight/sprint training group 13.30% and aerobic training group 9.82%. The weight/sprint training group improved the flexibility 13.30% better than the aerobic training group 9.82 %. Despite traditional concerns that resistance exercise may in a loss of flexibility results from the present investigation suggest that weight training /sprint training may enchange flexibility by about 15.78%. Other have reported flexibility gains in youth who predicated in weight training programme (Figenbaum et.al. 2005) lillegard et.al 1997)

6.3.Cricket Ball Standing Throw

The weight/sprint training group, aerobic training group, and combination of weight/sprint , and aerobic training group significantly improved the cricket ball standing throw from pre to post test. Throwing ability increased in the weight/sprint group pre test (58.53±2.61) to post test (61.93±2.58) aerobic pre test (58.60±3.06) to post test (61.27±3.24) combination of weight/sprint, aerobic training group per test (58.67±2.74) to post test (63.67±2.66) The control group pre test (58.73±2.43) to post test (58.87±2.64) the standing throw ability significantly improved from pre test to post test in all three experimental groups. And control group showed significant improvement. The present study demonstrated that an increase in the cricket ball standing throw of 5.83%, 4.55%, 8.52% and 2.22% estimate with standing throw weight/sprint training group, aerobic training group, and combination of weight/sprint training group , aerobic training group respectively. The combination of weight/sprint, aerobic training group improved the standing cricket ball throw by 8.52 % better than the weight/sprint training group 5.83 % and aerobic training group 4.55 %. And control group 2.22%. The weight/sprint training group improved the 5.83% better than the aerobic training group 4.55 %. And control group. Aerobic training group improved better the cricket ball standing throw by 4.55% better than the control group 2.22% and also control group significantly improved due to regular practice during the experimental period of 12 weeks. Revealed the evidence and logical arguments for the necessity of using high force, high velocity, and movements-specific training exercise in order to produce superior performance gains in strength and power oriented sports. Stone (1993). Revealed that by employing the effect and programs of strength training to improve strength and power and baseball skill, the effect can be rewarded with significantly improved Baseball performance Spaniel F. J (2005).

7.Conclusion

In this present study The combination of weight/sprint, aerobic training group improved speed and flexibility better than the weight/sprint training and aerobic training of male cricket players.

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