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"EFFECT OF AEROBIC TRAINING ON PHYSICAL FITNESS OF SCHOOL GOING STUDENTS"

Dr. Sandeep M. Chawak

Asst. Professor

Dayabhai Patel College of Physical Education,

Yavatmal, Maharashtra, India

Abstract: *The aim of the study was to investigate the ''Effect of Aerobic exercise program on school going students''. It was hypothesized that there will be significant effect of aerobic training on physical fitness of school going students. For this purpose 40-male students by employing simple Random sampling method and the age group of subjects were ranged between 14-16 years. All the subjects were equally distributed in two groups one control group (N=20), the experimental group (N=20) from both age groups. The experimental groups were given 42 day's aerobic training and no training was given to the control group. The data were collected before and after the end of six weeks training programme by administrating tests. To find out the significant effect of aerobic training the mean difference and t-test was applied between pre and post test scores of experimental and control group. The level of significant was set at 0.05 level of confidence. The findings of this study showed significant effect on leg strength, power of arm and shoulder and agility. Therefore six weeks aerobic training program was effective on these components.*

Key word: Physical Fitness, Aerobic Training, Effect.

Introduction- The positive effects of regular aerobic exercise on health have been demonstrated in many studies. Never the less, the effects of physical activity on the different body systems differ depending on duration intensity, number of sessions, type of exercise, and age. Most of these studies were performed with young subjects and in some cases, a geriatric population, but very few were performed esthetic studies are carried out with well controlled groups (with good situation). However, in real life situations, physicians see "normal" midlife people who exercise a few times per week, without professional supervision. It is of interest to know the effects of aerobic exercise are as positive in these cases as in the scientific studies.

The training is a process of preparing an individual for any event or an activity or job. Usually in sports we use the term sports training which denote the sense of preparing sportspersons for the highest level of performance. But now-a-days sports training is not just a term but it is very important subject that affects each and every individual who takes up physical activity or sports either for health and fitness or for competition at different level. Hence sports training are the physical, technical, intellectual, psychological and moral preparation of an athlete or a player by means of physical exercises.

Statement Of The Problem :- The researcher used to get knowledge tips regarding training methods for the development of students from well known teachers of physical education all this created interest in the researcher to undertake the problem as, "Effect of Aerobic Training on Physical Fitness of school going Students". This would be an effort of researcher to contribute a little bite to the field of physical education.

Purpose :-

1. The main purpose of the study was to find out the effect of Aerobic Training on Physical Fitness of school going Students. 2. The purpose of the study was to find out the effect of Aerobic Training on Strength of students. 3. To find out the effect of Aerobic Training on Agility. 4.The purpose of this study was to measure the Physical Fitness Level of students. 5.The purpose of this study was to find out the effect of Aerobic Training of Flexibility of students.

***Significance*:-** 1.The result of the study would help the coaches, physical education teachers and athletes in planning the training programme to develop the strength and agility of students. 2.The result of the study would help the physical education teachers and coaches to increase the physical fitness of students.3.This study would be helpful to reduce the undue fatigue and injuries of students. 4.This study would help the students of physical education to understand the importance of Strength, Agility and Speed.5.This study would generate the interest in physical education teachers and coaches to improve the physical fitness level of students.

Hypothesis :- This is hypothesized that there may be positive effect of Aerobic training on Physical fitness of school going students.

Delimitations :-

The scope of the present study will be delimited to the following aspects :-

1.Only 40 male students would be selected for the study. 2. The age of the subjects would be ranging in between 14-16 years.3. 8^{th} and 9^{th} class students would be selected as the subjects. 4.The subjects would be selected from Bapulal Patel High School, Yavatmal. 5. The study would be delimited to physical fitness components.6.The study was further delimited to six weeks training programmes.

Limitations :-

The following aspects was uncontrolled factors in the study -

1.The effect of previous training was unknown.2.The level of achievement of the subjects was unknown.3.The socio-economic status of subjects was unknown.4.There was no control over the diet of the subjects. 5.The caste and religion of subjects have not been considered in this study.

Source of data::-

1.The source of data were selected from 8^{th} and 9^{th} class students of Yavatmal city.

Subjects :- 40 male students were selected from Yavatmal. The age of the subjects ranging from 14-16 years. All the subjects were divided into two groups consisting of 20 subjects each. The subjects were selected by using simple random sampling method.

Test and Criterion Measure:-

To collected the data for this physical fitness J.C.R. test were be administrated the items of the test consist of

J	-	Jumping (Vertical Jump)	-	Explosive Power of Legs.
C	-	Chinning (Chin ups)	-	Muscular Strength
R	-	Running (Shuttle Run)	-	Agility.

***Collection Of Data* :-** The necessary data was collected by administrating the tests for measuring the selected variables. Before collecting the data, the subjects were given a chance to practice the prescribed tests so that they should become familiar with the tests and know exactly what is to be done

Experimental Procedure of Training six week Design training programme for aerobic training

Statistical Analysis ;The purpose of this study was to find out the effect of six week (42 days) Aerobic training on physical fitness components of school going class students. The data collected qualitatively on three different test of strength, agility, and speed of control groups (N=20), and experimental groups (N=20) were analyzed by using the 't' test and post-test means of both groups to find out the significant difference among the selected variables as strength, Agility and speed of two groups of students of Yavatmal city and the subjects were selected by using Random sampling method.

Level of Significance :-To test the hypothesis the level of significance was set at 0.05 level of confidence which was considered adequate and reliable for the purpose of this study.

Table No. - 1

Leg Strength between Post Test of Control and Experimental Group of School going Students

Experimental Group	Mean	S.D.	S.E.Comb	M.D.	D.F.	O.T.	T.T.
Pre Test	28	1.94	0.52	7.6	38	14.615	2.021
Post Test	35.6	1.42					

*Level of Significance = 0.05 Tabulated 't' 0.05 (38) = 2.021

Table No. 3 shows that there is significant difference between means of Control and Experimental group, because mean of Control group is 28 is less than mean of Post-Test of Experimental group which is 35.6, and there mean difference is 7.6. To check the significant difference between Post tests of Control and Experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between Post test where S.D. (Control Group) = 1.94 and S.D. of (Experimental Group) = 1.42 and their combine standard error = 0.52. There was significant

difference between post test of control and experimental group because value of calculated 't' = 14.615 which is greater than tabulated 't' = 2.021 at 0.05 level of confidence, which shows improvement in experimental group after six weeks aerobic training.

Graph - 1

Graphical Representation of Mean Difference Between Pre and Post Test of Control and Experimental Group for Leg Strength

Scale :-

Y-Axis : 1 cm. = 10 mean

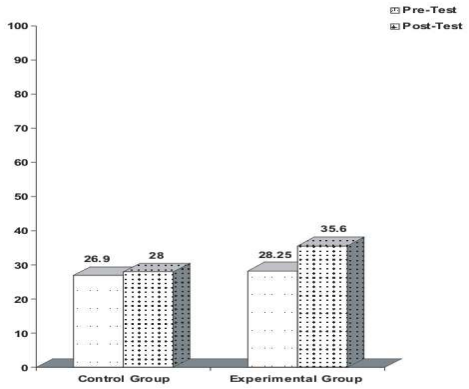


Table No. -2

Arm and Shoulder Strength Between Post Test of Control and Experimental Group of School going Students.

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre Test	7.15	1.18	0.31	2.45	38	7.903	2.021
Post Test	9.6	0.99					

*Level of Significance = 0.05 Tabulated 't' 0.05 (38) = 2.021

Table No. 2 reveals that there is significant difference between means of Control and Experimental group, because mean of Control group is 7.15 is less than mean of Post-Test of Experimental group which is 9.6, and there mean difference is 2.45. To check the significant difference between Post tests of Control and Experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between Post test where S.D. (Control Group) = 1.18 and S.D. of (Experimental Group) = 0.99 and their combine standard error = 0.31. There was significant difference between post test of control and experimental group because value of calculated 't' = 7.903

which is greater than tabulated 't' = 2.021 at 0.05 level of confidence, which shows improvement in experimental group after six weeks aerobic training.

Graph - 2

Graphical Representation of Mean Difference Between Pre and Post Test of Control and Experimental Group for Arm and shoulder Strength

Scale :- Y-Axis : 1 cm. = 2 mean

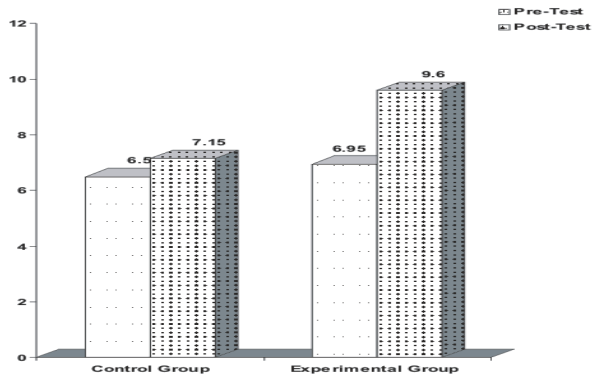


Table No. - 3

Agility Difference Between Post Test of Control and Experimental Group of School going Students.

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre Test	11.75	0.70	0.20	0.84	38	4.2	2.021
Post Test	10.91	0.72					

*Level of Significance = 0.05 Tabulated 't' 0.05 (38) = 2.021

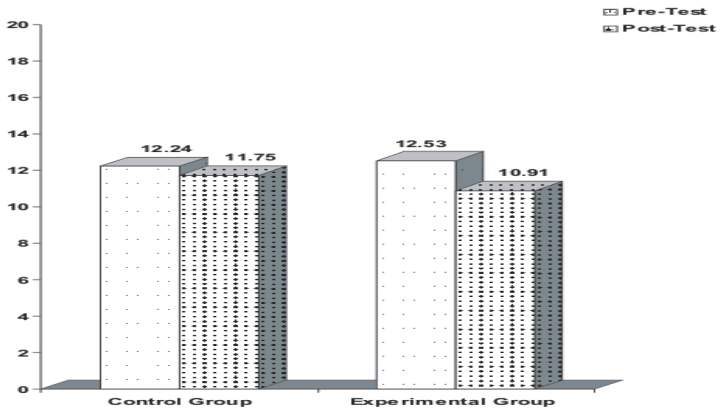
Table No. 3 shows that there is significant difference between means of Control and Experimental group, because mean of Control group is 11.75 is greater than mean of Post-Test of Experimental group which is 10.91, and there mean difference is 0.84. To check the significant difference between Post tests of Control and Experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between Post test where S.D. (Control Group) = 0.70 and S.D. of (Experimental Group) = 0.72 and their combine standard error = 0.20. There was significant difference between post test of control and experimental group because value of calculated 't' = 4.2

which is greater than tabulated 't' = 2.021 at 0.05 level of confidence, which shows great improvement in experimental group after six weeks aerobic training.

Graph - 3

Graphical Representation of Mean Difference Between Pre and Post Test of Control and Experimental Group for Agility Difference

Scale :- Y-Axis : 1 cm. = 2 mean



Findings :- The data collected on 40 subjects before and after six week training program on strength, agility, speed was analyzed by comparing the means of pre and post test of control and experimental groups and was again statistically analyzed by applying t-test to check the significant difference among selected items.

It was hypothesized that there will be significant effect of aerobic training on physical fitness of 8th and 9th class students.

For this purpose 40-male students by employing simple Random sampling method and the age group of subjects were ranged between 14-16 years.

All the subjects were equally distributed in two groups one control group (N=20), the experimental group (N=20) from both age groups. The experimental groups were given 42 day's aerobic training and no training was given to the control group.

The data were collected before and after the end of six weeks training programme by administrating following tests.

To find out the significant effect of aerobic training the mean difference and t-test was applied between pre and post test scores of experimental and control group. The level of significant was set at 0.05 level of confidence.

The findings of this study showed significant effect on leg strength, power of arm and shoulder and agility. Therefore six weeks aerobic training program was effective on these components.

Conclusion :-

Within the limitations of the study and from statistical analysis the following conclusion was drawn.

There was significant effect on the leg strength, power of arm and shoulder and agility through the statistical analysis after six weeks training programme.

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