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Role of Aerobic Exercises in Health Related Physical Fitness of Junior Boy's

Prof. Jondhale Suresh Nivartirao: College of Physical Education Kautha, Nanded

Introduction

For years, the health related physical fitness status of human was not known. People, therefore, used to believe that high level of physical fitness contributes to good health. Today, such belief has become a misconception. In fact, high-level of physical fitness has an excellent link towards exhibiting top performance and is not consistent relationship towards one's health.

The idea of the concept of health related fitness was clicked among the researchers of AAHPERD (American Alliance of Health, Physical Education, Recreation and Dance), while most of the American children failed in Kraus-Weber's Muscular fitness test. Many studies, however, indicate that the school going students are inclined towards obesity which affects adversely the normal improvement of physical fitness and associated variables (Alexander and Peterson, 1972; Burwell, et al., 1956; Fox and Mathew, 1981; Stamler et at., 1978). Gradually the idea of health related fitness was developed and the test widely known as AAHPERD then shared overall responsibility to define the concept of health related fitness and developed the test widely known as AAHPERD Health Related Physical Fitness Test for school going American children's. Afterwards, AAHPERD developed different norms of Health Related Physical Fitness for adults.

In India, different researchers have tried to apply Kraus-Weber test (i.e., K-W test) to assess to muscular fitness of Indian school children and compared the norms with other countries (Gharote, 1976; Moorthy, 1983). The result indicates that the American school children are far short of the Indian counter parts, whereas the Indian school children had poor state of muscular fitness than the Australian counterparts. Gradually, the concept of muscular fitness remained far behind and, today, the challenging as well as rising concept is Health Related Physical Fitness."

Since the scientists of worldwide nations accept the applicability of the Test Battery to assess one's level of Health Related the same may be administered on Junior Boy's as this study.

In India, very few researchers remained in the front line towards the assessment as well as implication of AAHPERD Health Related Physical Fitness Test for Junior Boy's however; no report in this line for Junior Boy's so far is available. Hence, the researcher thought of undertaking the study to see the effect of aerobic exercises on health related physical fitness among Boy's.

Methodology

Research Design

The investigator has used parallel group Design for the present study that consists of one control group and one experimental group. The experimental group received a training of aerobic exercises for a specific period, whereas the control group did not receive the said training. The duration of the experiment was for 8 weeks.

The Subjects

To achieve the purpose of this study 60 Junior Boys volunteered as subjects from N.S.B. College Nanded. The subjects' age group was ranged from 17 to 19 years. The samples were randomly divided into two groups viz., Group I (Experimental) and Group II (Control). Each group consisted of 30 students.

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Design of the Experiment

60 Junior College Boys were divided into two Groups, viz., Group A (Experimental Group) & Group B (Control Group). The schematic presentation of the research design is as follows:

Group A

Pre Test ---------- Post- Test

(Aerobic Exercise Training Group)

Group B

Pre -Test ---------- Post-Test

(Controlled Group)

After the pre-test with the AAHPERD Health Related Physical Fitness Test Battery, the Experimental Group underwent a training programme of Aerobic Exercises and Control Group did not participate in the above training.

Dependent Variables

The test-items of Health Related Physical Fitness were considered as the main dependent variable as selected in this study. The dependent variables were Abdominal muscles strength & Endurance, Body fat %, Flexibility, and Cardiovascular Endurance, which were measured scientifically. The method of measurement followed as per the AAHPERD Health-Related Physical Fitness test (HRPFT).

Independent Variable

Here training intervention i.e., aerobics was considered as the independent variables. However, in order to impart the repetition and intensities of different types of aerobic exercises and to make them effective, the selection of aerobic exercises was important, which was made on the basis of the following points:

1. Variety of movement (turning, twisting and bending)
2. Body parts movement (movement of neck, arms and trunk)
3. Dance steps (applicable to aerobics)
4. Simple to Complex (starting from easy movement and gradually intensifying the exercise)

Variables and Tools used

Variables	Tools Used
Cardiovascular Endurance	One mile Run test which requires stop watches, starting gun etc.
Strength and Endurance of Abdominal Muscles	Sit up test which requires a scale and stop watch
Body Fat Tricep Skinfold (mm) Subscapular Skinfold (mm)	Skin fold Caliper
Flexibility (Site and Reach)	Curetion's Box

Procedure of the Study

The experiment was conducted in 3 phases viz., Phase I - Pre Test, Phase II — Training, and Phase Ill — Post Test.

The investigator conducted the pre test with consent in writing form. The age of each student participated in experiment was confirmed from the college. Each subject was given individual code number i.e. Case number and record card prepared by the investigator so that they can be identified easily.

All the subjects were strictly instructed to arrive each station made for collecting data. Four professionally qualified and trained assistants controlled each station.

Demonstration of the test and question asked by the subjects were given and explained. They were also motivated properly.

Standard procedures were followed for testing the selected variables. Then the group division was made randomly into two groups. Name list of the two groups was also prepared.

The experimental groups were undergone special aerobic exercise training in addition to their regular physical education classes and theoretical classes in the college. The aerobic training was given for six days per week that is Monday to Saturday. The duration of each class was 60 minutes. Attendance of the subjects was taken regularly and the percentage of attendance after completion of training was found more than 8O°/o However, in a regular class the students were demonstrated and explained new movements I exercises that were introduced. Any question asked by the students has been clarified. They were also motivated properly.

Post-test was conducted considering same procedure like the pretest, and for this, all the subjects were strictly instructed to arrive at each station made for collecting data on the selected variables. Same procedures, as followed in pre-test, were performed for tests administration among all the subjects belonging to their respected groups.

Statistical Analysis

Descriptive statistics have been applied to process the data prior to employing inferential statistics. Since there are five dependent variables, which were assessed during two testing programmes (i.e., pre-test and post-test) for two different groups (experimental and control), the inferential statistics i.e., 2 x 2 x 5 Factorial ANOVA followed by Scheffe's post hoc test have been employed.

Major Findings:

The summary of the result of 2 x 2 x 5 Factorial ANOVA has been presented below:

- "Aerobic Exercise training" showed significant superiority over the "Controls" in reducing Triceps skin fold (CD=O.33, p<O.05).
- "Aerobic Exercise" training showed better reduction in Subscapular skinfold than the control (CD=O.27, p<O.O5).
- "Aerobic Exercise training" was found better than the "Control" in Abdominal Muscles Strength (CD=O.42, p<O.O5).
- "Aerobic Exercise training" was found better than the "Control" in Flexibility (CDO.50, p<O.05).
- "Aerobic Exercise training" had better effect than "Control" in Cardiovascular Endurance (CD=O.31, p<O.05).

Conclusion

The result of this study helped to conclude the followings:

- The aerobics training schedule, as developed in this study, was found suitable for the junior- Boys for.
- Maintaining normal body fat.
- Improving muscular strength, cardiovascular endurance and flexibility;
- The aerobics training helps to improve overall level of health related physical fitness of junior college-Boy's.

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Recommendations & Further Suggestions

This study recommends that —

- The aerobics training as developed in this study is suitable for the junior college boys for maintaining overall level of health related physical fitness.
- The aerobics training must be incorporated in the curriculum of junior especially for the boys. -
- Similar but further studies for junior college Girls, senior colleges and university students are suggested.

Contribution to the Knowledge

In the country like India, majority of the women population is deprived of many facilities for improving overall status of health and fitness. This study could bring into light about suitable Aerobic exercises" especially for the junior Boys for improving health related physical fitness. The contribution made in this study is new and adds quantum of ideas to the knowledge-sphere of Indian physical education.

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