

Effect of body combat exercises on selected physical fitness components of school boys aged 14 to 16 years

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Abstract

The objective of the study was to assess the effect of body combat exercises on selected physical fitness components of school boys aged 14-16 years. Fifty (50) boys, aged from 14-16 years, were volunteered as subjects for this study. The selected variable for the study was cardiovascular endurance and muscular strength and for measuring cardiovascular endurance and muscular strength Harvard Step Test and sit-up tests were taken into consideration. Body combat exercises were intervened for the period of eight (8) weeks. This experimental design consists of an experimental group which was compared with a control group for the testing the effects of Body Combat exercise training program on cardiovascular endurance and muscular strength component. This experimental design was Non-equivalent control groups Design (pretest/post-test) where the experimental group received the Body combat exercise training program and the control group did not. The collected data were analyzed by using One Way ANCOVA. It was found that after the Eight weeks training programme there was a significant improvement in the cardiovascular endurance and Muscular Strength of school boys.

Keywords: body combat, cardiovascular endurance, physical fitness, muscular strength

Introduction

The art or mode of human living and the status have already been geared to an optimum stage i.e. sophisticated mechanized life cycle. Today due to scientific development man is enjoying the highest level of physical comfort. Modern technology is trying hard to make our life easier, more luxurious, more comfortable but less vigorous. Hence throughout the world man appears to be living a more and more inactive life. He rides instead of walking, sits instead of standing and watches instead of participating and such changes in life style, obviously resulted in a reduces physical labour and on the other hand increased mental stress and strain. Thus there is an urgent need to bring about positive changes in the present day life styles through participation in sports and physical education programs.

One of the significant aims of every programme of physical education and sports should be develop physical fitness among the population or participants. The aim of physical education must be to make every child physically, mentally and emotionally fit and to develop in him personal and social qualities, to help him to live happily with others and build him as a good citizen. Hence physical fitness could be developed in an individual through means of various programmes or exercises. Body Combat exercises could help an individual to attain cardio-vascular respiratory and circulatory fitness in the body.

Body Combat is a fairly new form of exercise and it is one of the best way to improve the quality of life. The term Body Combat is a totally non-contact martial art exercises. Body Combat is empowering cardio workout where you are totally unleashed. This fiercely energetic program is inspired by martial arts and drawn from a wide variety of disciplines such

as karate, boxing, taekwondo, tai chi and muay Thai and supported by music.

Body Combat improves your level of physical fitness and helps your body work more efficiently. The cardio pulmonary system (the heart, blood vessels and lungs) is the primary system used by the body during any workout.

Objectives of the Study

The objective of the study was as under:

- To compare adjusted mean scores of Cardiovascular Endurance of school boys of the Body Combat Exercise group and non-body combat exercise group by taking pre cardiovascular endurance as a covariate.
- To compare adjusted mean scores of Muscular Strength of School boys of the Body Combat exercise group and non-Body Combat exercise group by taking their muscular strength as a covariate.

Hypothesis of the Study

The hypothesis sought to be tested are as follows:

- **H₀₁:** There was no significant difference in adjusted mean score of Cardiovascular Endurance of school boys of the Body Combat Exercise group and non-Body Combat Exercise group by taking Pre Cardiovascular endurance as a covariate.
- **H₀₂:** There was no significant difference in adjusted mean score of Muscular strength of school boys of the Body Combat Exercise group and non-Body Combat Exercise group by taking Pre Muscular Strength as a covariate.

Materials and Method

Selection of Sample: A sample of fifty (n=50) boys subject

aged 14 to 16 years was selected randomly from Indian High School, Dubai, UAE.

Research Design: (Non-equivalent control groups pretest/post-test) The design of the experiment had been planned in three phase's viz., Phase – I: Pre-test, Phase – II: Training or Treatment, and Phase – III: Post-test. The subjects in the experiment were divided into two groups one experimental group and one control group; each group consisted of 25 subjects. The experimental groups were imparted 60 minutes of training 5 times a week from Sunday to Thursday for duration of eight weeks.

Selected Variable: Cardiovascular Endurance, Muscular Strength

Tools/ Instruments

The following criterion measures were included to record the reading of test item of motor fitness.

Variable	Test	Unit
• Cardiovascular endurance	Harvard Step Test	Fitness Index Max. sit-ups in
• Muscular Strength	Sit ups	1 minute

Treatment: The following Body Combat Exercise was selected as a Training Program for the experiment

1. **Boxing moves** (jab, Cross, Uppercut, Hook)
2. **Karate punch** (Knife Strike, Elbow strikes)
3. **Blocks** (rising block, Outer block, Low Cross block, Rising Palm Block)
4. **Knees** (Front Knee, Roundhouse Knee)
5. **Kicks** (Front kick, side kick, back kick)

Statistics: Since, there were two groups for this experimental study viz. Body Combat Exercise group and Non Body Combat Exercise group, wherein the researcher has decided to compare the adjusted Mean Scores of selected Physical Fitness, Physiological and Psychological Variable by taking Pre Test as Covariate in order to see the Body Combat Exercise of school Boys age 14 to 16 years. One Way ANCOVA test was appropriately used for the data analysis.

Results and Discussion

Group wise comparison of effect of Body Combat Exercise Training Programme on Cardiovascular Endurance.

The mean achievement in *Cardiovascular Endurance* due to Integrated Exercises Training Module, as obtained from ANCOVA test, revealed that

- There was significant difference between adjusted mean score of *Cardiovascular Endurance* of School Boys of the Body Combat Exercise group and Non Body Combat Exercise group by taking Pre Cardiovascular Endurance as Covariate ($F_{y,x}=12.629$, $df=1/49$, $p<0.01$). Therefore the adjusted mean scores of Cardiovascular Endurance of boys of Body Combat Group is 27.24 which is significantly higher than that of Non-Body Combat Group where adjusted mean scores of Cardiovascular Endurance of girls is 21.46. Thus, the overall performance scores of both the Non Body Combat Exercise group and Body Combat

Exercise groups of *Cardiovascular Endurance* were not equal.

- There was significant difference between adjusted mean score of *Muscular strength* of School Boys of the Body Combat Exercise group and Non Body Combat Exercise group by taking Pre Muscular strength as Covariate ($F_{y,x}=13.296$, $df=1/49$, $p<0.01$). Therefore the adjusted mean scores of Muscular strength of boys of Body Combat Group is 28.20 which is significantly higher than that of Non-Body Combat Group where adjusted mean scores of Muscular strength of boys is 26.64. Thus, the overall performance scores of both the Non Body Combat Exercise group and Body Combat Exercise groups of *Muscular strength* were not equal.

These results help to interpret that the effect of Body Combat Exercise Training Programme were useful in developing Cardiovascular Endurance as well as muscular strength. However, the Body Combat Exercise Programme has been recorded as more effective in improving *Cardiovascular Endurance and Muscular Strength* of the School Boys aged 14 to 16 years.

Conclusion

Effect of eight weeks Body Combat Exercise Training Programme intervention has potential benefits to improve Cardiovascular Endurance and muscular strength of the Schools Boys aged 14 to 16 years.

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