

EFFECT OF TEN WEEKS CIRCUIT TRAINING AND AEROBIC EXERCISES ON ENDURANCE OF GYMNASTS


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The Present study was find out effect of ten weeks circuit training and aerobics exercise on gymnasts. A number of 60 female gymnasts of state level belonging to Rohtakwere selected as a sample on the basis of random sampling method. Experimental method has been used into this study. The selected groups have been divided into the three groups i.e. group A, B and C. A group has been given ten weeks circuit training treatment. Group B has been given ten weeks circuit training treatment. Group B has been given ten weeks aerobics exercise and group C was control group. Endurance of the subject was measured by 600yard run/walk. Mean, standard deviation and 'Anova' test were used to analyses the data. The findings of the study revealed that there is a significant difference in endurance among three groups of Gymnasts after ten week training. Both the experimental groupes has better impact on endurance as compared togymnasts belonged to control group after ten weeks training.

Keywords: Gymnasts, Endurance, Circuit Training, Aerobic Exercises

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Introduction

In modern society, sports have a very important role to play. Much of the attraction of the sports comes from the wide variety of experience and feelings that result from participation, namely, joy, anguish, success, failure, pain, relief and a feeling of belonging. Sports is a social phenomenon by it helps the society to develop all necessary traits of personality these are required for the development of an individual. The sport of gymnastics, which derives its name from the ancient Greek word for disciplinary exercises, combines physical skills such as body control, coordination, dexterity, gracefulness, and strength with tumbling and acrobatic skills, all performed in an artistic manner. Gymnastics is performed by both men and women at many levels, from local clubs and schools to colleges and universities, and in elite national and international competitions. Physical fitness is one component of total fitness of an individual. Total fitness is a result of the genetic makeup and the interaction with the environment. The totally fit individual is psychologically stable, mentally alert, emotionally balanced and socially adjustable to different circumstances prevailing in the society. For successful motor sequence to achieve an accurate and efficient movement is needed whether it is a single effort as in a golf drive or a series of complex and rapidly changing movements as in basketball. We must have a broad base from the point of view of national health, certainly, there is a strong need that a common citizen be taken care of his physical well-being. Emerging vertically out of it, for highly competitive sports performances of course will be a continuous natural phenomenon in the coming years. As such it is a concern of education in achieving its goal of self - realization and development of individual abilities. Consequently

Physical Education with its common goals as that of Education should take up physical fitness and general motor ability as an essential objective in the achievement of individual physical well-being.

Gymnastics

The sport of gymnastics, which derives its name from the ancient Greek word for disciplinary exercises, combines physical skills such as body control, coordination, dexterity, gracefulness, and strength with tumbling and acrobatic skills, all performed in an artistic manner.

Gymnastics is performed by both men and women at many levels, from local clubs and schools to colleges and universities, and in elite national and international competitions.

Physical fitness

Physical fitness is one component of total fitness of an individual. Total fitness is a result of the genetic makeup and the interaction with the environment. The totally fit individual is psychologically stable, mentally alert, emotionally balanced and socially adjustable to different circumstances prevailing in the society.

Statement of the Problem

Effect of ten weeks circuit training and aerobic exercises on endurance of gymnasts

Objective

To compare the endurance among three groups of gymnasts after ten weeks training

Hypothesis

There will be no significant difference in endurance among three groups of gymnasts after ten weeks training.

Significance of the Study

The present study has taken into consideration a court game, Gymnast. Court games are unique in the sense they are played in a small area. It requires a high degree of short running and total body agility in order to gain good court position and compete with one's opponent on both offensive and defensive maneuvers. Competition is a fundamental feature of any sport and it is one type of human behavior also. Emphasis is needed on the development of personality traits and factors that influence performance in competition.

The proper physical development of young people is determined by the systematic performance of physical activities. Exercises performed by the elderly help to improve and sustain their health. The influence of different types of physical activity on body composition, muscle function, bones and joints is indisputable. It also shapes physical efficiency in different periods of ontogenesis. Much research has proven that appropriately selected physical activity decreases the risk of premature death and also helps prevent coronary artery diseases, high

Blood pressure, cancers and diabetes. Resistance training of inspiratory muscles can constitute one of the additional means supporting the circulatory-respiratory system of an athlete. Resistance exercise improves muscle mass, strength, endurance and physical fitness (Deschenes et al., 2002).

Methods

The methodology of this study consisted of experimental method for testing the effect of circuit training and aerobic exercise on cardiovascular endurance of gymnasts. The selected groups have been divided into three groups i.e. group A, B and C. A group has been given ten weeks circuit training treatment. Group B has been given ten weeks aerobic exercise and Group C was control group.

Tool Used

Endurance of the subject was measured by 600 Yard run/walk.

Statistical Techniques

Mean Standard deviation and 'ANOVA' Tests were used to analyze the data.

Table.1 Mean Standard Deviation scores of endurance among three groups of gymnasts after ten weeks training

Enclosed as Annexure 01

Table.2 ANOVA Table of endurance among three groups of gymnasts after ten weeks training

Enclosed as Annexure 02

From table.2, it is evident that F value of 23.717 with df (2, 57) is significant at 0.05 level of significance for the main effect of ten weeks training on gymnasts. This means that ten weeks training have a significant independent effect upon endurance of gymnasts. Therefore, null hypothesis "There will be no significant difference in endurance among three groups gymnasts after ten weeks training" is rejected. Therefore, it can be said that there is significant difference among the three groups. It means that various categories are not belonged to the same population with regard to their mean scores. The significant mean difference in endurance among three groups i.e., experimental group 1, experimental group 2 and control group have been calculated by using post-hoc test and presented in Table no..3.

Table.3 Post hoc table for the endurance among three groups of gymnasts after ten weeks training

Enclosed as Annexure 03

From the Post hoc comparison, it can be concluded that as regard to endurance, control group differed significantly with experimental group 1 and experimental group 2. So it can be stated that both the experimental groups were found better in endurance as compared to gymnasts belonged to control group after ten weeks training. It can be concluded that circuit training and aerobic training methods have better impact on endurance on gymnasts as compared to control group. It is also to be noted the both the experimental groups do not differ significantly and almost have same impact on endurance of gymnasts.

Findings

It was found that there is a significant difference in endurance among three groups of gymnasts after ten weeks training. Both the experimental groups were found better in endurance as compared to gymnasts belonged to control group after ten weeks training.

Recommendations

- In the present study it was concluded that for the 10 weeks training period, Physical and physiological variables were significantly improved. Hence, it is recommended to the coaches, physical educators and trainees to adopt these Findings to improve the performance.
- The same study may be conducted with national level gymnasts as subjects.
- Similar study may be conducted on other games such as basketball, handball, Volleyball, kabaddi, kho-kho, jumping events and throwing events
- A similar type of study may be conducted on different age groups.

Annexure

Annexure 01

Table.1 Mean Standard Deviation scores of endurance among three groups of gymnasts after ten weeks training

	Category	N	Mean	Standard Deviation
Groups	Experimental group 1 (circuit training)	20	2.42	0.34
	Experimental group 2 (aerobic training)	20	2.29	0.37
	Control group	20	3.04	0.37

Annexure 02

Table.2 ANOVA Table of endurance among three groups of gymnasts after ten weeks training

	Sum of Square	Df	Mean Square	F	Significant level
Between Groups	6.348	2	3.174	23.717	.000
Within groups	7.628	57	.134		
Total	13.975	59			

Annexure 03

Table.3 Post hoc table for the endurance among three groups of gymnasts after ten weeks training

Table.3

Post hoc table for the endurance among three groups of gymnasts after ten weeks training

Groups	N	Subset for alpha = 0.05	
		1	2
Experimental Group	20	2.2930	
Experimental Group	20	2.4280	
Control Group	20		3.0405
Sig.		.478	1.000

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