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Influence of Low Intensity Aerobic Exercise Training on the Vo2 Max in 11 to 14 Years School Girls in Hyderabad District

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ABSTRACT

Exercise training with varying intensity increases maximal oxygen intake (VO2max), a strong predictor of cardiovascular and all-cause mortality. **Purpose:** The aim of this study was to find out the influence of low intensity aerobic training on the vo2 max in 11 to 14 years school girls in Hyderabad district. **Methodology**: The research scholar has randomly selected thirty (N=30) high school girls were selected as subjects and their age ranged between 11 to 14 years. The subjects were divided into two equal groups, each group consist of 15 total 30. Group one acted as experimental group (EG) and group two acted as control group (CG). The dependent variable vo2 max was selected and it is measured by manual test. **Statistical Tool**: The statistical tool paired sample 't' test was used for analysing of the data and the obtained 't' ratio was tested for significance at 0.05 level of confidence. **Results:** The analysis of the data revealed that there was a significant improvement on vo2 max by the application of low intensity aerobic.

Keywords: *Low intensity aerobics, Vo2 max, Paired sample 't' test.*

1. Introduction

When doing aerobic activity, such as walking or biking, exercise intensity is proportional to how difficult the activity feels to you. The intensity of your exercise is also reflected in your breathing and heart rate, whether you're sweating, and how tired your muscles feel. Low intensity cardio is aerobic exercise performed at 60 to 80% of your maximum heart rate or target heart rate. At this level of intensity, you can keep the workout going for longer periods of time and gradually build endurance.

Over the past 30 years maximal aerobic capacity (VO_2max) has emerged as a strong predictor of adverse health outcomes such as cardiovascular disease and all-cause mortality (Keteyian SJ, 2008) (Myers J, 2002). Exercise training is an effective means of achieving improvements in VO_2max, with a rise of one metabolic equivalent (3.5 ml $O_2 \cdot kg^{-1} \cdot min^{-1}$) in VO_2max associated with a 10–25% improvement in survival (Kaminsky LA, 2013).

Thus, exercise training represents a potentially important preventative approach to reduce the risk of disease development in currently healthy adults. Similar to any form of preventative medicine, there is a need for exercise prescription to be optimized with the goal of prescribing the effective exercise intensity for improving VO_2 max.

2. Methodology

The purpose of the study was to investigate the influence of low intensity aerobics training on the vo2 max in school girls in Hyderabad district. To achieve the purpose of the study the investigator randomly selected 30 school girls and their age ranged between 11-14 years age. The criterion variables selected for this study was Step test for vo2 max. Pre-test was conducted before starting the training and post-test was conducted after 8 –weeks training. In order to find out the effect of training on the dependent variables paired sample t - test was used. The level of confidence was fixed at 0.05 levels.

Table 1. Computation of "t" ratio between the pre and post tests on vo2 max of experimental and control groups

Group	Tests	M	SD	σDM	DM	t-ratio	P- Value
Experimental	**Pre**	43.39	1.28	0.27	1.43	5.30	0.00
	Post	44.82	1.33				
Control	**Pre**	43.27	1.55	0.29	0.34	1.15	0.27
	Post	42.93	1.29				

*significance at 0.05 level**

It was observed from the above table that the experimental group mean value for pre test was 43.39 and post test was 44.82. The standard deviation for the pre test was 1.28 and post test was 1.33. The standard error of the different between the means was 0.27. The mean difference for the pre test and post test was 1.43. It revealed that the obtained t-ratio 5.30* was greater than the required t-ratio of 2.05. Hence there was a significant improvement on Vo2 max of experiment group at 0.05 level of confidence.

It may be seen that the control group's mean value for pre test was 43.27 and post test was 42.93. The standard deviation for the pre test was 1.55 and post test was 1.29. The standard error of the different between the means was found out and value was 0.29. The mean difference for the pre test and post test was 0.34. It revealed that the obtained t-ratio 1.15 was lesser than the table value of 2.05; hence there was no significant improvement on vo2 max of control group at 0.05 level of confidence. (**K Vishnuvardhan Reddy & L B Laxmikanth Rathod**, 2021) and (**Trisha D. Scribbans**, 2016) - the findings from this research are in collaboration with the findings from earlier studies.

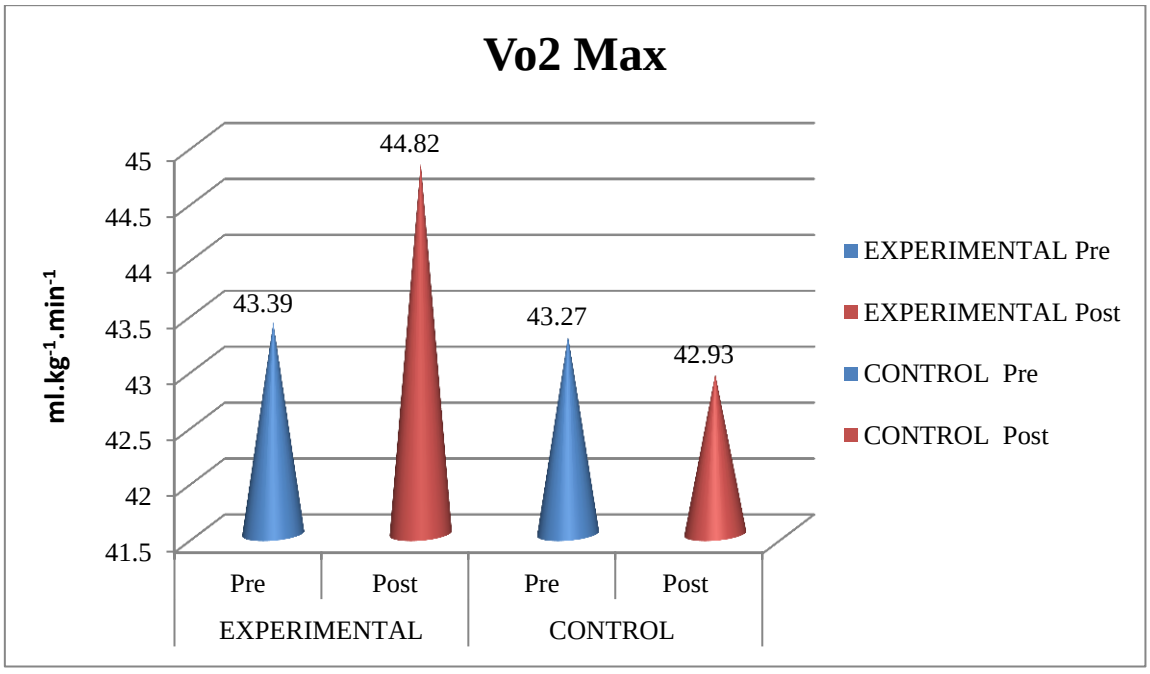

Fig.1. Mean difference of pre and post tests scores on vo2 max of experimental and control groups

3. Discussion and Conclusions

The results of the study reveals that, there was a significant difference found from pre to post test means on Vo2 max among the high school girls of Hyderabad district due to the eight weeks of low intensity aerobic training but the control group did not improved vo2 maximum.

Declarations

Source of Funding

This research did not receive any grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing Interests Statement

The author declares no competing financial, professional and personal interests.

Ethical Approval

Based on institutional guidelines.

Consent for publication

Author declares that he/she consented for the publication of this research work.

Availability of data and material

Author is willing to share the data and material according to relevant needs.

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