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Effect of Circuit Training on Selected Basketball Skills and Physical Fitness Variables

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Abstract – A study was undertaken during the year 2006-2007 at Kurukshetra University Kurukshetra (Haryana) with an aim to assess the influence of circuit training Basketball skills and physical fitness variables of Basketball players. The study discovered that a six week circuit training programme had a positive significant effect on the Basketball skills (field goal speed, accuracy level, dribbling ability) and on physical fitness variables (speed, strength and agility) of Basketball players. Whereas no significant effect of circuit training on flexibility was found.

Keywords: Field goal speed, accuracy, dribbling, speed, strength, agility and flexibility.

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Sports have become the head line news not only in the electronic media but also in the local press. Winning laurels at international level has become prestigious issue for the nation. Without second thought every individual can feel the magnitude of importance of sports at heart now-a-days.

The competitive sports in increasing at a fast pace which can be observed in the form of records which are being bettered day by day.

The will be perform always urges forward and induces progress. The limits, reached today, shall be moved farther tomorrow. The will be perform is what makes a man enter untrodden territory and confront the unknown. When personal condition is pavorable and environmental condition are excellent, optimum performance may be turned into maximum performance and maximum into a record. The desire to perform is a basic drive, in-born and active in every person. It is the drive that leads to the development of natural qualities. The effort it triggers off leads to an improvement of capabilities and broadening of knowledge, thus contributing to perfection of personality.

Championship performances no longer occur at random or as a result of chance alone. International performances in various sports and games are influenced by many factors, such as physical, physiological, psychological, nutrition, technique, tactics, physique and body compositions etc. Now-a-days competitions are so though that even a very small factor plays an influencing role in achieving position in international competitions.

In sports and games conditioning and training play vital role in the improvement of the human performance, especially at the competitive level. Therefore, specialized training in sports and games has become necessity for superior performance. Training is a pedagogical price which makes possible the achievement of high standard performance without any physical or mental damage through the planned systematic development of certain specialized skills, physical capabilities and spiritual qualities and the adaptation of the organization.

In India and particularly in Haryana no such work and research have been undertaken on juniors who are the base for higher performance. Subjects will know their potential and fitness level and also the training methods for further improving their fitness to desire level required in today's competitive sports.

The present study had been taken for spotting the early talent, administering them the most effective training methods and for providing right attitude towards fitness and health. It will also helps the coaches and experts to use the training methods for improving the fitness components of the sports person. The objectives of the study were :-

1 To discover the effects of circuit training on Basketball skills such as field goal speed, accuracy level and dribbling ability of Basketball players.

2 To determine the effect of circuit training on physical fitness variables such as speed, strength, flexibility and agility of Basketball players.

MATERIALS AND METHODS

a) Sampling

In the present study with the help of satisfied random sampling 100 sports person who had participated at Distt level tournament of Basketball game were selected as a sample of the study. The subjects were

in the age group (i) controlled group (50), (ii) experimental group (50).

b) Tools used

(i) The selection of tools were governed by the consideration of their availability, (ii) Suitability to the sample, (iii) reliability and validity keeping in view these consideration.

(i) "Johnson Basketball test" was used to measure Basketball skills (field goal speech, accuracy level and dribbling sbility).

(ii) APPHER Youth Fitness Battery was used to measure from physical fitness variables (speed, strength, flexibility and agility).

c) Collection of data and administration of test

The selected sample for experimental group went through a circuit training programme for six weeks under the guidance of researcher. The training was done thrice a week i.e. on Monday, Wednesday and Friday.

The subject was tested before and after the experimental period of six week. After getting the data it was analysed statistically.

d) Statistically procedures

Keeping n view the objectives as well as design of the study the appropriate statistical technique such as t-test, SD and mean were used to analyse the data.

RESULT AND DISCUSSION

After going through the data of table 1 it was analysed that the 't' ratio (2.67) for field goal speed was significant at .01 level of confidence. It implied that there was significant difference between the mean score (5.80) of pre-test and mean score (6.80) for post-test on field goal speed test. The higher mean score of post-test show that the circuit training exercise had a positive effect on scoring capacity of the Basketball players.

From Table 1 it was discovered that the 't' ratio (4.40) for accuracy test was significant at .01 level of confidence. It implied that there was significant difference between the mean score (14.68) of pre-test and the mean score (16.68) of post-test on accuracy test. The higher mean value of post-test shows that the circuit training exercise had a positive effect on the scoring capacity of the Basketball players.

It was also found from Table 1 that the 't'-ratio (2.02) for dribbling ability was significant at .05 level of confidence. It implied that there was significant difference between the mean score (15.48) of pre-test and mean score (16.50) of post-test on dribbling ability. The higher mean value of post-test shows that the circuit training exercise had positive effect on dribbling ability of the Basketball players. All these skill of Basketball are related to the motor ability of the sports person. The studies by Sharma (1980) and Baljeet (2004) also found that the circuit motor ability can be improved through circuit training.

Table 2 indicates that the 't' ratio (2.30) for speed test was significant at .05 level of confidence. It implied that there was significant difference between the mean score (7.16second) for pre-test and (6.89) mean score of post-test on speed. The higher mean value of post-test indicates that the circuit training exercise had a positive effect on speed of the Basketball players. Baljeet (2004) also supported the findings of present study.

Table 2 also shows that the 't'-ratio (3.37) for strength test was significant at .01 level of confidence. It implied that there was significant difference between the mean score (m11.10) for pre-test and (9.93) mean score of post-test. The higher mean value of post-test indicates that the circuit training exercise had a positive effect on strength ability of the Basketball players. Edward (1990), Olsen (1981) and Baljeet (2004) also found that circuit training improves strength of sports person.

It was also derived from table 2 that the 't'-ratio (4.73) for agility was significant at .01 level of confidence. It implied that there was significant difference between the mean score (16.51) of pre-test and the mean score (15.49) of post-test on agility. The higher mean score of post-test shows that the circuit training exercise had a positive effect on agility of the Basketball players.

CONCLUSION

It was discovered from the present study that circuit training have a positive significant effect on the Basketball skills such as field goal, accuracy level, and dribbling ability and even on physical fitness variables such as speed, strength and agility of Basketball players. No significant effect of circuit training was found on flexibility of Basketball players.

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Table 1: Mean SD and t-ratio pre and post-test on Basketball skills.

Basketball skills		N	Mean (M)	Standard deviation (SD)	t-ratio
Goal Field Speed	Pre test	50	5.8	1.90	2.67**
	Post test	50	6.8	1.82	
Accuracy	Pre test	50	14.68	2.18	4.40**
	Post test	50	16.68	2.35	
Dribbling	Pre test	50	15.48	2.41	2.02*
	Post test	50	16.5	2.61	

** Significant at 0.01 level, * significant at 0.05 level

Table 2: Mean SD and t-ratio pre and post-test on physical variables.

Basketball skills		N	Mean (M)	Standard deviation (SD)	t-ratio
Speed	Pre test	50	7.16	0.58	2.30**
	Post test	50	6.89	0.60	
Strength	Pre test	50	9.93	1.75	3.37**
	Post test	50	11.1	1.72	
Agility	Pre test	50	16.51	1.10	4.73*
	Post test	50	15.49	1.04	

** Significant at 0.01 level, * significant at 0.05 level