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Effect of Circuit Training on Motor Fitness Components and Skill ability of Kabaddi players

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Abstract

This paper sheds light on the effect of circuit training on motor fitness components and skill ability of Kabaddi players. 30 male Kabaddi players of age group 17-23 who represented their college in inter collegiate tournaments were selected randomly as subjects. The subjects were divided randomly into two equal groups of 15 (fifteen) subjects in each group i.e; experimental group and control group. The experimental group underwent to practice selected training programme for six days a week for 60 (sixty) minutes each day, for the period of eight weeks. The control group did not practice any specific training during the period of eight weeks. Data collected was analyzed at 0.05 level of significance and 't' test was computed for finding out the effect of circuit training on motor fitness components and skill ability of Kabaddi players. The study showed significant effect of circuit training on motor fitness components and skill ability of Kabaddi players.

Keywords: Agility, Balance, power, playing ability and speed.

Introduction

Now a day, physical education is a partial part of most school curriculum, and in the discipline of physical education a number of colleges and Universities offer degrees. Physical education classes generally include formal exercises, sports, and contests; although an increasing emphasis has been given to such Asian techniques as yoga, karate and judo. It is also concerned with increasing the public's knowledge and appreciation of physical education. As per the Kabaddi it is team contact sport that was originated In Indian subcontinent, as a form of recreational combat training. In 19th century it is found that the game Kabaddi in name of Hututtu, Edugudu, Zabarganana, Hadudu became popular throughout length and breadth of India. The origin of the game dates back to pre-historic times played in different forms. The modern Kabaddi game was played all over India and some parts of south Asia from 1930. The first known framework of the rules of Kabaddi as indigenous sports of India was prepared in Maharashtra in the year 1921 for Kabaddi competitions on the pattern of sanjeevani.

Two teams occupy opposite halves of a field and take turns sending a "raider" into the other half, in order to win points by tagging or wrestling members of the opposing team; the raider then tries to return to his own half, holding his breath and chanting "kabaddi, kabaddi, kabaddi" during the whole raid. The name often chanted during game derives from a Tamil word meaning "holding of hand" which is indeed the crucial aspect of paly. It is the national game of Bangladesh and the state game of Tamil Nadu, Punjab and Andhra Pradesh in India.

Methodology

30 male Kabaddi players from Shri Shivaji College of Physical Education Amravati, who represented their colleges in inter collegiate tournaments from affiliated colleges of Sant Gadge Baba Amravati University as subjects. The age of the subjects ranges from 17-23 years. The subjects were divided randomly into two groups viz. experimental group and control group, each group consisting of 15 subjects.

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The training protocol includes 8 week training program, 6 days a week for 60 minutes each day. To determine the significance of difference between the means of experimental group and control group 't' test was employed for pre test and post test separately for each variable. The collected data were analyzed by using (SPSS) statistical package for social sciences. To test the hypothesis, the level of significance was set at 0.05.

Variable	Test	Equipment	Unit
Balance	Stork Stand Test	Stopwatch	Mins and Seconds
Power	Standing Broad Jump	Measurement Tape	Mts and CMS.
Speed	50 yard Dash	Stop watch	Seconds
Agility	Shuttle Run	Stopwatch	Seconds
Playing Ability	Hand touch Back Kick and Toe Touch Test	stopwatch	Seconds

Training Schedule

The training was imparted for period of 6 week, for nearly 60 minutes each day. The programme imparted in following.

Warming up - 10 minutes
Training – 40 minutes
Limbering down – 10 minutes

As per the interval repetition method this exercising in each station for maximum (30 sec) followed by rest pause (30 sec) before going on to the next station. First round was finished at 10th minutes then 5 minute rest will be given.

Second round was finished 25th minute then 5minute rest will be given.
Third round was finished at 40th minute. Then the subjects were gone to the limbering down.
The following training schedules programmed are as under.

Circuit Training Programme	Ist and 2nd week	3rd and 4th week	5th and 6th week
Toe touch	30 sec	30 sec	30 sec
Jumping jack	30 sec	30 sec	30 sec
High knee action	30 sec	30 sec	30 sec
Half squat	30 sec	30 sec	30 sec
Jump over the cone	30 sec	30 sec	30 sec
Skipping hope kick	30 sec	30 sec	30 sec
Sideward running	30 sec	30 sec	30 sec
Calf raises	30 sec	30 sec	30 sec
Ring drill	30 sec	30 sec	30 sec

Collection of Data

To find out the effect of circuit training on motor fitness components and skill ability of Kabaddi players the data were collected before and after the training programme of eight weeks and data collected through standard procedure. After the collection of data employed 't' test to see the significant difference between the experimental and control groups.

Table-1

Comparison of Mean differences between the pre testand post test of control group and Experimental group.

	Group		Mean	S.D	O.T	M.D
Balance	Control Group	Pre test	1.32	0.30	0.17	0.02
		Post test	1.30	0.34		
	Experimental Group	Pre test	1.54	0.40	1.28	0.18
		Post test	1.72	0.35		
Power	Control Group	Pre test	1.35	0.33	0.21	0.03
		Post test	1.32	0.37		
	Experimental Group	Pre test	1.29	0.29	2.4	0.24
		Post test	1.53	0.26		
Speed	Control Group	Pre test	11.10	1.93	0.04	0.03
		Post test	11.07	2.07		
	Experimental Group	Pre test	9.77	1.03	1.05	0.40
		Post test	9.37	1.06		
Agility	Control Group	Pre test	13.58	0.70	0.31	0.08
		Post test	13.66	0.75		
	Experimental Group	Pre test	13.10	0.90	1.7	0.51
		Post test	12.59	0.76		
Playing Ability	Control Group	Pre test	12.90	1.04	0.19	0.07
		Post test	12.97	0.96		
	Experimental Group	Pre test	11.65	0.62	2.15	0.58
		Post test	11.07	0.70		

Table-2

Balance between the post test of control group and Experimental group.

Group	Mean	S.D	M.D	O.T	T.T
Control Group	1.30	0.34	0.42	3.23	2.04
Experimental Group	1.72	0.35			

Table- 2 shows that the mean of post test experimental and control groups are 1.30 and 1.72 respectively and their calculated 't' value is 3.23 which was greater than that of tabulated value 't' 2.04 (28 df at 0.05 level of confidence). Hence, this table indicated that there was significant difference found between experimental and control groups. The mean values of experimental and control group on balance have been graphically presented in the graph-I.

Graph I: Graphical Representation of Mean Difference between Pre and Post Test of Control and Experimental Group for Balance.

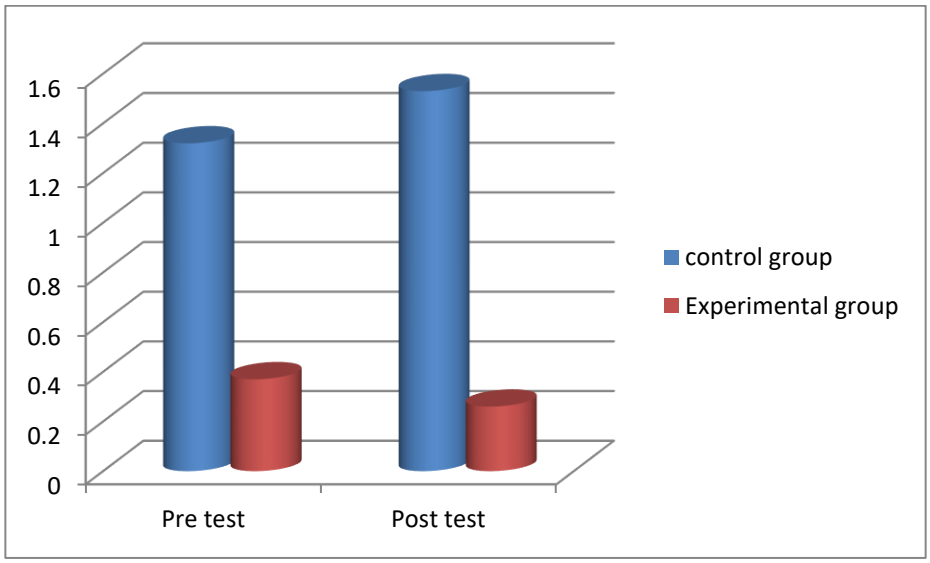


Table-3

Power between post test of control group and Experimental group.

Group	Mean	S.D	M.D	O.T	T.T
Control Group	1.32	0.37			
Experimental Group	1.53	0.26	0.21	1.75	2.04

Table- 3 shows that the mean of post test experimental and control groups are 1.32 and 1.53 respectively and their calculated 't' value is 1.75 which was less than that of tabulated value 't' 2.04 (28 df at 0.05 level of confidence). Hence, this table indicated that there was significant difference found between experimental and control groups. The mean values of experimental and control group on power have been graphically presented in the graph-II.

Graph II: Graphical Representation of Mean Difference between Pre and Post Test of Control and Experimental Group for power.

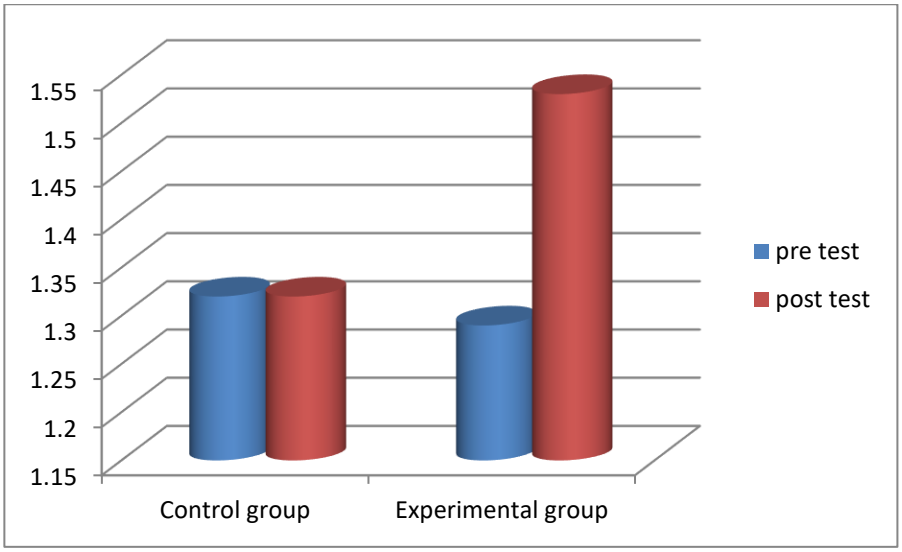


Table-4

Speed between posttest of control group and Experimental group.

Group	Mean	S.D	M.D	O.T	T.T
Control Group	11.07	1.93	1.7	2.98	2.04
Experimental Group	9.37	1.06			

Table- 4 shows that the mean of post test experimental and control groups are 11.07 and 9.37 respectively and their calculated 't' value is 2.98 which was greater than that of tabulated value 't' 2.04 (28 df at 0.05 level of confidence). Hence, this table indicated that there was significant difference found between experimental and control groups. The mean values of experimental and control group on speed have been graphically presented in the graph-III.

Graph III: Graphical Representation of Mean Difference between Pre and Post Test of Control and Experimental Group for speed.

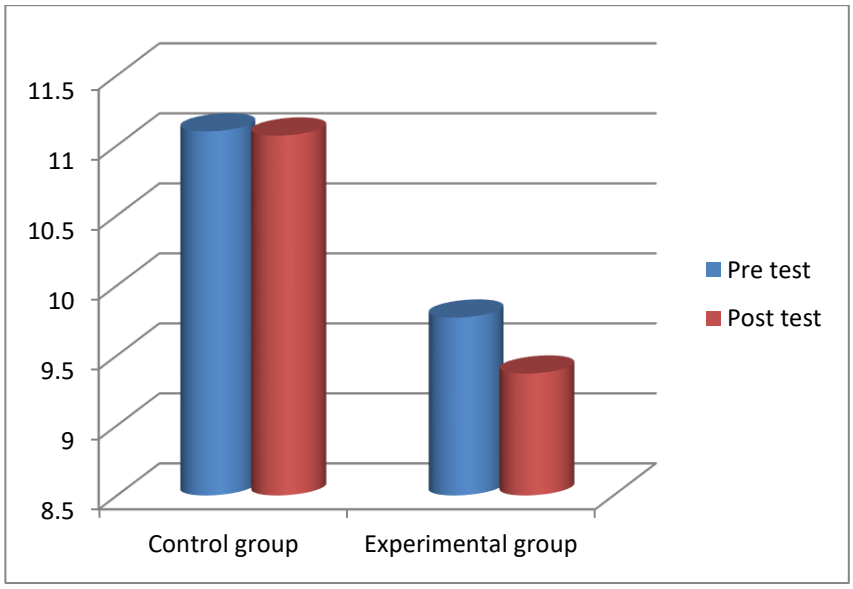


Table-5

Agility between post test of control group and Experimental group.

Group	Mean	S.D	M.D	O.T	T.T
Control Group	13.66	0.7	1.07	4.11	2.04
Experimental Group	12.59	0.76			

Table-5 shows that the mean of post test experimental and control groups are 13.66 and 12.59 respectively and their calculated 't' value is 4.11 which was greater than that of tabulated value 't' 2.04 (28 df at 0.05 level of confidence). Hence, this table indicated that there was significant difference found between experimental and control groups. The mean values of experimental and control group on Agility have been graphically presented in the graph-IV.

Graph IV: Graphical Representation of Mean Difference between Pre and Post Test of Control and Experimental Group for Agility.

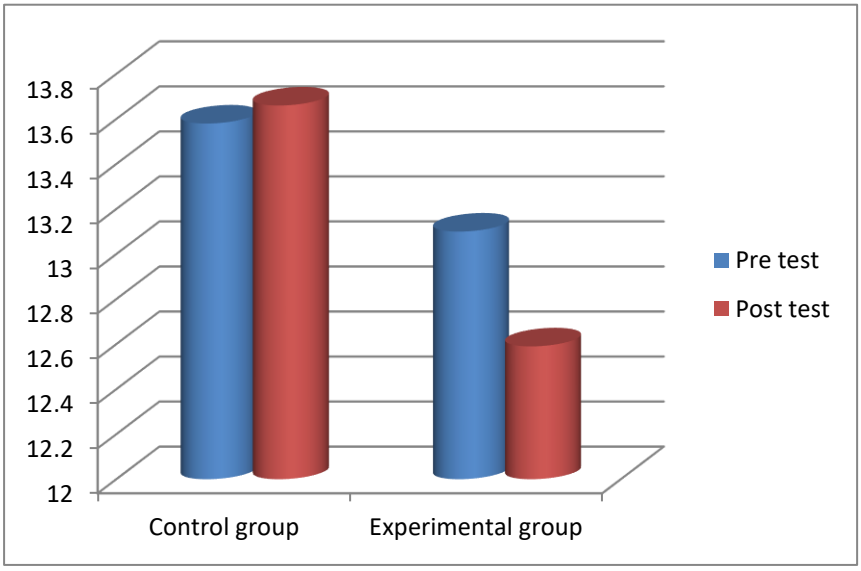


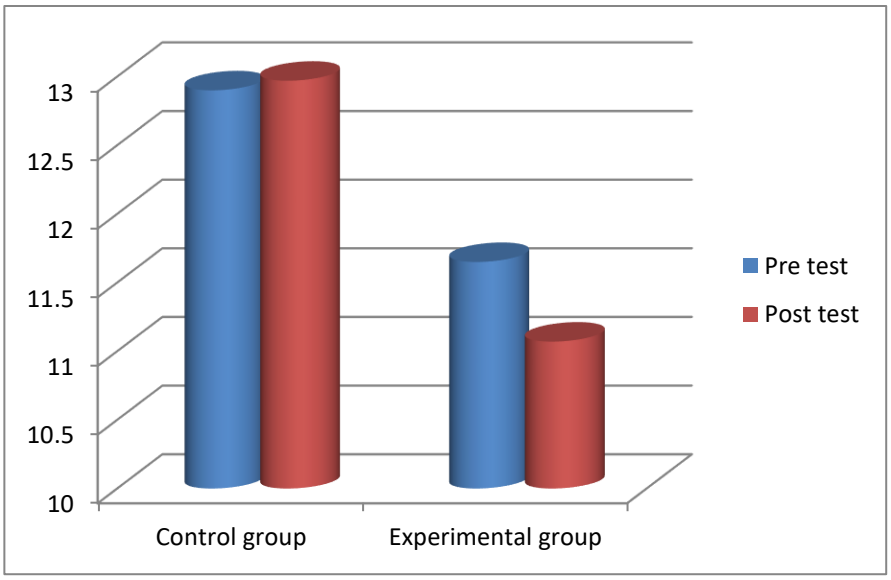
Table-6

Playing ability between post test of control group and Experimental group

Group	Mean	S.D	M.D	O.T	T.T
Control Group	12.97	1.04	1.9	5.94	2.04
Experimental Group	11.07	0.70			

Table- 6 shows that the mean of post test experimental and control groups are 12.97 and 11.07 respectively and their calculated 't' value is 5.94 which was greater than that of tabulated value 't' 2.04 (28 df at 0.05 level of confidence). Hence, this table indicated that there was significant difference found between experimental and control groups. The mean values of experimental and control group on playing ability have been graphically presented in the graph-V.

Graph V: Graphical Representation of Mean Difference between Pre and Post Test of Control and Experimental Group for playing ability.



Findings

1. From the selected circuit training improved the balance as measured by stork stand test.
2. The circuit training programme enhances the leg power as measured by standing broad jump test.
3. In case of speed as measured by 50 yard dash shows improvement in experimental group due to circuit training.
4. In case of agility as measured by shuttle run shows improvement in experimental group.
5. There is significant improvement in playing ability due to circuit training.

Conclusion

After 6-weeks training the results were statistically analyzed and the following conclusion was drawn.

1. The circuit training has showed significant improvement in balance of kabaddi players.
2. The circuit training has showed significant improvement in power of kabaddi players.
3. The circuit training has showed significant improvement in speed of kabaddi players.
4. The circuit training has showed significant improvement in Agility of kabaddi players.
5. The circuit training has showed significant improvement in playing ability of kabaddi players.

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