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Effect of aerobic exercise training on selected haematological variables among college women's

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Abstract
Background: The purpose of the study was to examine the effect of aerobic exercise training on haematological variables among college women's.
Methods: For the present study 30 college women's from Sri B.M. Patil PU College Bijapur. were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic exercise training and Group 'B' underwent no training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of aerobic exercise training programme. The level of significance was set at 0.05.
Result: The findings of the present study have strongly indicates that aerobic exercise training of eight weeks has significant effect on selected haematological variables i.e., RBC and WBC of college women's. Hence the hypothesis earlier set that aerobic exercise training programme would have been significant effect on selected aerobic exercise training variables in light of the same the hypothesis is accepted.
Conclusion: Significant effect of aerobic exercise training was found on RBC and WBC.

Keywords: haematological variables

Introduction

Aristotle the great philosopher of all the times observed that "body is the temple of soul and to reach harmony of the body mind and spirit. The body must be robust." Aerobics means the same large muscle group rhythmically. For a period of 15 to 20 minutes or longer while maintaining 60-80% of your maximum heart rate. Think at aerobic activity as being long in duration yet low in intensity. Aerobic activities includes walking, jogging, swimming aerobic classes and cross country skiing. on the aerobic energy-generating process. Aerobic literally means "living in air", and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism. Generally, light-to-moderate intensity activities that are sufficiently supported by aerobic metabolism can be performed for extended periods of time.

Aerobic literally means oxygen referring to the consumption of oxygen by the metabolic system. It involves a little warm up activity at the start and another minimum 20 minutes of exercise. Aerobic exercises are vital in weight loss activities.

Many aerobic exercises are simple and can be done at home. Riding a bike is one of the best activities as it keeps your legs in tone, heartbeat up and burns calories. Rollerblading and jogging are as much effective and inexpensive too. Or you can just put your iPod with you and just go out for a long walk. Try setting goals for yourself and increase the duration of your exercise each day.

Another easy and fun way is to find some good stairs and walk up and down till you no longer can even walk. Try swimming as it will not only put pressure on your joints and raise your heartbeat but also trim your whole body. Working in your garden can be fun as well as a perfect exercise with mowing the lawn or picking up the weeds.

Objective of the study

The purpose of the study was to investigate the effect of twelve weeks of aerobic exercise.

Training programme on selected haematological variables among college women's.

Hypothesis

It was hypothesized that there would have been a significant effect of twelve weeks of aerobic exercise training programme on selected haematological variables among college women's.

Procedure and Methodology

For the present study 30 college womens from Sri B.M.Patil PU College Bijapur were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic exercise training and Group 'B' underwent no training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co- Variance (ANCOVA) technique to find out the effect of aerobic exercise training programme on selected hematological variables among college women's. The level of significance was set at 0.05.

Results and Discussions on Findings

The findings pertaining to analysis of co-variance between experimental group and control group on selected hematological variables among college women's for pre-post test respectively have been presented in table No.1 to 2.

Table 1: ANCOVA between Experimental Group and Control Group on RBC of college women's for Pre, Post and Adjusted Test

	Experimental group	Control Group	Source of variance	Some of square	df	Mean Square	F
Pre test mean	3.38	3.48	BG WG	0.08 2.32	1 28	0.08 0.08	1.02
Post test mean	4.34	3.40	BG WG	6.53 1.44	1 28	6.53 0.05	126.56
Adjusted post test mean	4.36	3.38	BG WG	6.84 1.13	1 28	6.84 0.04	163.25

Significant at 0.05 level
Df:1/27=4.21

Table No. 1 revealed that the obtained 'F' value of 163.25 was found to be significant at 0.05 level with df 1\ 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of RBC of college women's players between experimental group and control group.

The graphical representation of data has been presented in figure No.1.

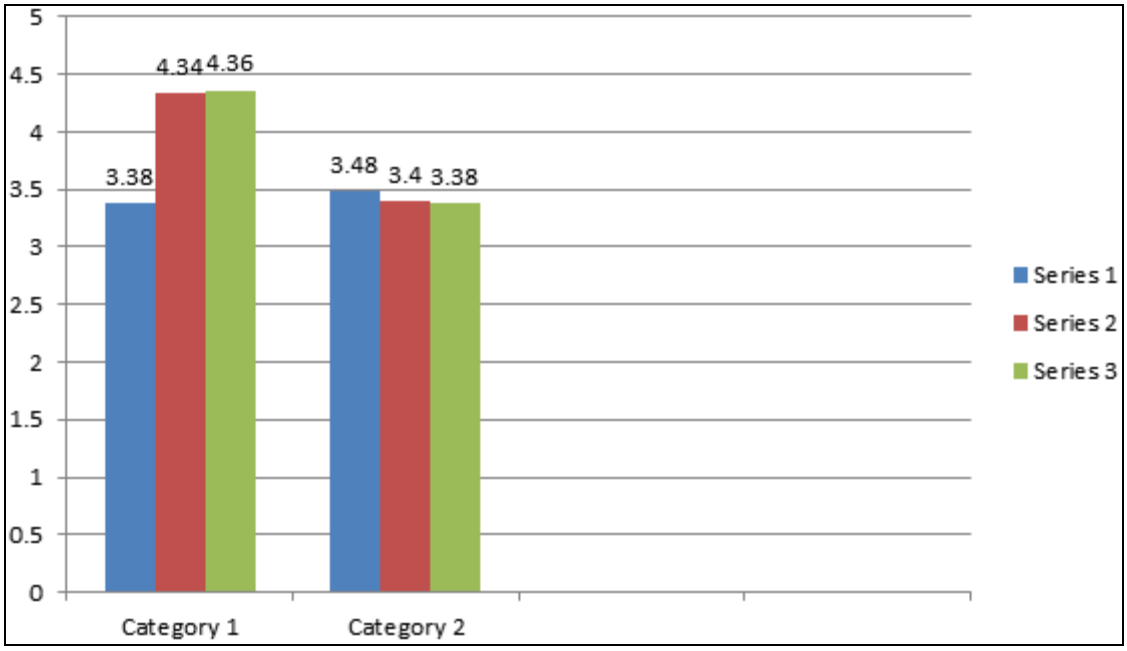

Fig 1: Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to RBC

Table 2: ANCOVA between Experimental Group and Control Group on WBC of College women's for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Square	df	Mean Square	F
Pre test mean	3999.93	4136.00	BG WG	138856.03 2021168.93	1 28	138856.03 12184.60	1.92
Post test mean	4653.20	4047.46	BG WG	2751846.53 5011782.13	1 28	2751846.53 178992.21	15.37
Adjusted post mean	4661.87	4038.79	BG WG	2724513.80 4978942.54	1 28	2724513.80 184405.28	14.77

** Significant at 0.05 level.
d/f: 1/27= 4.21

Table No. 2 revealed that the obtained 'F' value of 14.77 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of WBC of college womens between experimental group and control group.

The graphical representation of data has been presented in figure No.2.

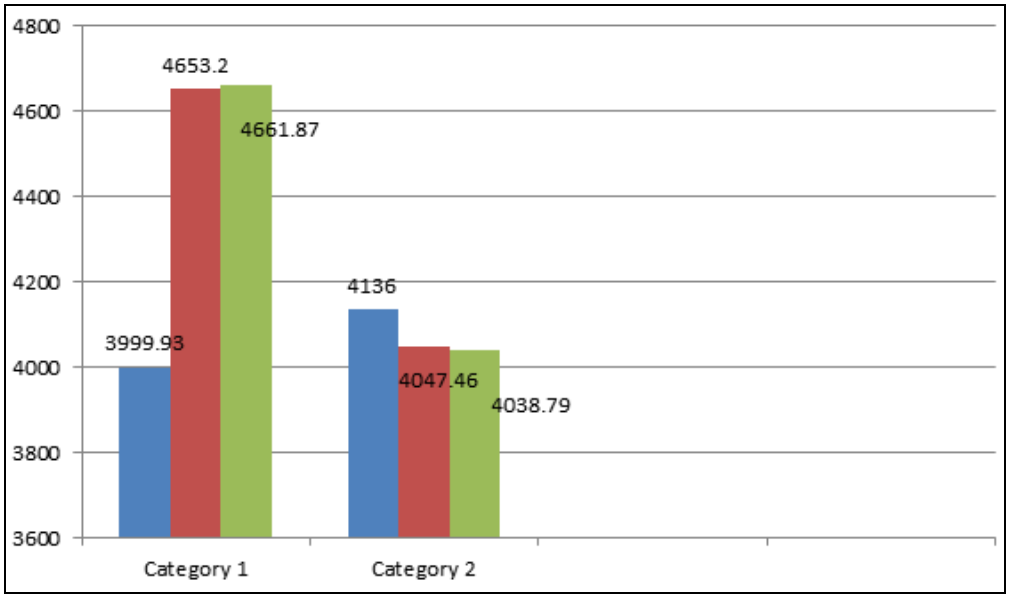

Fig 2: Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to WBC

Test has been found significantly higher in experimental group in comparison to control Group. This is possible because aerobic exercise is currently one of the most commonly Practised adult fitness activities which directly contribute to enhancement in their RBC and WBC and due to regular training programme of aerobic exercise training which may also bring sudden spurt in hematological variables in college womens. The findings of the present study have strongly indicates that aerobic exercise training of twelve weeks have significant effect on selected hematological variables i.e., RBC and WBC of college womens. Hence the hypothesis earlier set that aerobic exercise training programme would have been significant effect on selected hematological variables in light of the same the hypothesis was accepted.

Conclusions

On the basis of findings and within the limitations of the study the following conclusions were drawn: Significant effect of aerobic exercise training was found on RBC and WBC.

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