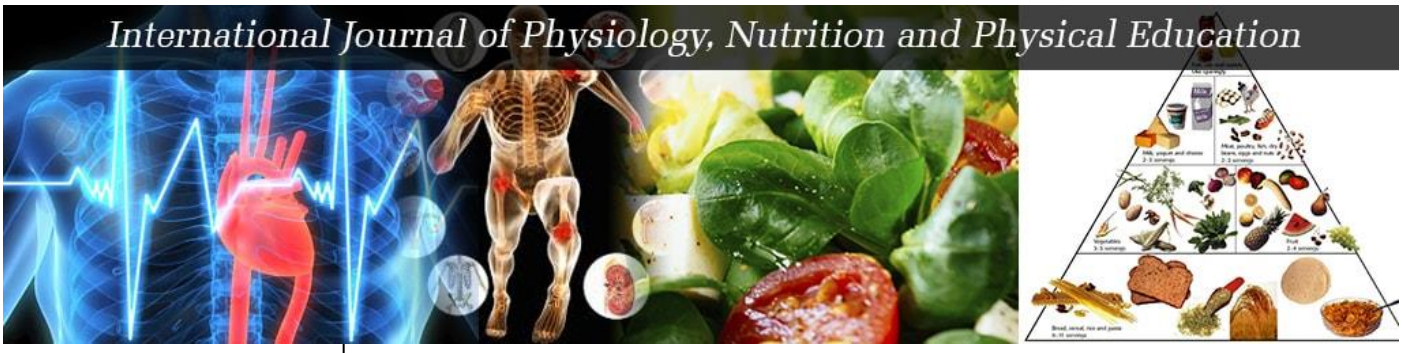

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Effect of six weeks circuit training on selected motor abilities of the male Kho-Kho players

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Abstract
The purpose of the present study was to determine the effect of six weeks circuit training on selected motor abilities of the male Kho-Kho players. The researcher has selected forty inter collegiate Kho-Kho men players at random, their age ranged from 18 to 20 years. The subjects selected for the study were divided into two equal groups and designated as experimental group 'A' (N1=20) and control group 'B' (N2=20). Each and every one the subjects were informed about the aim of the investigation. The subjects from Group-A were subjected to six week of circuit training programme. Group-B acted as control who did not contribute any particular training separately from the normal curricular activities. The statistical analysis and interpretation was done on the basis of data collection the data was analyzed and interpreted by using analysis of covariance (ANCOVA) method. The level of significance was kept at 0.05 to testing the hypothesis.
Result: Circuit training group reveals significant improvement pre-test and post test period on speed, agility and strength variables when compared to the control group.

Keywords: Circuit training, motor abilities, Kho-Kho players

Introduction
Circuit training includes Strength and Endurance Training, which increases the strength and strength of the muscles. Apart from these things, you get many health benefits from exercising in fast pace and without rest. Circumstance training involves endurance training and strength training, in which strength of the muscles is strengthened along with strength. Everyone has a different approach to achieving fitness, if someone values endurance training, and then emphasizes stress training. But by practicing circuit training, you get the benefit of these two workouts. Simultaneously, you get many benefits from practicing circuit training.

Methodology
The researcher has selected forty inter collegiate Kho-Kho men players at random, their age ranged from 18 to 20 years. The subjects selected for the study were divided into two equal groups and designated as experimental group 'A' (N1=20) and control group 'B' (N2=20). Each and every one the subjects were informed about the aim of the investigation. The subjects from Group-A were subjected to six week of circuit training programme. Group-B acted as control who did not contribute any particular training separately from the normal curricular activities. The programme starts through warm-up exercises for 15 minutes (jogging, running, stretching exercises etc.), then Squat Jumps, Tuck Jumps, Jumping Jacks, Skipping, Squat Thrusts and Push-Ups were selected for the training schedule. Intensity: The experimental group worked 10-20 seconds on every exercise with recovery of 10 to 20 seconds. They set 2 to 4 sets of between 2 to 3 minutes between each set.

Equipments used for collection of data

Sr. No.	Variables	Methods	Equipment/ Test items	Unit/ Measures
02.	Speed	50 meters run	Electronic stopwatch, starting Clapper.	Seconds
03.	Agility	Shuttle run	Playfield area, measuring tape, stopwatch, whistle and two wooden blocks.	Seconds
03.	Strength	Push-ups	Playfield area	Numbers

Statistical Analysis

The statistical analysis and interpretation was done on the basis of data collection the data was analyzed and interpreted by using analysis of covariance (ANCOVA) method. The level of significance was kept at 0.05 to testing the hypothesis.

Table 1: Analysis of covariance of speed between circuit training group and control group

Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Intercept	.004	1	.004	.093	.762
Speed-Pre	10.490	1	10.490	256.997*	.000
Group	.268	1	.268	6.569*	.015
Error	1.510	37	.041		
Total	1816.203	40			

The result of analysis of covariance for speed between circuit training and control group is presented in Table 1. Since the computed value of F ratio was 6.569, which was significantly higher than the table value. Therefore, there is need of post hoc test.

Table 2: Paired mean difference of speed between circuit training group and control group

Paired Adjusted Final Group Means		Mean Difference	Std. Error	Sig
Control	Experimental			
6.798	6.634	.165*	.064	.015

Table-2, the mean difference values of circuit training group and control group (.165) reveal that there is significant difference in speed as the obtained mean difference values is found to be significant at .05 level of significance.

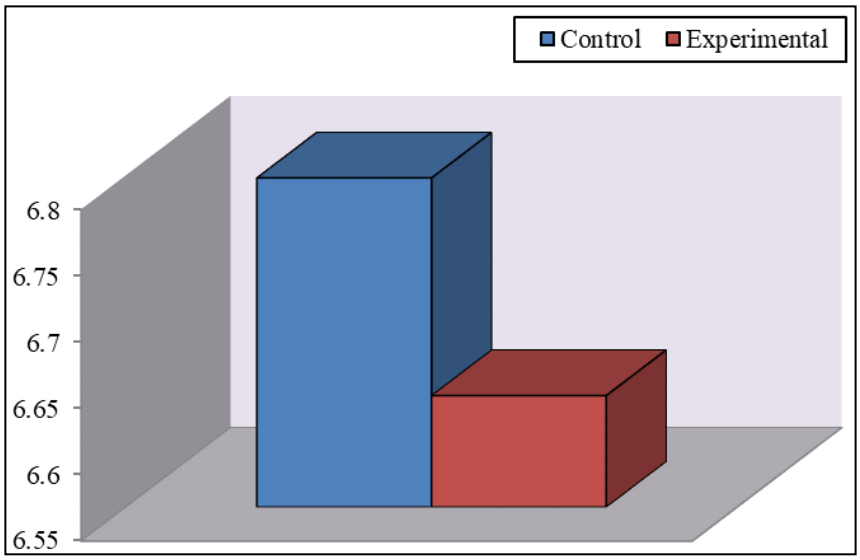

Fig 1: Adjusted Post -Test Means of speed of Control group and Experimental Group

Table 3: Analysis of covariance of agility between circuit training group and control group

Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Intercept	.333	1	.333	6.120*	.018
Agility Pre	4.482	1	4.482	82.259*	.000
Group	.934	1	.934	17.140*	.000
Error	2.016	37	.054		
Total	3305.528	40			

The result of analysis of covariance for agility between circuit training and control group is presented in Table 3. Since the computed value of F ratio was 17.140, which was significantly higher than the table value. Therefore, there is need of post hoc test.

Table 4: Paired mean difference of agility between circuit training group and control group

Paired Adjusted Final Group Means		Mean Difference	Std. Error	Sig
Control	Experimental			
9.241	8.912	.329*	.079	.000

Table-4, the mean difference values of circuit training group and control group (.329) reveal that there is significant difference in agility as the obtained mean difference values is found to be significant at .05 level of significance.

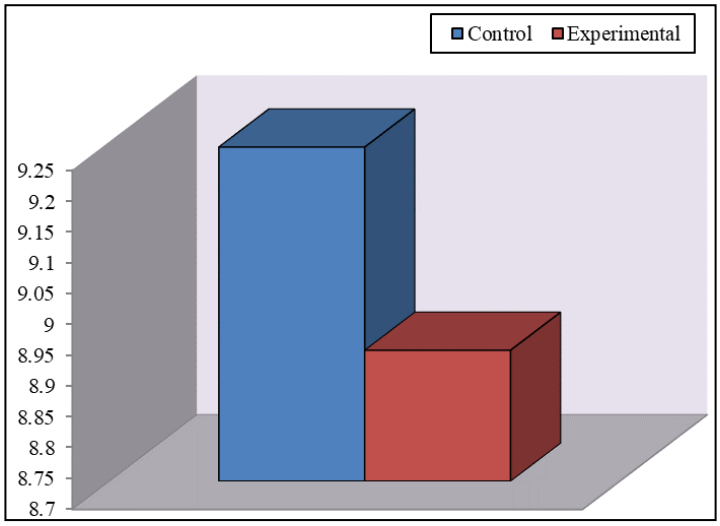

Fig 2: Adjusted Post-Test Means of agility of Control group and Experimental Group

Table 5: Analysis of covariance of strength between circuit training group and control group

Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Intercept	46.185	1	46.185	5.364*	.026
Strength-Pre	1242.570	1	1242.570	144.313*	.000
Group	90.978	1	90.978	10.566*	.002
Error	318.580	37	8.610		
Total	56791.000	40			

The result of analysis of covariance for strength between circuit training and control group is presented in Table 5. Since the computed value of F ratio was 10.566, which was significantly higher than the table value. Therefore, there is need of post hoc test.

Table 6: Paired mean difference of strength between circuit training and control group

Paired Adjusted Final Group Means		Mean Difference	Std. Error	Sig
Control	Experimental			
35.617	38.633	3.016*	.928	.002

Table-6, the mean difference values of circuit training group and control group (3.016) reveal that there is significant difference in strength as the obtained mean difference values is found to be significant at .05 level of significance.

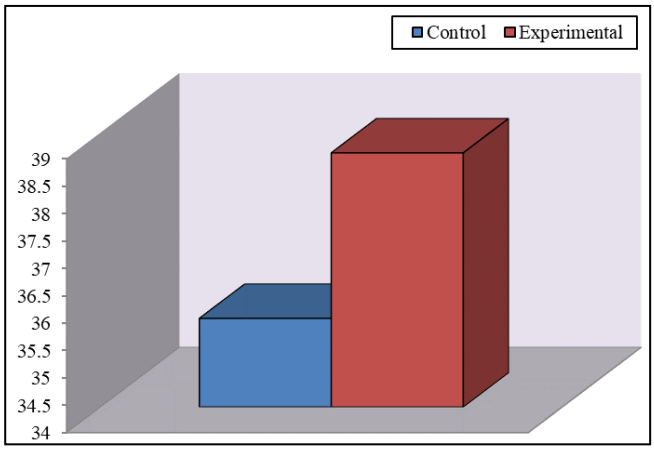

Fig 3: Adjusted Post-Test Means of strength of Control group and Experimental Group

Conclusion

From the analysis of the data the following conclusions are drawn.

Circuit training group reveals significant improvement pre-test and post test period on speed, agility and strength variables when compared to the control group. As a more beneficial and effective than general training program, there is a positive impact on the identification of the circuit training program and the agility, speed and strength performance.

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