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The effect of yogic and physical exercises on cardiovascular endurance variables of secondary school students in Vijayapur

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Abstract

The purpose of the present study was to find the effect of yogic practice and physical exercises on cardiovascular endurance variables of secondary school students. For this purpose 150 students studying in various classes of S S composite junior college Vijayapur in Karnataka students in the age group of 14 to 16 were selected using purpose random techniques. They were divided into three equal group, each group consisted of fifteen subjects, in which group -I underwent yoga practice, group -II underwent training physical exercises and group-III acted as control group who are not allowed to participate in any special training apart from their regular curricular activities. The training period for this study was six days a week for eight weeks. Prior and after the training period, the subjects were tested for cardiovascular endurance. The Analysis of Covariance (ANCOVA) was applied to find out which group has better in performance. Whenever, 'F' ratio for adjusted test was found to be significant for adjusted post-test means Scheffe's test was followed, as a post-hoc test to determine which of the paired mean differ significantly. It was concluded from the results of the study that after yoga practice and physical exercises periods, both the training has improves the cardiovascular endurance for both the experimental group. The results of the study also shown that there was a significant difference was found between the control groups.

Keywords: Yoga, Physical Exercises, Cardiovascular Endurance

Introduction

Yoga is the science of right living and as such, is intended to be incorporated in daily life. It works on all aspects of the person: the physical, vital, mental, emotional, psychic and spiritual. Yoga aims at bringing the different bodily functions into perfect coordination so that they work for the good of the whole body.

Yoga focuses on harmony between mind and body, yoga derives its philosophy from Indian metaphysical beliefs. The word yoga comes from Sanskrit language and means union or merger. The ultimate aim of this philosophy is to strike a balance between mind and body and attain self attingtment. The achieve this, yoga use movement, breath, posture, relaxation and mediation in order to establish a healthy, lively and balanced approach to life. According to Swami satayananda Saraswathi "yoga is not an ancient myth buried in oblivion. It is the most valuable inheritance of the presents. It is the essential need of today and the culture of tomorrow"

Regular practice of asana maintains the physical body in an optimum condition and promotes health even in an unhealthy body. Through asana practice, the dormant energy potential is released and experienced as increased confidence in all areas of life. Yoga asana have a deeper a significant value in the development of the physical, mental and spiritual personality, whereas pure exercises only have a physical effect on the cardiovascular and bones.

Physical exercises are performed quickly and whith a lot of heavy breathing. Yoga asanas are performed slowly whith relaxation. The benefits of various yoga techniques have been professed to improve body muscular strength, performance, stress reduction, attainment of inner peace and self-realization. It is well established fact that participation in physical education and sports activities if highly beneficial to one's health and leads to improved performance by students in schools, in addition to helping them in developing many life skills.

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In general, children need at least 30 minutes of vigorous activity every day. Unfortunately today children are three to four times less active than they were 30 years ago. As children grow older, their lives become more sedentary. Many take to bus or driven to schools where they sit behind a desk all day. In the evening they watch TV or play computer games. Computers may have become a necessary for today's kids, but a study says that the Machines are producing a "generation of weaklings" as children swap outdoor play for screen games and the internet, reports PTI from London.

Methodology

This study under investigation involves the experimentation of yoga practice and physical exercise on muscular strength and blood pressure [systolic and diastolic]. Only boys student those who were studying in various classes of S S PU Composite junior college of Vijayapur in Karnataka and aged between 14 and 17 years were selected. The selected 150 subjects were randomly divided into three groups of fifteen each, out of which group- I[n=50] underwent yogic practice, group-II [N=50] underwent physical exercise training and group -III[N=50] remained as control.

The training programme was carried out for five days per week during morning session only (6 am to 8 am) for twelve weeks. Cardiovascular endurance was measured by skipping test, se and blood pressure was measured by using sphygmomanometer

The study was to find out the effect of yogic exercises on selected 150 students of high school, aging 14 to 16 years are selected randomly, The Control random group 50 subjects Experimental group-1(Yogic exercise) 50 subjects Experimental group-2 (Physical exercise) 50 subjects. Physiological Variables Cardiovascular endurance and blood

pressure

Human bodies are designed for regular physical activity. The sedentary nature of much of modern life probably plays a significant role in the epidemic incidence of depression today. Many studies show that depressed patients who stick to a regimen of aerobic exercise improve as much as those treated with medication.

Hence the Researcher has selected secondary school students for this particular research work. In these study secondary school students has given various yogic exercises. On the effect of yogic exercises finally researcher has succeeded on get the result in this particular study. Mainly in this study the researcher has taken secondary school children hence the physiological condition will change in this age then also the researcher has given the particular training and he has got improvement in the particular physiological variable

Analyses of results of Cardio Respiratory Endurance

The hearts ability to deliver blood to working muscles ability uses it for running long distance. Hence in this particular study was hypothesized that there would be a significant difference in the cardiovascular endurance between the subjects of experiment 1 and experiment 2 and control group of experiment, it was assumed on the rational that strenuous, varied and high intensive kind of activities and fast moment of the body posture are going increase the muscles, lungs and heart working capacity of the practitioners, this would help to enhance the muscle working capacity and reflexive action in the muscle system of the physical exercises group pulse rate of the yogic group comparing to control and yoga exercise group of secondary school students. The data on cardiovascular endurance before and after training of the yogic and physical exercises and control groups are analyzed and presented in the table-I

Table 1: Computation of Covariance of Cardio Respiratory Endurance of control Group, Experimental group 1(Yogic Exercises) and Experimental group 2 (Physical Exercises) of Secondary school students.

Source Variance	Df	Sum of the Square	Mean square	Remarks
Between the group	2	15861.213	7930.607	Sig
Within the group	147	3383.620	23.018	

Significant at 0.05 level

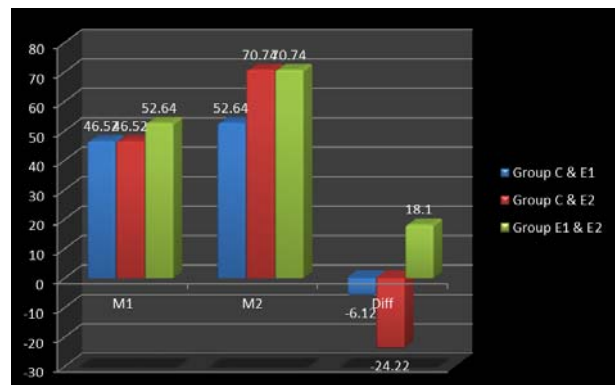
Table 2: Cardio Respiratory Endurance mean differences of control group (A), Experimental group 1(B)(Yogic Exercise) and experimental group 2(C)(Physical Exercise)

Group	M1	M2	Diff
Group C & E1	46.520	52.640	-6.120
Group C & E2	46.520	70.740	-24.220
Group E1 & E2	52.640	70.740	18.100

Results and findings (Cardio Respiratory Endurance)

Table- II shows the 'F' ratio of 344.542 which was greater than table value of 0.05 level. Hence Scheff's Post Hoc test was employed to the data the score is 355.819 which was also found significant. Table-IIA (shows Scheff's Post Hoc test) shows the mean difference between the three groups. The difference between Group A (control group) and Group B (Yogic exercise) was -6.120. The difference between the Group A (control group) and Group C Experimental group (Physical Exercise) was -24.220. The difference between Group B Experimental groups I (Yogic Exercise) and Experimental group II (Physical exercise) was 18.100. It is greater than table value that is 0.05 level.

The Graph showing the mean difference of Cardio Respiratory Endurance between the experimental and control groups



Discussion and findings of Cardio Respiratory Endurance

When we refer TABLE-II it was found that computed F ratio was greater than the table value and data was employed to find-out the adjusted paired means that was also significant. From the statistical analysis of the data, it was found that physical exercise has improved cardiovascular endurance than their counter part (Yogic exercise and control group). It was assumed that the continuous envelopment in physical exercise were developed the cardio respiratory endurance among the participants, because varied and different insensitive activity develop fitness, tolerance and struggling nature in sports activities make participants more efficient and capability to manage physical, physiological and psychological stress and physiological condition of the participants is going to develop the motor qualities by regular practice it is inferred that the cardiovascular endurance in experimental group is enhanced significantly through physical exercises training. therefore, it is statistically proved that the physical training helping in enhancing the cardiovascular endurance. Hence, there would be greater the respiratory endurance in experiment group 1 than their counters a group has rejected and alternative hypotheses is accepted.

Conclusion

The study was revealed that regular involvement in the training and practice of yoga and physical exercises 'were improved the cardiovascular endurance. The results of the study also shown that there was a significant difference was found between the experiment and the control groups, hence it was recommended that school should keep the physical and yoga exercises programme as a part of the curriculum for noticing all round development in personality modern children personality.

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