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Effects of six weeks of aerobics and physical exercises training programs on health related fitness among high school boys

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Abstract

This study aimed to investigate the influence of different training programs on health related fitness among high school boys. To achieve the objective of the study, a health related fitness components was tested by 12 min Kooper run and walk (mtr), Muscular endurance (Push-ups), Muscular strength (Bench Press (Kg), Flexibility (Sit and Reach (Cm) and Body Mass Index (BMI = weight in kg/(height in mtr)²). has administered on randomly selected samples, total sample size is 90 consisting of high school boys students. Collected data was tested by paired t test. The study revealed that Aerobics dance and physical exercises did played a significant role on health related fitness among high school boys. Furthermore the results showed that pre and post test data's of control group did not changed. Hence, to improve our health we must participate in physical activities.

Keywords: Aerobics, physical exercises, dumbbells, Lezim

Introduction

Fitness is a very important and needy thing, for the human being. Growth and development initiates from the womb of the mother of each individual. Hence we the physical educationalists we should always think about future generation. "Today's children are the tomorrow's citizens of the nation and it is true that our nation progress and development depends upon the students. School is good platform in promoting health and wellness through the physical activities. Human life span of other countries is more than India, i e japan-83 years, Switzerland -81 years but average human life span of Indians is 63 years. This data's shows the health difference of different countries. Hence, every nation motivates and emphasizes their students to participate in physical activities for improving the health and life span.

Aerobic training

Aerobics dance integrates exercises and dance movements in to routines that are practiced with the music. Many dance ways are used, including ballet, Jazz and disco. Aerobic dance classes integrate fat –burning Aerobics with development of the muscles and stretching exercises.

Physical Exercises training

The researcher selected 03 school based exercises like Mass P T, Lezim and Dumbbells.

Problem

To assess the Effects of Aerobic dance and Physical exercises training on health related fitness among high school boys.

Hypothesis

There is no significant difference between pretest and posttest of cardio vascular endurance (12 min Kooper run and walk (in meters)), muscular endurance (Push-ups), muscular strength (Bench Press (in Kg)), flexibility (Sit and Reach (in centimeters) and Body Mass Index (BMI)scores of high school boys in three groups (Control, Aerobics training, Physical exercise).

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Objective of the study: The present study was undertaken with the following general objectives in view.

1. To find the effect of six week intervention on posttest scores on cardio vascular endurance (12 min Kooper run and walk (in meters)), muscular endurance (Push-ups), muscular strength (Bench Press (in Kg)), flexibility (Sit and Reach (in centimeters) and Body Mass Index (BMI) of high school boys with influence of pre-test as a covariate
2. To know the influence of six week intervention (pretest and posttest) on cardio vascular endurance (12 min Kooper run and walk (in meters)), muscular endurance (Push-ups), muscular strength (Bench Press (in Kg)), flexibility (Sit and Reach (in centimeters) and Body Mass Index (BMI) of high school boys in Aerobics and Physical exercises training group.

Methodology

Variables: Health related fitness components.

01. Cardio vascular endurance.
02. Muscular endurance.
03. Muscular strength.
04. Flexibility.
05. Body Mass Index.

Tools

In the present study control and two experimental groups (Aerobics training and Physical exercises training) are independent (Predictor) variables and health related fitness components are dependent variables. in order to measure these variables the following tools will be used.

01. 12 min Kooper run and walk (in meters)
02. Muscular endurance (Push-ups)
03. Muscular strength (Bench Press (in Kg))
04. Flexibility (Sit and Reach (in centimeters))
05. Body Mass Index (BMI = weight in kg/(height in mtr)²)

Collection of Data

The standardized tests are administered on Aerobics and Physical exercise (Mass P T, Dumbbells and Lezim) training and data have been collected from Government High schools of Belgaum districts of Karnataka state.

Samples

Total Sample Size	Non Practitioner	Aerobics	Physical Exercises
90	30	30	30

Statistical Techniques

In pursuance of the objectives of the study as well as to test the research hypothesis, “t” test, has used to assess its effects on selected Aerobics and Physical Exercises trainings of high school boys.

Analysis of Data and results

In this section, we compared pretest and posttest scores on cardio vascular endurance (12 min Kooper run and walk (in meters)), muscular endurance (Push-ups), muscular strength (Bench Press (in Kg)), flexibility (Sit and Reach (in centimeters) and Body Mass Index (BMI) from high school boys students in three groups (Control, Aerobics training and Physical exercise,) by dependent or paired t test and the results are presented in the following tables.

To achieve this hypothesis, the dependent t test was applied and the results are presented in the following table.

- 1) **Hypothesis:** There is no significant difference between pretest and posttest cardio vascular endurance (12 min Kooper run and walk (in meters)) scores of high school boys in three groups (Control, Aerobics training, Physical exercise).
Table: Results of paired t test between pretest and posttest cardio vascular endurance (12 min Kooper run and walk (in meters)) scores of high school boys in three groups (Control, Aerobics training and Physical exercise).

Groups	Time	Mean	SD	Mean Diff.	SD Diff.	Paired t	P-value
Control group	Pretest	2203.97	209.64	-11.93	36.97	-1.7678	0.0876
	Posttest	2215.90	213.84				
Aerobics training	Pretest	2262.97	203.39	-299.77	92.34	-17.7814	0.0001*
	Posttest	2562.73	216.05				
Physical exercise	Pretest	2233.67	208.93	-416.17	85.06	-26.7993	0.0001*
	Posttest	2649.83	187.73				

* $p < 0.05$ From results of the above table, it can be seen that the followings:

A significant difference is observed between pretest and posttest scores of cardio vascular endurance in Aerobics training group ($t = -17.7814, p < 0.05$) and Physical exercises group ($t = -26.7993, p < 0.05$) at 5% level of significance. It means that, the posttest scores of cardio vascular endurance (12 min Kooper run and walk (in meters)) are significantly higher as compared to pretest scores of high school boys. Hence the null hypothesis is rejected and alternative hypothesis is accepted.

- 2) **Hypothesis:** There is no significant difference between pretest and posttest Muscular Endurance (Push-ups) scores of high school boys in three groups (Control, Aerobics training and Physical exercise)

Table: Results of paired t test between pretest and posttest Muscular Endurance (Push-ups) scores of high school boys in three groups (Control, Aerobics training and Physical exercise).

Groups	Time	Mean	SD	Mean Diff.	SD Diff.	Paired t	P-value
Control group	Pretest	9.73	4.09	-0.47	0.86	-2.9709	0.0059*
	Posttest	10.20	4.01				
Aerobics training	Pretest	11.50	3.41	-4.87	1.14	-23.4514	0.0001*
	Posttest	16.37	3.59				
Physical exercise	Pretest	11.10	4.30	-4.73	1.01	-25.5466	0.0001*
	Posttest	15.83	4.50				

* $p < 0.05$ From results of the above table, it can be seen that the followings:

A significant difference is observed between pretest and posttest scores of Muscular Endurance (Push-ups) of high school boys in Aerobics training group ($t=-23.4514, p<0.05$) and Physical exercise group ($t=-25.5466, p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of Muscular Endurance (Push-ups) are significantly higher as compared to pretest scores of high school boys.

3) Hypothesis: There is no significant difference between

Groups	Time	Mean	SD	Mean Diff.	SD Diff.	Paired t	P-value
Control group	Pretest	0.57	0.09	0.00	0.02	-0.8749	0.3888
	Posttest	0.58	0.09				
Aerobics training	Pretest	0.60	0.07	-0.10	0.03	-19.2001	0.0001*
	Posttest	0.70	0.08				
Physical exercise	Pretest	0.60	0.07	-0.09	0.03	-19.8162	0.0001*
	Posttest	0.69	0.07				

* $p<0.05$ From results of the above table, it can be seen that the followings:

A significant difference is observed between pretest and posttest scores of Muscular strength (Bench Press (in Kg)) of high school boys in Aerobics training group ($t=-19.2001, p<0.05$) and Physical exercise group ($t=-19.8162, p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of Muscular strength (Bench Press (in Kg)) are significantly higher as compared to pretest scores of high school boys.

4) Hypothesis: There is no significant difference between

Groups	Time	Mean	SD	Mean Diff.	SD Diff.	Paired t	P-value
Control group	Pretest	38.93	6.99	-0.07	0.14	-2.5673	0.0214*
	Posttest	38.99	7.00				
Aerobics training	Pretest	40.19	6.94	-2.32	1.01	-12.5213	0.0001*
	Posttest	42.51	7.11				
Physical exercise	Pretest	40.06	6.02	-2.09	1.04	-10.9756	0.0001*
	Posttest	42.15	6.14				

* $p<0.05$ From results of the above table, it can be seen that the followings:

A significant difference is observed between pretest and posttest scores of Flexibility (Sit and reach (in centimeters)) of high school boys in Aerobics training group ($t=-12.5213, p<0.05$) and Physical exercise group ($t=-10.9756, p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of Flexibility (Sit and reach (in centimeters)) are significantly higher as compared to pretest scores of high school boys.

The mean scores are also presented in the following figure.

Groups	Time	Mean	SD	Mean Diff.	SD Diff.	Paired t	P-value
Control group	Pretest	16.64	2.01	0.01	0.06	1.2386	0.2254
	Posttest	16.63	2.02				
Aerobics training	Pretest	16.35	2.07	0.43	0.08	28.5454	0.0001*
	Posttest	15.92	2.08				
Physical exercise	Pretest	16.43	2.19	0.33	0.15	11.9505	0.0001*
	Posttest	16.10	2.19				

* $p<0.05$ From results of the above table, it can be seen that the followings:

A significant difference is observed between pretest and posttest scores of Body Mass Index of high school boys in Aerobics training group ($t=28.5454, p<0.05$) and Physical exercise group ($t=11.9505, p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the pretest scores of Body Mass Index are significantly higher as

pretest and posttest Muscular strength (Bench Press (in Kg)) scores of high school boys in three groups (Control, Aerobics training and Physical exercise). To achieve this hypothesis, the dependent t test was applied and the results are presented in the following table.

Table: Results of paired t test between pretest and posttest Muscular strength (Bench Press (in Kg)) scores of high school boys in three groups (Control, Aerobics training and Physical exercise).

pretest and posttest Flexibility (Sit and reach (in centimeters)) scores of high school boys in three groups (Control, Aerobics training and Physical exercise).

To achieve this hypothesis, the dependent t test was applied and the results are presented in the following table.

Table: Results of paired t test between pretest and posttest Flexibility (Sit and reach (in centimeters)) scores of high school boys in three groups (Control, Aerobics training and Physical exercise).

5) Hypothesis: There is no significant difference between pretest and posttest Body Mass Index scores of high school boys in three groups (Control, Aerobics training, and Physical exercise).

To achieve this hypothesis, the dependent t test was applied and the results are presented in the following table.

Table: Results of paired t test between pretest and posttest Body Mass Index scores of high school boys in three groups (Control, Aerobics training and Physical exercise).

compared to posttest scores of high school boys.

The mean scores are also presented in the following figure.

- The above all the five table says that A non-significant difference is observed between pretest and posttest scores of all the five health related components tested in controlled group.

Conclusion

The Participation of different physical activities plays a significance influence on developing the health related fitness among the participants, Hence we the teachers always creative to awareness among the peoples, students and children to improve their Health and fitness.

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