

Impact  
Factor  
2.147

ISSN 2349-638x

Refereed And Indexed Journal



**AAYUSHI  
INTERNATIONAL  
INTERDISCIPLINARY  
RESEARCH JOURNAL  
(AIIRJ)**

Monthly Publish Journal

VOL-III

ISSUE-XI

Nov.

2016

Address

- Vikram Nagar, Boudhi Chouk, Latur.
- Tq. Latur, Dis. Latur 413512
- (+91) 9922455749, (+91) 9158387437

Email

- aiirjpramod@gmail.com

Website

- www.aiirjournal.com

CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

## Effects Of Aerobic Exercise On Health Outcomes In High School Track & Field Students

**Vijay Narayan Verma,**

Research scholar,

Dr.Babasaheb Ambedkar Marathwada University, Aurangabad.

### Abstract

*The purpose of the study was to determine the effects of aerobic exercise on health outcomes in student school athletes . Twenty athletes considered as target population of the study . Aerobic exercise Training was given to athletes of track and field and studying in school considered as Aerobic group. This study involves a cross sectional, comparative pre and post-test of experimental research. Since only one experimental group was taken by the investigator and there was no control group so this study was conducted in a quasi-square experimental design. Purposive sampling method was used, as the researcher selected Track and field students with a specific purpose. **Aerobic Exercise Programme** was planned for 12 weeks, 4 days a week and 45 minutes a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises standing exercises, controlled leash activities, stair climbing, "and "dancing etc. Warm - up period was approximately 10 min., this was combine callisthenic– type stretching, exercise and progressive aerobic activity. However, cool down period were 5 to 10 min. In assessing the health outcomes, self-made questionnaire was used. The findings of the study shows that no significant effects were found on Health status, Rate of Health , Activity, BodyPain,Pain with Normal Work, Problem of daily physical health,Emotional ProblemNormal Social Activity, Level of feeling, Problem interfered social Activity and Current Health Perception .*

### Introduction

The term health outcomes refers to the impact healthcare activities have on people — on their symptoms, ability to do what they want to do, and ultimately on whether they live or die. Health outcomes include whether a given disease process gets better or worse, what the costs of care are, and how satisfied patients are with the care they receive. It focuses not on *what is done* for patients but *what results* from what is done whereas, **aerobic exercise** includes lower intensity activities performed for longer periods of time. Activities such as walking, running, swimming, and cycling, it requires a great deal of oxygen to generate the energy needed for prolonged exercise that is called as aerobic energy expenditure. In sports which require repeated short bursts of exercise however, it is the anaerobic system that enables muscles to recover for the next burst. Therefore training for many sports demands that both energy production systems must be developed.

### Methods

Twenty athletes considered as target population of the study .Anaerobic exercise Training was given to both groups separately. This study involves a cross sectional,

comparative pre and post-test of experimental research. Since only one experimental group was taken by the investigator and there was no control group so this study was conducted in a quasi-square experimental design.

#### **Sampling Method:**

Purposive sampling method was used, as the researcher selected Track and field students with a specific purpose. The investigator define track and field students those who are athletes of track and field and studying in school.

#### **Demographic Information**

The data was collected through respondents in the form of different descriptive tests. The demographic information about, age, height, weight etc. was obtained before seeking training.

#### **Aerobic Exercise Programme:**

A **Aerobic Exercise Programme** was planned for 12 weeks, 4 days a week and 45 minutes a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises standing exercises, controlled leash activities, stair climbing, "wheel barrowing" (for forelimb activity), and "dancing" (for rear limb activity). Other activities include jogging, sit-to-stand exercises, pulling or carrying weights, walking and trotting across cabalettas rails, playing ball, taping a bottle or syringe captors the bottom of an unaffected foot to encourage weight bearing, slinging the contra lateral good limb, and using balance balls or rolls. The exercise session should consist of the following procedure:

Warm - up period was approximately 10 min., this was combine callisthenic-type stretching, exercise and progressive aerobic activity. However, cool down period were 5 to 10 min. Aerobic exercise also called cardiovascular exercise it is any sustained,

#### **Tools of the study**

**G) Health outcomes Questionnaires:** In assessing the health outcomes, self-made questionnaire was used. It assesses following health concepts including: Health status ; Rate of Health , Activity. BodyPain,Pain with Normal Work; Problem of daily physical health; Emotional ProblemNormal Social Activity, Level of feeling, Problem interfered social Activity and Current Health Perception. The raw scores were converted in standard score.

#### **Statistical Analysis**

The statistical computation of data of the present study is used by using SPSS package in the computer. The result computed also crosschecked by using following



statistical variables. Mean, standard deviation, T-test. The level of significance was set-up at 0.05 level .

**Result and Discussion**

**TABLE-1**  
**Morphological Characteristics Of The Aerobic Group**

Sr. No.	Characteristics	Means Scores	Standard Deviations
1.	Age (Year)	13.09	2.41
2.	Weight (Kg)	60.78	5.39
3.	Height (cm)	161.90	5.29
4.	BMI	19.30	2.30

Table – 1 depicted the morphological characteristics of Aerobic group; the Mean Scores (SDs) age of Aerobic group was 13.09 (2.41) years, mean score (SDs) weight was 60.78 (5.39) Kg., mean score (SDs) of height was 161.90 (5.32) cm. and mean score (SDs) of BMI was 19.30 (2.30) cm. of aerobic group.

**TABLE-2**  
**Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Health Status Of Aerobic Group.**

Components	Stages	Number	Mean Scores	Standard Deviations	T- test
Health Status	Pre Test	20	4.35	1.17	1.06 NS
	Post Test	20	4.34	1.12	

**NS= Not Significant**

Table-2 Shows Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Health Status of Aerobic group.

The mean scores obtained from Table 2, the mean score of Pre-test was 4.35 and the post test was 4.34 recorded respectively of selected Health Outcomes with respect to Health Status of pre and post-test of Aerobic exercise. Whereas, the standard deviation of Pre-test was 1.17 and post-test was 1.12 respectively of selected Health Outcomes with respect to Health Status of Aerobic exercise. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Health Status of Aerobic exercise group.

**TABLE- 3**  
**Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Rate Of Health Of Aerobic Group.**

Components	Stages	Number	Mean Scores	Standard Deviations	T-Test
Rate of Health	Pre -Test	20	5.45	1.26	1.87NS
	Post Test	20	5.42	1.22	

**NS= Not Significant**

Table-3, Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Rate of Health of Aerobic group.

The mean scores obtained from Table 3, the mean score of Pre-test was 4.45 and the post test was 5.42 recorded respectively of selected Health Outcomes with respect to Rate of Health of pre and post-test of Aerobic exercise. Whereas, the standard deviations of Pre-test was 1.26 and post-test was 1.22 respectively of selected Health Outcomes with respect to Rate of Health of Aerobic group. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Rate of Health of aerobic exercise group.

**TABLE – 4**  
**Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Activities Of Aerobic Group.**

Components	Stages	Number	Mean Scores	Standard Deviations	T-Test
Activities	Pre –Test	20	11.34	2.56	0.56 NS
	Post Test	20	11.16	2.45	

**NS= Not Significant**

Table-4, Illustrates Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Activities of Aerobic group.

The mean scores obtained from Table 4, the mean score of Pre-test was 11.34 and the post test was 11.16 recorded respectively of selected Health Outcomes with respect to Activities of pre and post-test of Aerobic exercise. Whereas, the standard deviations of Pre-test was 2.56 and post-test was 2.45 recoded respectively of selected Health Outcomes with respect to Activities of pre and post-test of Aerobic exercise. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Activities of aerobic exercise group.

TABLE – 5

Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Problem Of Regular Daily Physical Health Of Aerobic Group.

Components	Stages	Number	Mean Scores	Standard Deviations	T-Test
Problem of Regular daily Physical Health	Pre –Test	20	4.34	1.14	1.07 NS
	Post Test	20	4.76	1.23	

NS= Not Significant

Table- 5, Mean scores and SDs of pre and post- test of Selected Health Outcomes with respect to Problem of Regular daily Physical Health of Aerobic group.

The mean scores obtained from Table 5, the mean score of Pre-test was 4.34 and the post test was 4.76 respectively of selected Health Outcomes with respect to Problem of Regular daily Physical Health of pre and post-test of Aerobic group. Whereas, the standard deviation of Pre-test was 1.14 and post-test was 1.23 respectively of selected Health Outcomes with respect to Problem of Regular daily Physical Health of Aerobic group. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Problem of Regular daily Physical Health of aerobic exercise group.

TABLE – 6

Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Emotional Problem Of Aerobic Group.

Components	Stages	Number	Mean Scores	Standard Deviations	T-Test
Emotional Problem	Pre –Test	20	5.65	1.34	1.45 NS
	Post Test	20	5.87	1.47	

NS= Not Significant

Table-6, Show the Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Emotional Problem of Aerobic group.

The mean scores obtained from Table 6, the mean score of Pre-test was 5.65 and the post test was 5.87 recorded respectively of selected Health Outcomes with respect to Emotional Problem of pre and post-test of Aerobic group. Whereas, the standard deviation of Pre-test was 1.34 and post-test was 1.47 respectively of selected Health Outcomes with respect to Emotional Problem of Aerobic group. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Emotional Problem of aerobic exercise group.



TABLE – 7

Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Normal Social Activity Of Aerobic Group.

Components	Stages	Number	Mean Scores	Standard Deviations	T-test
Normal Social Activity	Pre –Test	20	6.78	1.47	0.56NS
	Post Test	20	6.45	1.44	

NS= Not Significant

Table-7 depicted Mean scores and SDs of pre and post-test of selected Health Outcomes with respect to Normal Social Activity of Aerobic group.

The mean scores obtained from Table 7, the mean score of Pre-test was 6.78 and the post test was 6.45 recorded respectively of selected Health Outcomes with respect to Normal Social Activity of pre and post-test of Aerobic exercise. Whereas, the standard deviation of Pre-test was 1.47 and post-test was 1.44 respectively of selected Health Outcomes with respect to Normal Social Activity of Aerobic group. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Normal Social Activity of aerobic exercise group.

TABLE – 8

Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Level Of Body Pain Of Aerobic Group.

Components	Stages	Number	Mean Scores	Standard Deviations	T-test
Level of Body Pain	Pre –Test	20	3.89	1.25	1.45 NS
	Post Test	20	3.78	1.21	

NS= Not Significant

Table-8 shows Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Level of Body Pain of Aerobic group.

The mean scores obtained from Table 8, the mean score of Pre-test was 3.89 and the post test was 3.78 respectively of selected Health Outcomes with respect to Level of Body Pain of pre and post-test of Aerobic group. Whereas, the standard deviation of Pre-test was 1.25 and post- test was 1.21 respectively of selected Health Outcomes with respect to Level of Body Pain of Aerobic group. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Level of Body Pain of aerobic exercise group

**TABLE – 9**

**Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Pain With Normal Work Of Aerobic Group.**

Components	Stages	Number	Mean Scores	Standard Deviations	T-Test
Pain with Normal work	Pre –Test	20	3.12	0.87	0.67 NS
	Post Test	20	3.27	0.97	

**NS= Not Significant**

Table-9, Shows Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Pain with Normal work of Aerobic group.

The mean scores obtained from Table 9, the mean score of Pre-test was 3.12 and the post test was 3.27 recorded respectively of selected Health Outcomes with respect to Pain with Normal work of pre and post-test of Aerobic group. Whereas, the standard deviation of Pre-test was 0.87 and post-test was 0.97 respectively of selected Health Outcomes with respect to Pain with Normal work of pre and post-test of Aerobic group. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Pain with Normal work of aerobic exercise group

**TABLE – 10**

**Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Level Of Feeling Of Aerobic Group.**

Components	Stages	Number	Mean Scores	Standard Deviations	T-test
Level of Feeling	Pre –Test	20	30.78	5.45	0.68 NS
	Post -Test	20	30.89	5.49	

**NS= Not Significant**

Table-9, Illustrates the Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Level of Feeling of Aerobic group.

The mean scores obtained from Table 9, the mean score of Pre-test was 30.78 and the post test was 30.89 respectively of selected Health Outcomes with respect to Level of Feeling of pre and post-test of Aerobic exercise. Whereas, the standard deviation of Pre-test was 5.45 and post-test was 5.49 respectively of selected Health Outcomes with respect to Level of Feeling of Aerobic exercise. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Level of Feeling of aerobic exercise group



**TABLE – 11**

**Mean Scores And Sds Of Pre And Post- Test Of Selected Health Outcomes With Respect To Problem Of Interfered Social Activities Of Aerobic Group.**

Components	Stages	Number	Mean Scores	Standard Deviations	T-test
Problem of Interfered Social Activities	Pre –Test	20	4.57	1.12	0.79 NS
	Post –Test	20	4.60	1.19	

**NS= Not Significant**

Table-11, Shows Mean scores and SDs of pre and post- test of selected Health Outcomes with respect to Problem of Interfered Social Activities of Aerobic group

The mean scores obtained from Table 11, the mean score of Pre-test was 4.57 and the post test was 4.60 recoded respectively of selected Health Outcomes with respect to Problem of Interfered Social Activities of pre and post-test of Aerobic group. Whereas, the standard deviation of Pre-test was 1.12 and post-test was 1.19 recoded respectively of Health Outcomes with respect to Problem Interfered Social Activities of Aerobic group. The findings of the study Reveals that there was no significant effects of aerobic training on Health Outcomes with respect to Problem of Interfered Social Activities of aerobic exercise group.

**Conclusions**

1. There was no significant effect of aerobic training on Health Outcomes with respect to Health Status of Aerobic exercise group.
2. There was no significant effect of aerobic training on Health Outcomes with respect to Rate of Health of aerobic exercise group.
3. There was no significant effect of aerobic training on Health Outcomes with respect to Activities of aerobic exercise group.
4. There was no significant effect of aerobic training on Health Outcomes with respect to Problem of Regular daily Physical Health of aerobic exercise group.
5. There was no significant effect of aerobic training on Health Outcomes with respect to Emotional Problem of aerobic exercise group.
6. There was no significant effect of aerobic training on Health Outcomes with respect to Normal Social Activity of aerobic exercise group.
7. There was no significant effect of aerobic training on Health Outcomes with respect to Level of Body Pain of aerobic exercise group.
8. There was no significant effect of aerobic training on Health Outcomes with respect to Pain with Normal work of aerobic exercise group.
9. There was no significant effect of aerobic training on Health Outcomes with respect to Level of Feeling of aerobic exercise group.

10. There was no significant effect of aerobic training on Health Outcomes with respect to Problem of Interfered Social Activities of aerobic exercise group.

## References

- Lim CL, and Lee LK., (1994) "The effects of 20 weeks basic military training program on body composition, VO<sub>2</sub>max and aerobic fitness of obese recruits". J Sports Med Phys Fitness. Pp271-8.
- Luttrell MD, and Potteiger JA., (2003) "Effects of short-term training using power cranks on cardiovascular fitness and cycling efficiency." Department of Health, Sport and Exercise Science, University of Kansas, Lawrence 66045, USA. J Strength Cond. Res P:785-91.
- Marconi C. et. al., (1985) "Effects of L-carnitine loading on the aerobic and anaerobic performance of endurance athletes." Eur J Appl Physiol Occup Physiol. P131-5.
- McMahon, Thomas A (1984) "*Muscles, Reflexes, and Locomotion*", Princeton University Press. pp. 37-51. [ISBN 0 - 691 - 02376 - X](#).
- Rodrigues EA. et. al., (1989) "Responses of left and right ventricular ejection fractions to aerobic and anaerobic phases of upright and supine exercise in normal subjects." Department of Reply Forward 1. Am Heart J. P 319-24.
- Sullivan MJ, and Cobb FR. (1990) "The anaerobic threshold in chronic heart failure. Relation to blood lactate, ventilatory basis, reproducibility, and response to exercise training" Department of Medicine, Durham, Circulation. (1 Suppl):II47-58.
- Tsuji M. et. al., (1990) "The clinical role of anaerobic threshold in physical training of patients with recent myocardial infarction." Article in Japanese, Second Department, Nihon University School of Medicine, Tokyo, J Cardiol. P 275-82.
- Tuomainen P. et. al., (2005) Regular physical exercise, heart rate variability and turbulence in a 6-year randomized controlled trial in middle-aged men: the DNASCO study. Life Sci. P 2723-34.
- Unal M. et. al., (2005) "The effects of chronic aerobic and anaerobic exercises on lymphocyte subgroups". Acta Physiol Hung. P 163-71.
- Wasserman K. et. al. (1994) "Determination of the anaerobic threshold by gas exchange: biochemical considerations, methodology and physiological effects." Department of Medicine, Harbor-UCLA Medical Center, Torrance., Suppl 3:1-12.

ISSN 2349-638X

[www.aiirjournal.com](http://www.aiirjournal.com)