

Effect of Circuit Training Programme on Endurance, Flexibility & Agility of Cricket Players

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ABSTRACT

As in modern scientific age, various research studies are being undertaken in various sports disciplines all over the world. The present experimental study is an attempt to find out the effects of circuit training programme on Endurance, Flexibility & Agility of cricket players. To achieve this purpose, 40 cricket players (20 Male & 20 Female), having at least District participation were selected from Shah Satnam Ji Educational Institutions of Sirsa (Haryana), as subjects. The age of subjects ranged between 18 to 25 years. Circuit training programme was designed separately for male and female cricket players. The data was collected at prior to and after the training programme of six weeks. Endurance, Flexibility & Agility were chosen as criterion variables. 't' test was used to analyze the data. The results of the study showed that the Endurance, Flexibility & Agility were significantly improved due to circuit training programme.

Key words: - 1. Circuit training 2. Endurance
3. Flexibility 4. Agility 5. 't' test

INTRODUCTION

Technology permeates every aspect of life; a sport is no exception to it. Science applied to sports has enabled modern youth to develop physical capacities beyond anything earlier imagined. Sports have become highly competitive and records are being broken with an increasing rate. Different sports require different fitness components. Cricket is one of those rare games, which demands not only Power, Endurance, Agility but also Endurance, Flexibility & Agility. Physical training with progressive load, Intensity, Duration and Frequency produce a measurable training effect. To achieve better training effect, it

is necessary to expose the organism to overload that is larger than the one regularly encountered during everyday life. Several methods are being used for developing the physical fitness of sportspersons and Circuit training is one of those methods. This method of training is of varied nature, hence can be implemented as per the need and objectives of the competition. Exercises at the various stations consists mainly weight resistance exercises, Running, Calisthenics and stretching exercises. Therefore, Circuit training may be designed to increase Strength, Endurance, Flexibility, Speed and Agility. Endurance training elicits improvement in maximal oxygen uptake, vital capacity, total lungs capacity and increase in blood hemoglobin contents (Arun Kumar Uppal et.al, 1980). Flexibility is developed through slow stretching and hold method, post isometric stretching and ballistic method. Agility is also much important variable which depend upon body movements with change of velocity or direction in response to a stimulus (Sheppard, J.M and Young, W.B et.al, 2006).

Circuit training is very effective and popular organizational form of doing physical exercises in which exercises related to develop particular capabilities required in sports can be adjusted in Circuit programme. High intensity aerobics is a form of conditioning to develop Muscular Endurance. Flexibility and Agility also can be developed through Circuit training along Speed, Strength and Endurance. In this study an attempt is made to find out the effects of Circuit training on Endurance, Flexibility and Agility of cricket players (male and female).

STATEMENT OF THE PROBLEM

Effect of circuit training programme on Endurance, Flexibility and Agility of Cricket players.

HYPOTHESIS

1. There will be no significant difference between the score of pre Circuit training and post Circuit training on the Endurance of male Cricket players.
2. There will be no significant difference between the score of pre Circuit training and post Circuit training on the Endurance of female Cricket players.
3. There will be no significant difference between the score of pre Circuit training and post Circuit training on the Flexibility of male Cricket players.
4. There will be no significant difference between the score of pre Circuit training and post Circuit training on the Flexibility of female Cricket players.
5. There will be no significant difference between the score of pre Circuit training and post Circuit training on the Agility of male Cricket players.
6. There will be no significant difference between the score of pre Circuit training and post Circuit training on the Agility of female Cricket players.

METHODOLOGY

To achieve this purpose 40 Cricket players (20 male & 20 female) of 18 to 25 years of age, studying in Shah Satnam Ji Educational Institutions of Sirsa (Haryana), with having at least District level participation in Cricket were

selected for this study. Two groups of 40 Cricket players were formed i.e. One group consists 20 male and other consists 20 female Cricket players. Circuit training programme was designed separately for male and female Cricket players. Pre test was administrated and scores of pre test of both male and female Cricket player were recorded. After the pre test, the Circuit training programme of six days a week for six weeks was scheduled for both male and female Cricket players. Each day the training schedule was conducted only in the evening session that lasted for 90 minutes.

Subjects were properly warmed up for 20 minutes before administering the test. Resting period between the Repetitions was deliberately reduced to achieve the desired objectives. After completion of repetitions subjects were properly cool down for 15 minutes. The following test criterion variable were selected to measure Endurance, Flexibility and Agility of Cricket players:-

- Endurance -
1600 mts. Run.
- Flexibility -
Sit and Reach test.
- Agility -
Zig-Zag Run.

ANALYSIS OF DATA AND INTERPRETATION OF THE STUDY

For analyzing the data 't' test was used to find out the significant difference between the pre test and post test of Cricket players. The level of significance was set at 0.05 in order to check the significance of the calculated T value which was considered as an appropriate.

Table No. 1
Results of Endurance (1600 mts. Run) of pre Circuit training and post Circuit training of male Cricket players.

Male Cricket Players	N	Mean	S.D	S.E.D.	t-test
Pre Circuit training	20	6.41	0.14	0.03	29.15
Post Circuit training	20	5.43	0.05		

Table No. 1 shows that the mean of pre Circuit training was 6.41 while the mean of post Circuit training was 5.43 of male Cricket players. SD of pre Circuit training was 0.14 while the SD of post Circuit training was 0.05 of male Cricket players. The 't' test of 1600 mts. Run of male Cricket

players was 29.15, which was significant at levels of 0.05. Hence, the null hypothesis was rejected, which shows that there was difference in pre test scores and post test scores of 1600 mts. Run of male Cricket players.

Table No. 2
Results of Endurance (1600 mts. Run) of pre Circuit training and post Circuit training of female Cricket players.

Female Cricket Players	N	Mean	S.D	S.E.D.	t-test
Pre Circuit training	20	7.81	0.36	0.13	9.35
Post Circuit training	20	6.56	0.48		

Table No. 2 shows that the mean of pre Circuit training was 7.81 while the mean of post Circuit training was 6.56 of female Cricket players. SD of pre Circuit training was 0.36 while the SD of post Circuit training was 0.48 of female Cricket players. The 't' test of 1600 mts. Run of female

Cricket players was 9.35, which was significant at levels of 0.05. Hence, the null hypothesis was rejected, which shows that there was difference in pre test scores and post test scores of 1600 mts. Run of female Cricket players.

Table No. 3
Results of Flexibility (Sit and Reach test) of pre Circuit training and post Circuit training of male Cricket players.

Male Cricket Players	N	Mean	S.D	S.E.D.	t-test
Pre Circuit training	20	9.81	1.90	0.56	4.17
Post Circuit training	20	12.12	1.61		

Table No. 3 shows that the mean of pre Circuit training was 9.81 while the mean of post Circuit

training was 12.12 of male Cricket players. SD of pre Circuit training was 1.90 while the SD of post

Circuit training was 1.61 of male Cricket players. The 't' test of Sit and Reach test of male Cricket players was 4.17, which was significant at levels of 0.05. Hence, the null hypothesis was rejected,

which shows that there was difference in pre test scores and post test scores of Sit and Reach test of male Cricket players.

Table No. 4
Results of Flexibility (Sit and Reach test) of pre Circuit training and post Circuit training of female Cricket players.

Female Cricket Players	N	Mean	S.D	S.E.D.	t-test
Pre Circuit training	20	8.39	1.32	0.41	3.07
Post Circuit training	20	9.65	1.24		

Table No. 4 shows that the mean of pre Circuit training was 8.39 while the mean of post Circuit training was 9.65 of female Cricket players. SD of pre Circuit training was 1.32 while the SD of post Circuit training was 1.24 of female Cricket players. The 't' test of Sit and Reach test of female

Cricket players was 3.07, which was significant at levels of 0.05. Hence, the null hypothesis was rejected, which shows that there was difference in pre test scores and post test scores of Sit and Reach test of female Cricket players.

Table No. 5
Results of Agility (Zig-Zag Run) of pre Circuit training and post Circuit training of male Cricket players.

Female Cricket Players	N	Mean	S.D	S.E.D.	t-test
Pre Circuit training	20	11.07	0.59	0.16	16.74
Post Circuit training	20	8.34	0.42		

Table No. 5 shows that the mean of pre Circuit training was 11.07 while the mean of post Circuit training was 8.34 of male Cricket players. SD of pre Circuit training was 0.59 while the SD of post Circuit training was 0.42 of male Cricket players. The 't' test of Zig-Zag Run of male Cricket

players was 16.74, which was significant at levels of 0.05. Hence, the null hypothesis was rejected, which shows that there was difference in pre test scores and post test scores of Zig-Zag Run of male Cricket players.

Table No. 6
Results of Agility (Zig-Zag Run) of pre Circuit training and post Circuit training of female Cricket players.

Male Cricket Players	N	Mean	S.D	S.E.D.	t-test
Pre Circuit training	20	11.77	1.17	0.33	4.09

Post Circuit training	20	10.44	0.87	
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Table No. 6 shows that the mean of pre Circuit training was 11.77 while the mean of post Circuit training was 10.44 of female Cricket players. SD of pre Circuit training was 1.17 while the SD of post Circuit training was 0.87 of female Cricket players. The ‘t’ test of Zig-Zag Run of female Cricket players was 4.09, which was significant at levels of 0.05. Hence, the null hypothesis was rejected, which shows that there was difference in pre test scores and post test scores of Zig-Zag Run of female Cricket players.

CONCLUSION

On the basis of the results of present study, significant differences were found between the pre and post test scores of Endurance (1600 mts. Run), Flexibility (Sit and Reach test) and Agility (Zig-Zag Run) of both male and female Cricket Players which shows the significant improvement in Endurance, Flexibility and Agility of Cricket Players. On the basis of above results we can conclude that Circuit training is beneficial to improve Endurance, Flexibility and Agility of sportspersons.

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