IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Effect Of Aerobic Exercise On Selected Physical Variables Among College Women Players

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Abstract

The purpose of the present study was to investigate the effect of aerobic exercise on selected physical fitness variables among college women players. To achieve the purpose of the study thirty women players were selected from Mother Terasa College of physical education, during the year 2026. The subject's age ranges from 18 to 22 years. The selected players were divided into two equal groups consists of 15 women players each namely experimental group and control group. The experimental group underwent aerobic exerciseprogramme for eight weeks. The control group was not taking part in any exercise during the course of the study. Flexibility and agility were taken as criterion variables in this study. Pre-test was taken before the exercise period and post- test was measured immediately after the eight week exercise period. Statistical technique't' ratio was used to analyze the means of the pre-test and post test data of experimental group and control group. The results revealed that there was a significant difference found on the criterion variables. The difference found is due to aerobic exercise given to the experimental group on flexibility and agility when compared to control group.

Keywords: Aerobic Exercise, Physical Variables, Flexibility and Agility

INTRODUCTION

Sport exercise aims at improving sports performance. Therefore the nature and structure of sports performance determines to a great extent the means and methods of exercise as well as the total planning, organization, implementation and assessment of exercise. The knowledge about the nature and structure of sports performance must be considered as the first and perhaps the most important step towards the successful preparation of sportsmen for higher performance.

Aerobic exercise refers to exercise that involves or improves oxygen consumption by the body. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy-generating process. Many types of exercise are aerobic and by definition are performed at moderate levels of intensity for extended periods of time. To obtain the best results, an aerobic exercise session involves a warming up period, followed by at least 20 minutes of moderate to intense exercise involving large muscle groups and a cooling down period at the end.

METHODOLOGY

For the purpose of the study was to find out the effect of aerobic exercise on selected physical variablesamong college women players. To achieve this purpose of the study, thirty womenplayers were selected as subjects at random. The age of the subjects were ranged from 18 to 22 years. The selected subjects were divided into two equal groups of fifteen subjects each, such asaerobic exercise group (Experimental Group) and control group. The experimental group underwent aerobic exercise for three days per week for eight weeks. Control groupwhich they did not undergo any special exerciseprogramme apart from their regular physical activities as per their curriculum. The following variables namely flexibility and agilitywere selected as criterion variables. Flexibility was measured by sit and reach test and agility was measured by shuttle run. All the subjects of two groups were tested on selected criterion variables at prior to and immediately after the exerciseprogramme. The‘t’ test was used to analysis the significant differences if any in between the groups respectively. The 0.05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

ANALYSIS OF THE DATA

The significance of the difference among the means of experimental group was found out by pre-test. The data were analyzed and dependent‘t’ test was used with 0.05 levels as confidence.

TABLE I

ANALYSIS OF‘t’-RATIO FOR THE PRE AND POST TESTS OF EXPERIMENTAL AND CONTROL GROUPON FLEXIBILITY

Variables	Group	Mean		SD		Sd Error	df	‘t’ ratio
		Pre	Post	Pre	Post			
Flexibility	**Control**	12.20	12.00	1.32	1.41	0.16	14	0.22
	Experimental	12.33	12.93	1.11	1.10	0.22		**3.67***

Significance at .05 level of confidence. (The table value required for 0.05 level of significant with df of 14 is 2.14)

The Table-I shows that the mean values of pre-test and post-test of control group on flexibility were 12.20 and 12.00 respectively. The obtained 't' ratio was 0.22, since the obtained 't' ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of experimental group on flexibility were 12.33 and 12.93 respectively. The obtained 't' ratio was 3.67* since the obtained 't' ratio was greater than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in flexibility. It may be concluded from the result of the study that experimental group improved in flexibility due to eight weeks of aerobic exercise.

TABLE II

ANALYSIS OF 't' RATIO FOR THE PRE AND POST-TESTS OF CONTROL ANDEXPERIMENTAL GROUP ON AGILITY

Variables	Group	Mean		SD		Sd Error	df	't' ratio
		Pre	Post	Pre	Post			
Agility	Control	21.26	21.49	1.64	1.45	.32	14	.68
	Experimental	21.22	20.57	.90	.99	.33		**4.28***

***Significance at .05 level of confidence. (The table value required for 0.05 level of significant with df of 14 is 2.14)*

The Table - II shows that the mean values of pre-test and post-test of control group on agility were 21.26 and 21.49 respectively. The obtained 't' ratio was 0.68 since the obtained 't' ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of experimental groups on agility were 21.22 and 20.57 respectively. The obtained 't' ratio was 4.28 since the obtained 't' ratio was greater than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in agility. It may be concluded from the result of the study that experimental group improved in agility due to eight weeks of aerobic exercise.

Discussions on Findings

The result of the study indicates that the experimental group namely aerobic exercise group had significantly improved the selected dependent variables namely flexibility and agility, when compared to the control group. It is also found that the improvement caused by aerobic exercise when compared to the control group.

Conclusions

1. There was a significant difference between experimental and control group on physical fitness variablesafter the exercise period.
2. There was a significant improvement in flexibility and agility. However the improvement was in favor of experimental group due to eight weeks of aerobic exercise.

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