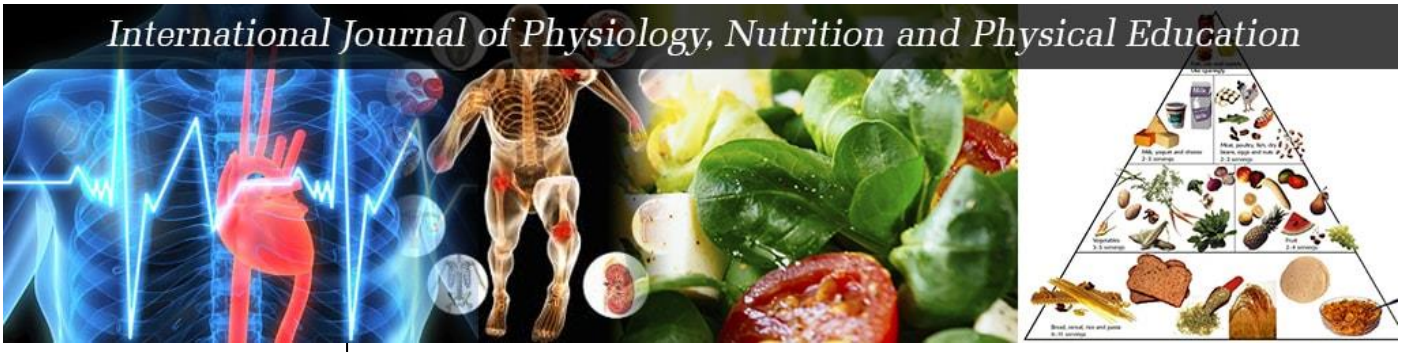

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Impact of circuit training on motor ability among inter-collegiate women football players

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Abstract
The study was designed to investigate the Impact of circuit training on motor ability among inter-collegiate women football players. To investigate the study, thirty male tennis players were randomly selected from Bharathiar University, Coimbatore and their age were ranged between 21 and 24 years. The subjects were randomly assigned to two equal groups (n=15). All the subjects were divided in to two groups with 15 subjects each as experimental and control group. Group-I underwent circuit training for a period of 12 weeks and group-II acted as control who did not participate in any special training other than the regular routine. The motor ability variables such as speed and agility were selected as dependent variables. Pre and post-test random group design was used for this study. The dependent 't' test was applied to determine the difference between the means of two groups. To find out whether there was any significant difference between the experimental and control groups. To test the level of significant of difference between the means 0.05 level of confidence was fixed. The result of the study shows that, there was a significant improvement takes place on speed and agility inter-collegiate women football players due to the impact of 12 weeks of circuit training and also concluded that, there was a significant difference exists between experimental and control groups in speed and agility. The control group did not improve the selected criterion variables.

Keywords: Circuit training, speed and agility

Introduction
Circuit training is an efficient and challenging form of conditioning. It works well for developing strength, endurance (both aerobic and anaerobic), flexibility and coordination. Its versatility has made it popular with the general Public right through to elite athletes. For sports men and women, it can be used during the closed season and early pre-season to help develop a solid base of fitness and prepare the body for more stressful subsequent training. Circuit training is an effective organizational form of doing physical exercises for improving all physical fitness components. Before and after training, the initial and final tests were conducted for the variables such as speed, agility, power, co-ordination, static balance and dynamic balance for the experimental and control groups. Circuit training is an exercise program that develops overall fitness. Performed regularly, circuit training will simultaneously improve muscular strength, endurance, cardiovascular fitness, and flexibility. Circuit training was invented in 1953 as an efficient way for coaches to train many athletes in a limited amount of time with limited equipment. The exerciser moved through a series of weight training or calisthenics arranged consecutively. It was a fast-paced workout of 15 to 45 seconds per station with little (15 to 30 seconds) or no rest between stations. Today, this is known as "circuit weight training". Research has shown that it can increase muscular strength and endurance. There is a mild improvement in aerobic stamina but only if the rest periods are kept very short.

Methodology
The purpose of the study was to find out the Impact of circuit training. To achieve the purpose of the study, thirty inter-collegiate women football players were Bharathiar University, Coimbatore. The subjects were randomly assigned in to two equal groups namely, circuit training group CTG) (n=15) and Control group (CG) (n=15). A pilot study was conducted to assess the initial capacity of the subjects in order to fix the load.

The respective training was given to the experimental group the 3 days per weeks for the training period of 12 weeks. The control group was not given any sort of training except their routine.

Design

To evaluate skill performance variable speed was 50mts dash test score in second. Agility was shuttle run test score in second. The parameters were measured at baseline and after 12 weeks of circuit training were examined.

Statistical Analysis

The collected data before and after training period of 12 weeks on the above said variables due to the impact of circuit training was statistically analysed with 't' test to find out the significant improvement between pre and post-test. In all cases the criterion for statistical significance was set at 0.05 level of confidence. (P<0.05)

Table I: Computation of 'T' Ratio on experimental group and Control group selected motor ability variables of inter-collegiate women football players.

Group	Variables		Mean	N	Std. Deviation	Std. Error Mean	t ratio
Experimental Group	Speed	Pre	7.09	15	0.41	0.03	4.69*
		Post	6.94	15	0.32		
	Agility	Pre	20.71	15	0.62	0.4	8.03*
		Post	19.99	15	0.70		
Control Group	Speed	Pre	7.10	15	0.21	0.12	0.21
		Post	7.1	15	0.39		
	Agility	Pre	20.73	15	1.52	0.41	2.08
		Post	20.75	15	1.65		

*Significant level 0.05 level degree of freedom (2.14, 1 and 14)

Table I reveals the computation of mean, standard deviation and't' ratio on selected motor ability variables namely speed and agility of experimental group. The obtained 't' ratio on speed and agility were 4.69 and 8.03 respectively. The required table value was 2.14 for the degrees of freedom 1and 14 at the 0.05 level of significance. Since the obtained 't' values were greater than the table value it was found to be statistically significant. Further the computation of mean, standard deviation and 't' ratio on selected motor ability variables namely speed and agility of control group. The obtained 't 'ratio on speed agility were 1.24 and 0.39 respectively. The required table value was 2.14 for the degrees of freedom 1and 14 at the 0.05 level of significance. Since the obtained 't' values were lesser than the table value it was found to be statistically not significant.

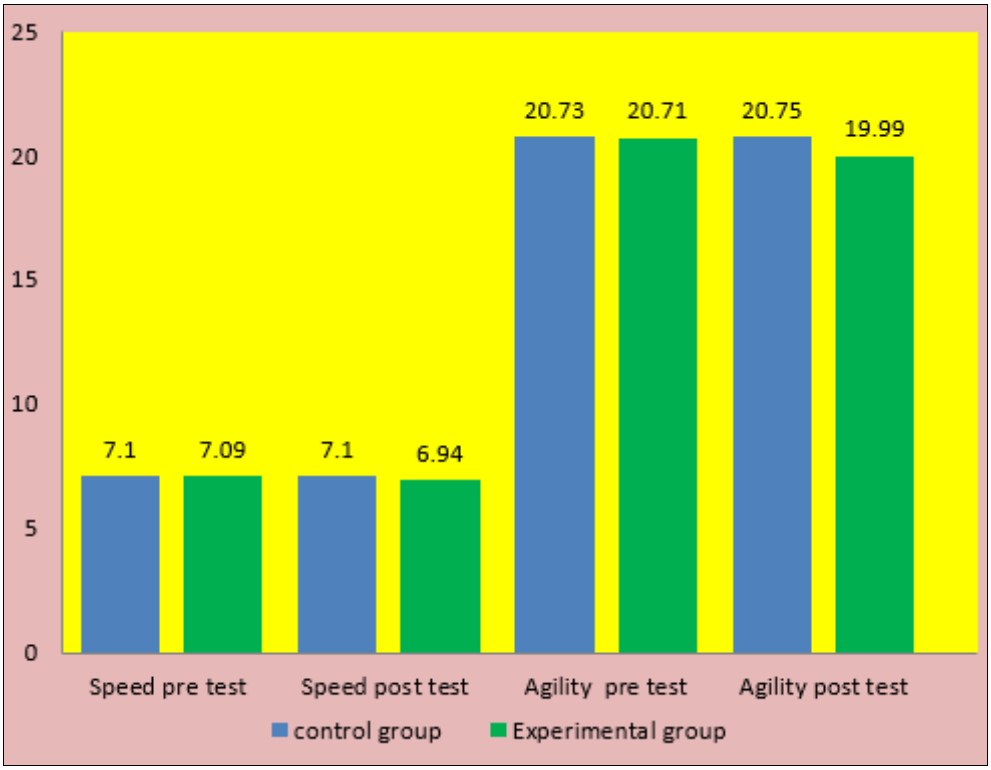

Fig 1: Motor ability

Discussion and Findings

The result of the present showed the impact of circuit training on motor ability variables of inter-collegiate women football players. And there was a difference between experimental group and control group. The findings of the present study are in line with investigator referred in this study. Speed and agility developed due to the circuit training after 12 week training period Nandagopal (2019) [11] Impact of skill-based circuit training on physical fitness and skill performance parameters of women footballers. Praveen Kumar (2021) [12] Impact of circuit training on selected physical fitness among college level football players. Harpreet Singh 2022 [8] Effect

of circuit training program on selected motor abilities among university male. Gopinathan 2019 [10] Effect of circuit training on speed, agility and explosive power among inter collegiate handball players. (Suresh 2019) [9] Impact of Circuit Based Skill Training on Skill Performance of Women Footballers. From the result of the present study, it is speculated that the observed changes in speed agility may properly designed Circuit training which are suitable for inter-collegiate women football players.

Conclusion

Based on the result of the study it was concluded that the 12 weeks of circuit training have been significantly improved speed and agility among women football players. From the findings it is postulated that circuit training is suitable mode to bring out desirable changes over speed and agility among women football players.

Recommendation

The following recommendations have been drawn:

1. Circuit training may be considered as a vital part of the physical education programmed in all Universities to improve the speed of the students.
2. Circuit training may be included in the training schedule of the speed, Agility and Endurance with suitable exercises along with other training methods.
3. This study may be conducted in a more elaborate and extensive manner to cover different age groups and sex.

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