

A Study of the Effect of Circuit Training on Flexibility and Gymnastics Skills of Boys

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Introduction:

Gymnastics is considered as the mother of discipline of all games and sports. Its importance was well understood even by the ancient Greeks and this art is considered as their legacy to the world. It was even introduced as an important item in the modern Olympic Games when they were revived. Systematic practice of gymnastics promotes general physical well being and gymnastics aims at the all round harmonious mental and physical development of the individual and is the best tonic for one's body, mind and soul. Gymnastics is a sport involving the performance of sequences of movements that require strength, flexibility and kinesthetic awareness. It was developed from fitness exercises used by the ancient Greek soldiers for incorporating cavalry skills concerning mounting and dismounting a horse and as well as circus performance skills. Circuit training is an excellent way to improve flexibility, speed, strength, co-ordination, and stamina. Circuits can be organized to exercises all the fitness components in short period of time.

Objectives of the Study:

1. To determine whether flexibility can be improved with the help of circuit training.
2. To find whether the selected gymnastics skills of floor exercise can be improved with the help of circuit training.

Hypotheses:

H₁: Circuit Training may improve the flexibility of boys between 10 to 12 years.

H₂: Circuit Training may improve selected Gymnastics skills in floor exercise of boys between 10 to 12 years.

Design of the Study:

Forty boys age ranging from 10 to 12 years were randomly selected from Ramkrishna Paramhansa Marg Municipal Marathi School, Bandra (East), Mumbai as subjects for this study. The selected forty subjects were divided into two equal groups, each consisting of 20 subjects. One group was treated as the Experimental group and the other as the Control group. All the subjects were found clinically normal. The experimental group under went 12 weeks of circuit training program for thirty minutes, three days in a week, where as the control group was kept sedentary. The Pre test and Post test were conducted for both the groups on flexibility and Gymnastics skills.

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Experimental and Control group means gain of Flexibility and Gymnastics Skill performance

The mean performance scores of the subjects for Flexibility and Gymnastics Skills of Experimental and Control group have been presented in table-1

Variables	Experimental Group				Control Group			
	Pre Mean	Post Mean	MD	't'	Pre Mean	Post Mean	MD	't'
Flexibility	6.21	6.90	0.69	8.95	6.17	6.17	0.00	0.03
Eye Hand Co-ordination	12.40	12.01	0.39	6.70	12.34	12.34	0.00	0.49
Eye Foot Co-ordination	17.15	16.14	1.01	12.02	17.10	17.00	0.10	0.60
Dynamic Balance	70.35	83.35	13.0	13.80	71.81	71.65	0.16	0.32
Gymnastic Floor Exercise	6.17	7.85	1.67	9.38	6.47	6.50	0.02	0.23

Significance at 0.05 level, where df=19, 't'=1.729

1. Result on the status of Flexibility (Sit and Reach test)

Result as Presented in table 1 revealed that Flexibility of Experimental Group of pre test (mean 6.21, $p < 0.05$) and post test (mean 6.90, $p < 0.05$) Mean Difference 0.69 with 8.95 't' value could significantly increase Flexibility as compared to the Control Group of pre test (mean 6.17, $p > 0.05$) and post test (mean 6.17, $p > 0.05$) Mean Difference 0.00 with 0.03 't' value has shown graphically in below. .

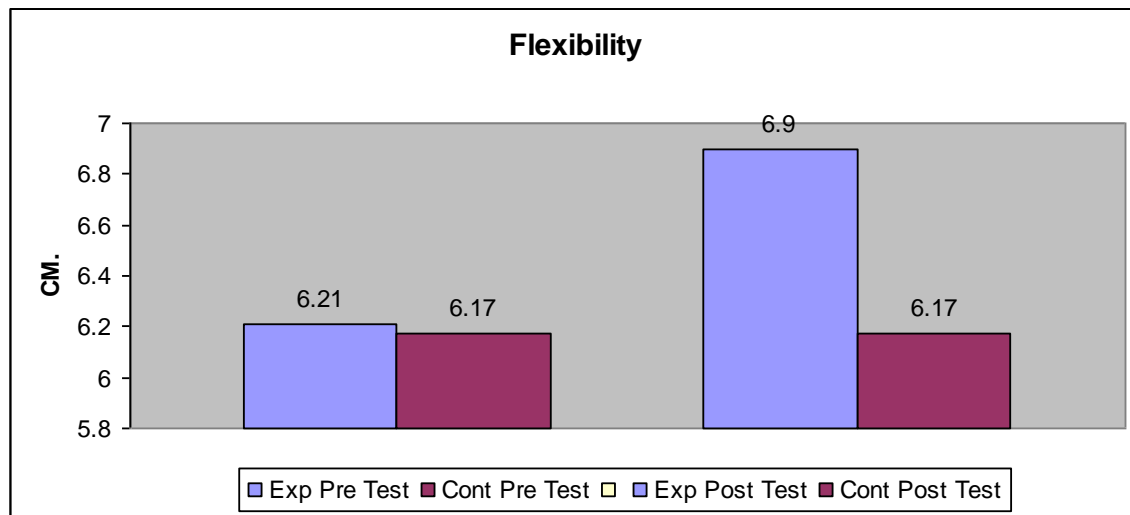


Fig: 1

Further the result revealed that circuit training could improve the Flexibility of subjects

2. Result on the status of Eye Hand Co-ordination (Ball Transfer)

Result as Presented in table 1 revealed that Eye Hand Co-ordination of Experimental Group of pre test (mean 12.40, $p < 0.05$) and post test (mean 12.01, $p < 0.05$) Mean Difference 0.39 with 6.70 't' value could significantly increase Eye Hand Co-ordination as compared to the Control Group of pre test (mean 12.34, $p > 0.05$) and post test (mean 12.34, $p > 0.05$) Mean Difference 0.00 with 0.49 't' value has shown graphically in fig: 2 below. .

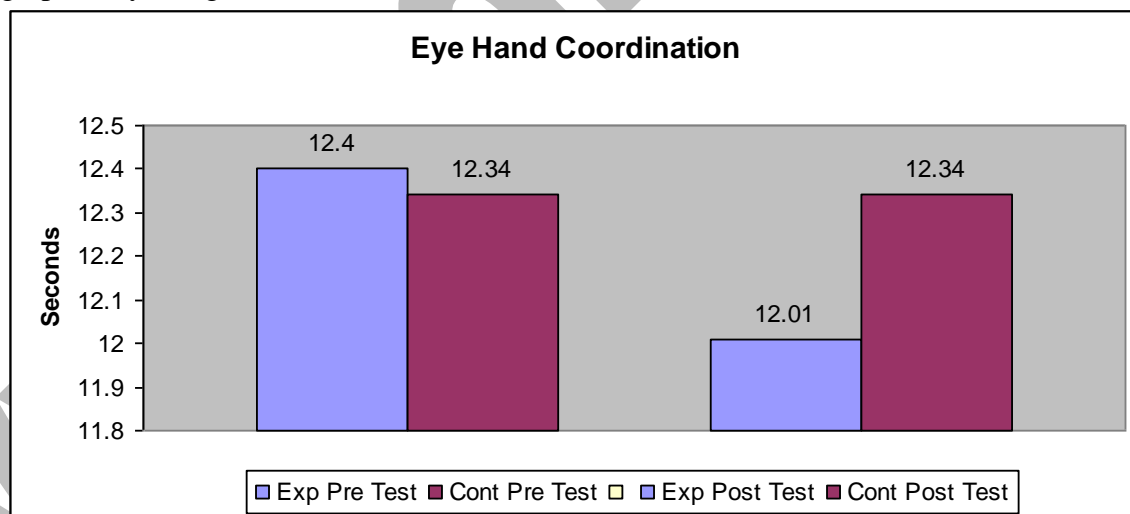


Fig: 2

Further the result revealed that circuit training could improve the Eye Hand Co-ordination of subjects

3 Result on the status of Eye Foot Co-ordination (Foot Mark Hop)

Result as Presented in table. 1 revealed that Eye Foot Co-ordination of Experimental Group of pre test (mean 17.15, $p < 0.05$) and post test (mean 16.14, $p < 0.05$) Mean Difference 1.01 with 12.02 't' value could significantly increase Eye Foot Co-ordination as compared to the Control Group of pre test (mean 17.10, $p > 0.05$) and post test (mean 17.00, $p > 0.05$) Mean Difference 0.10 with 0.60 't' value has shown graphically in fig: 3 below. .

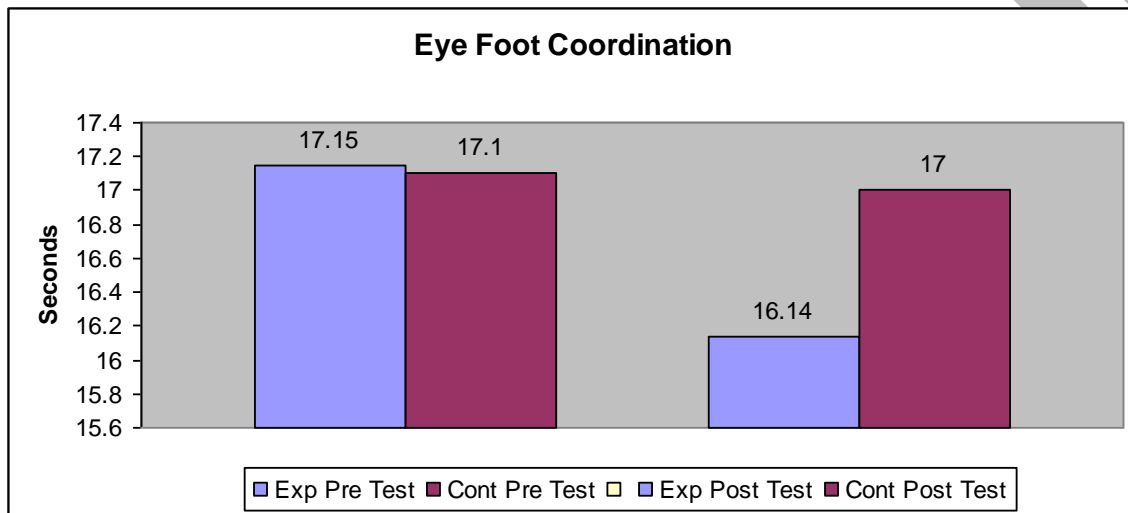


Fig: 3

Further the result revealed that circuit training could improve the Eye Foot Co-ordination of subjects

4. Result on the status of Dynamic Balance (Modified Bass Test)

Result as Presented in table 4.2 revealed that Dynamic Balance of Experimental Group of pre test (mean 70.35, $p < 0.05$) and post test (mean 83.35, $p < 0.05$) Mean Difference 13.0 with 13.80 't' value could significantly increase Dynamic Balance as compared to the Control Group of pre test (mean 71.81, $p > 0.05$) and post test (mean 71.65, $p > 0.05$) Mean Difference 0.16 with 0.32 't' value has shown graphically in fig: 4 below. .

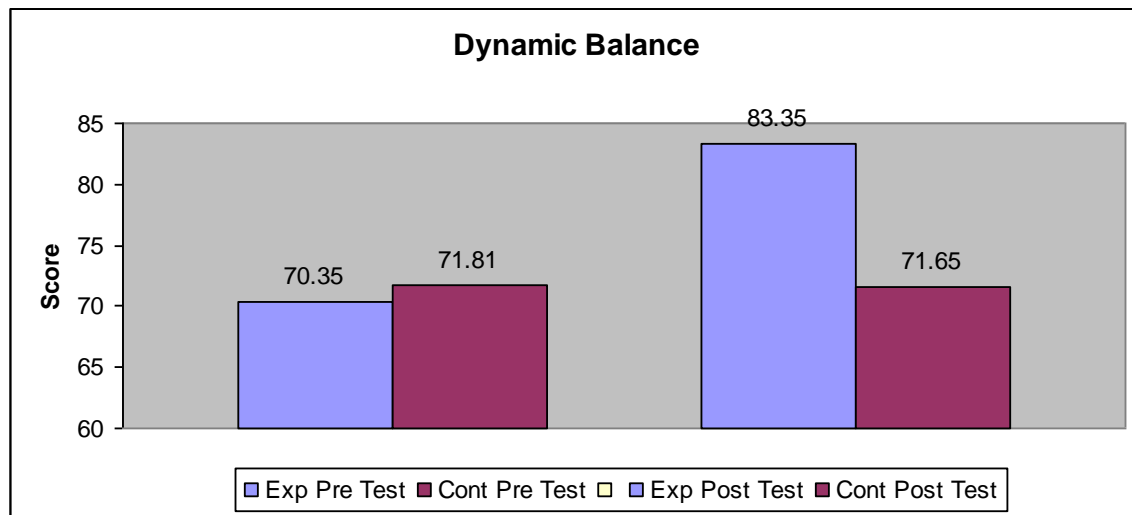


Fig: 4

Further the result revealed that circuit training could improve the Dynamic Balance of subjects.

5. Result on the status of Gymnastic Floor Exercise (performance score)

Result as presented in table .1 revealed that Gymnastic Floor Exercise of Experimental Group of pre test (mean 6.17, $p < 0.05$) and post test (mean 7.85, $p < 0.05$) Mean Difference 1.67 with 9.38 't' value could significantly increase Gymnastic Floor Exercise as compared to the Control Group of pre test (mean 6.47, $p > 0.05$) and post test (mean 6.50, $p > 0.05$) Mean Difference 0.02 with 0.23 't' value has shown graphically in fig: 5 below. .

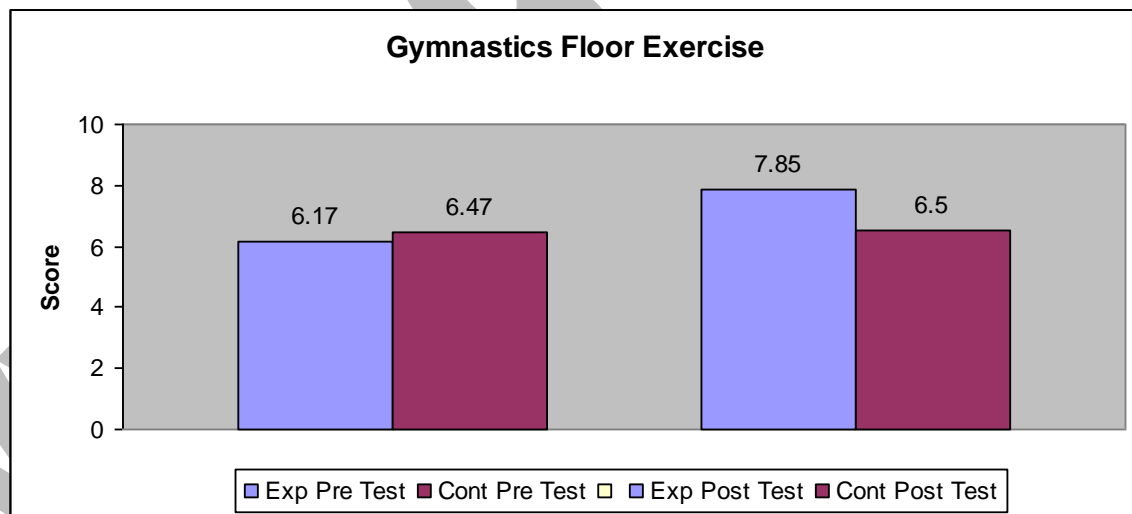


Fig: 5

Further the result revealed that circuit training could improve the Gymnastic Floor Exercise of subjects

Conclusion:

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While concluding, it may be stated that, within the limits of the present study, selected circuit training exercises contributed positively towards the improvement of Flexibility, Coordination, Dynamic Balance and gymnastics skill ability of school boys.

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