

EFFECT OF SIX WEEK AEROBIC DANCE PROGRAM ON SELECTED PHYSICAL FITNESS COMPONENTS OF MALE SCHOOL GOING CHILDREN

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ABSTRACT

The present study was designed to extend knowledge of the influence of aerobic dance on selected physical fitness level of male school going children. Sixty male students age 14 + randomly were selected from O.P. Jindal school, Raigarh (Chhattisgarh) and divided in two equal groups: Experimental Group A (N=30) and Control Group B (N=30). Group 'A' will under go a program selected Aerobic Dance and group 'B' will be control group. Group 'A' followed the program of instruction for a period of 6 weeks and training was carried for 6 weeks. Standing Broad Jump for explosive strength of leg ,2. Sit-Up test for strength endurance of abdomen, 12 min. Run & Walk test for Cardiovascular Endurance and Sit & Reach Test to access the Flexibility of lower back and hamstring muscles were administered upon all the subject at the beginning (pre- test) and at the end of experimental period, after six weeks (post-test). The results of study revealed that male School children engaged in aerobic dance activity demonstrated higher Strength endurance, Cardiovascular-endurance; and Flexibility. The study also confirmed the positive effects on Strength endurance, Cardiovascular-endurance, and Flexibility over six Weeks.

Key words: Aerobic dance, Physical fitness, Children , Effect, Training Program.

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INTRODUCTION

All children should participate in regular physical activity and sport experiences, especially in quality, adult supervised activities at home, at school and in after-school programs. A wide range of activities should be available, including both individual and group experiences and cooperative vs. competitive ones. Moderate and regular physical activity can promote psychological and emotional well being, including reduced depression. Equal and safe opportunities and environments should be provided for both boys and girls to participate in a full range of physical fitness and sport activities.

All areas of fitness are affected by regular physical activity but three that seem to be especially impacted by regular physical activity are muscular fitness, cardiovascular fitness (aerobic fitness) and anaerobic power. For most girls, muscular fitness increases until about age 14, but for sedentary girls it may slow more rapidly or even decrease (Blimkie, 1989).

One of the primary advantages of active physical participation for children seems to be directly linked to lower body fat and a better ratio of lean to fat mass. Children with above average levels of body fat generally have higher total cholesterol, and LDL cholesterol and often-associated elevated blood pressure (Williams et. al., 1992).

The involvement of girls in sport is largely impacted by the attitudes of parents and other role models (teachers, family). If parents support their involvement and encourage it, girls can benefit in many positive ways from sport and physical activity. There appears to be a strong interaction between how girls perceive their success in sport, and how others influence that perception (Weiss, & Ebbeck, 1996).

Most girls participate in sport to have fun, improve skills, be with friends and become physically fit while enjoying the challenges and being successful (Weiss & Petlichkoff, 1989).

Fitness centers offer a variety of aerobic exercises to music as part of their exercise programs, in the form of various organized physical activities. What is characteristic about this kind of exercise is that all of the participants in the aerobic exercise program exercise to the same rhythm and to the same tempo, and thus activate muscles of various parts of the body, enhances the harmonious functioning of all organs and systems of organs.

The present study was designed to extend knowledge of the influence of aerobic dance on selected physical fitness level of school going male children. It was hypothesized that there would be no effect of aerobic dance on selected physical fitness profile of school going male children.

METHODOLOGY

Subjects

Sixty male students age 14 + randomly were selected from O.P. Jindal school, Raigarh (Chhattisgarh) and divided in two equal groups, which were treated as Experimental Group A (N=30) and Control Group B (N=30). Group 'A' will under go a program selected Aerobic Dance and group 'B' will be control group. Group 'A' followed the program of instruction for a period of 6 weeks and training was carried for 6 weeks.

Physical Fitness Tests and their Variables

The Standing Broad Jump for explosive strength of leg, One Minute maximum Sit-Up test for strength endurance of abdomen, 12 min. Run & Walk test for Cardiovascular Endurance, and Sit & Reach Test to access the Flexibility of lower back and hamstring muscles were conducted upon all the subjects.

Criterion Measures

Measurement for various variables were taken at the beginning (pre- test) and at the end of experimental period, after six weeks (post-test). The data was collected before and after six weeks of experimental period by using standard tests.

Maximum horizontal distance jumped from ground level and reach at same ground level(standing broad jump) was recorded in to nearest Meter-centimeter, Number of correctly executed sit-ups performed in one minute, 12 min. Run/Walk test was measured in meters and Flexibility was measured in centimeters.

Selection of Aerobic Dance Exercises

The selection of the aerobic dance in the form of rhythmic activity included only five exercises standing, marching, side to side, side to side double step, Knee up were made on the basis of expert advice. The aerobic dance practices selected for the study were accepted as rational for the purpose of this study, as per the available literature and expert guidance on theory and practice of aerobic dance. The aerobic dance practices were scheduled for group 'A' instead of the daily physical training periods. The training schedule for the period of 60 minutes in a day for the duration of six weeks. of aerobic dance practices for the experimental group is given in Appendix "A"

RESULTS AND DISCUSSION

In order to find out the significance of difference in the mean scores gained by each group for selected variable, means, standard deviations, and t-ratios were computed for obtained data by using SPSS 16.0 program. The difference of initial and finals scores was taken into the account. The level of significance was set at .05 level of confidence and data pertaining to this have been presented in Table 1 to 5.

TABELE 1
DESCRIPTIVE STATISTICS OF PHYSICAL FITNESS COMPONENTS OF MALE STUDENTS OF EXPERIMENTAL AND CONTROL GROUPS ON PRE-TEST AND POST-TEST

Test Variables	Treatment	Experimental Group (N=30)		Control Group (N=30)	
		Mean	SD	Mean	SD
Standing broad jump	Pre-test	01.58	00.04	01.57	00.06
	Post-test	01.59	00.08	01.58	00.06
Bent knee sit-ups	Pre-test	27.60	03.92	27.47	01.43
	Post-test	36.67	02.91	31.03	03.06
12 Minute run/walk	Pre-test	1595.10	27.52	1583.17	11.63
	Post-test	1635.87	28.38	1605.20	10.63
Sit and reach	Pre-test	28.90	02.69	28.43	02.45
	Post-test	32.63	02.82	30.97	02.71

The mean scores of various components of physical fitness on pre-test and post-test of experimental and control group of male students in O.P. Jindal School, Raigarh have been depicted in figures 1 to 4.

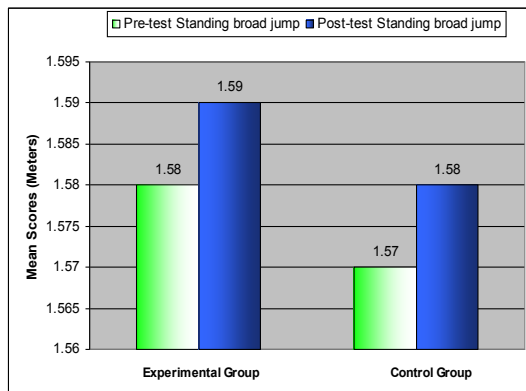


Figure 1: Mean Scores of Standing Broad Jump on Pre-test and Post-test of Experimental and Control Group Male School Going children.

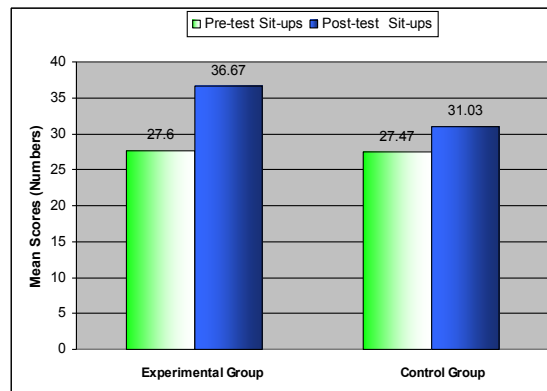


Figure 1: Mean Scores of Sit-Ups on Pre-test and Post-test of Experimental and Control Group Male School Going children.

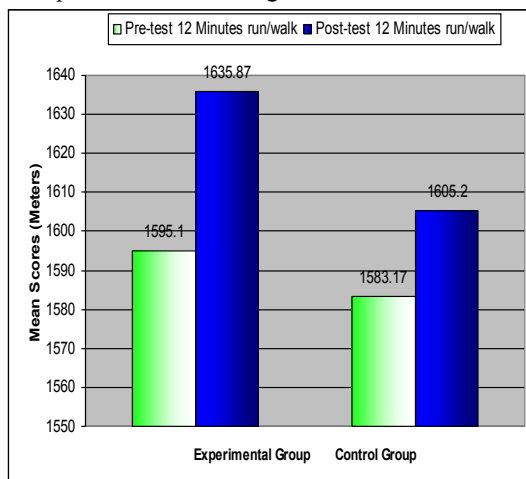


Figure 1: Mean Scores of Run/Walk Performance on Pre-test and Post-test of Experimental and Control Group Male School Going children.

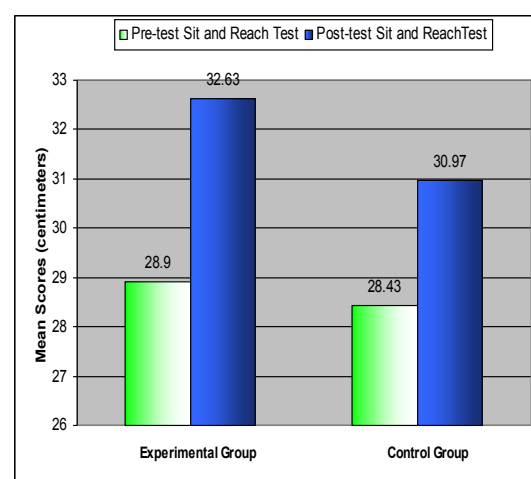


Figure 1: Mean Scores of Sit & Reach Performance on Pre-test and Post-test of Experimental and Control Group Male School Going children.

TABLE 2
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES OF STANDING BROAD JUMP OF EXPERIMENTAL AND CONTROL GROUP MALE SCHOOL GOING CHILDREN

Test	Groups	Mean	M.D.	σ_{DM}	t-value
Pre-test	Experimental group	1.58	.012	.013	0.93
	Control Group	1.57			
Post-test	Experimental group	1.59	013	.018	0.78
	Control Group	1.58			

Insignificant level at 0.05., $t_{.05}(58) = 2.00$

It is evident from Table 2, that there was no statistically significant difference between the pre-test means of standing broad jump of experimental group and control group, as the obtained t-value of 0.93 was less than the calculated value of $t_{.05}(58)=2.00$. This implies that both the groups are homogeneous with respect to Standing Broad Jump performance at pre-test

point. Similarly, the significant difference was also not found between the post-test means of standing broad jump of experimental group and control group, as the obtained t-value of 0.78 was less than the calculated value of $t_{0.05(58)}=2.00$. This suggests that there is no effect of treatment on the standing broad jump test performance i.e. explosive strength of the subjects.

TABLE 3
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN
SCORES OF SIT-UPS OF EXPERIMENTAL AND CONTROL GROUP
MALE SCHOOL GOING CHILDREN

Test	Groups	Mean	M.D.	σ_{DM}	t-value
Pre-test	Experimental group	27.60	.133	.762	0.18
	Control Group	27.47			
Post-test	Experimental group	36.67	5.63	.770	7.32*
	Control Group	31.03			

*Significant level at 0.05, $t_{0.05(58)} = 2.00$

It is evident from Table 3, that there was no statistically significant difference between the pre-test means of sit-ups of experimental group and control group, as the obtained t-value of 0.18 was less than the calculated value of $t_{0.05(58)}=2.00$. This implies that both the groups are homogeneous with respect to sit ups performance at pre-test point. Where as, the significant difference was found between the post-test means of sit-ups of experimental group and control group, as the obtained t-value of 7.32 was higher than the calculated value of $t_{0.05(58)}=2.00$. This suggest that there is effect of treatment on the sit ups test performance i.e. strength endurance of the subjects at post-test point.

TABLE 4
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES
OF TWELVE MINUTES RUN/WALK OF EXPERIMENTAL AND CONTROL GROUP
MALE SCHOOL GOING CHILDREN

Test	Groups	Mean	M.D.	σ_{DM}	t-value
Pre-test	Experimental group	1595.10	11.93	5.45	2.19*
	Control Group	1583.17			
Post-test	Experimental group	1635.87	30.67	7.47	4.11*
	Control Group	1605.20			

*Significant level at 0.05, $t_{0.05(58)} = 2.00$

It is evident from Table 4, that there was statistically significant difference between the pre-test means of twelve minutes run/walk of experimental group and control group, as the obtained t-value of 2.19 was high than the calculated value of $t_{0.05(58)}=2.00$. This implies that both the groups are not homogeneous with respect to run and walk test performance at pre-test point. Similarly, the significant difference was also found between the post-test means of twelve minutes run/walk of experimental group and control group, as the obtained t-value of 4.11

was high than the calculated value of $t_{.05(58)}=2.00$. This suggest that there is an effect of treatment on the run and walk test performance i.e. endurance of the subjects.

TABLE 5
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES
OF SIT AND REACH OF EXPERIMENTAL AND CONTROL GROUP
MALE SCHOOL GOING CHILDREN

Test	Groups	Mean	M.D.	σ_{DM}	t-value
Pre-test	Experimental group	28.90	.467	.664	0.702
	Control Group	28.43			
Post-test	Experimental group	32.63	1.66	.714	2.33*
	Control Group	30.97			

*Significant level at 0.05, $t_{.05(58)} = 2.00$

It is evident from Table 5, that there was no statistically significant difference between the pre-test means of sit and reach test of experimental group and control group, as the obtained t-value of 0.702 was less than the calculated value of $t_{.05(58)}=2.00$. This implies that both the groups are homogeneous with respect to sit and reach test performance at pre-test point. Where as, the significant difference was found between the post-test means of sit and reach test of experimental group and control group, as the obtained t-value of 2.33 was high than the calculated value of $t_{.05(58)}=2.00$. This suggest that there is an effect of treatment on the sit and reach test performance i.e. flexibility of the subjects.

DISCUSSION

The present study confirmed the positive effects on Strength endurance, Cardiovascular-endurance, and Flexibility over six Weeks. Male School children engaged in aerobic dance activity demonstrated higher Strength endurance, Cardiovascular-endurance; and Flexibility. The results of the present study was partially supported by Hopkin (1999) and Rana, & Sharma (2008)

It was hypothesized that “There would no significant effect of aerobic dance exercise on selected physical fitness profile of male school going children” is partially accepted, as the positive effects was found on Strength endurance, Cardiovascular-endurance, and Flexibility parameters of physical fitness over six weeks school children engaged in aerobic dance activity.

CONCLUSIONS

Within the frame-work of the present investigation, the following conclusions may be drawn:

1. There is significant effect of aerobic dance exercise on the Strength endurance Cardiovascular-endurance, and flexibility.
2. There was no significant effect on the parameters viz. Explosive strength. This study shows a significant improvement in almost all physical fitness can be achieved with a training program of aerobic dance exercise implemented at a school level.
3. Male School going children engaged in aerobic dance exercise demonstrated higher Strength endurance, Cardiovascular-endurance; and Flexibility.

RECOMMENDATIONS

Further studies to classify fitness levels obtained by these programs based on more detailed analysis for training duration, training schedules as well as fitness indices will enable assessment of the most optimal training methods.

Additionally this methodology could be applied to a female student population to investigate any differences in response between genders to fitness training in other countries.

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Appendix "A"

Training Schedule

1. Assembly. 2. Warming up and stretching exercise 15 minutes
- 1st and 2nd weeks:** 1. 16 count exercise, 2. Total Practices: 6 minutes, 7 repetitions = 42 minutes, 3. Total Rest: 1.30 minutes, 6 between each repetitions = 1 minutes.
- 3rd and 4th weeks:** 1. 16 count exercise, 2. Total Practices: 6 minutes, 8 repetitions = 48 minutes, 3. Total Rest: 1 minute, 7 between each repetitions = 7 minutes.
- 5th and 6th weeks:** 1. 16 count exercise, 2. Total Practices: 6 minutes, 9 repetitions = 54 minutes, 3. Total Rest: .30 minutes, 8 between each repetitions = 4 minutes.

Experimental groups practiced selected Five aerobic dance exercise in the sports room specially allotted for experiment of O.P.Jindal school, Raigarh. The practice session was conducted for a period of 60 minutes every Monday to Saturday for the duration of six weeks.

The dose of the practice for aerobic dance was 1st and 2nd weeks six minutes seven repetition, 3rd and 4th weeks six minutes eight repetition and 5th and 6th weeks six minutes nine repetitions respectively and the total time for the daily practice by the experimental group was between 42 to 54 minutes. The time for rest was between 1.30 minute, 1 minute and 0.30 minute as prescribed by experts. All together, the practices were schedule for one hour every day in the morning.