



EFFECT OF YOGASANA AND AEROBIC EXERCISE ON FLEXIBILITY AND BREATH HOLDING CAPACITY OF HIGH SCHOOL OBESE GIRLS IN MAHARASHTRA

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Abstract: Childhood obesity is the result of long lasting imbalance between energy intake and energy expenditure. A major contribution factor is physical inactivity which is closely linked to bone health. Cardiovascular disease risk fitness and psychological factors. This study was undertaken to examine the effect of yogasana and aerobic exercise on flexibility and breathe holding capacity of high school obese girl student in Maharashtra state. The sample of the study has been selected randomly. The sample consists of 45 obese students studying in different school in Maharashtra State. They were divided in to three groups, namely yogasana group (group A), Aerobic group (group B), and control group (group C). The group A & B were participated in the training program for a period of 6 weeks. The collected data were statistically analyzed by using analysis of conversance (ANCOVA).

Introduction:

Obesity is known as one of the most important health problems. Its prevalence is increasing rapidly in all ages including children all over the world. Obesity is usually defined by the BMI, which provides an index of weight relative to height and is generally considered as a gateway disease, which can lead to obesity and heterogeneous diseases such as metabolic syndrome, diabetes, different gastrointestinal and respiratory disease, and certain type of cancers and hypertension.

Obesity In Maharashtra

Though India is a country still combating the communicable disease, Maharashtra on the other hand has an admirable health status comparable to the East and is now going through an epidemiological transaction were non- communicable disease are more prevent.

When compared to the prevalence studies done before two decades or more in Maharashtra, it was found that the rate of underweight is reducing, but at the same time the rate of overweight and obesity is increasing.

The study revealed a high prevalence of overweight (16%) and obesity (7%). Prevalence of overweight and obesity was 19% and 6% among boys and 15% and 8% among girls respectively. Students who are

classified as obese generally consider themselves to be less academically proficient than their counterparts. Obvisoly though, students own actions will also determine their level of success in school. Obese students tend to miss significantly more school which intuitively has an impact on academic performance.

Yoga has been shown to be simple and economical therapeutic modality that may be considered as a beneficial adjuvant for many of the health problems. Yoga therapy is the two fold therapeutic system that prevent and cures various diseases through practice of yoga system. This system concentrates on purification of body and mind, through this integrated holistic approach one can overcome almost all kinds of afflictions in life. It is a kind of low impact physical exercise, and is used for therapeutic purposes.

Yoga asana have been practiced in India from Vedic period and was coordinated and organized in a systematic way, as known today, by sage Pathanjali. He defined yoga as a systematic practice for purifying one's mind, intellect and body.

Aerobic exercise is defined by the American college sports medicine as "any activity that uses large muscles groups, can be maintained continuously, and is rhythmic in nature". Aerobic activities

overload the heart and lungs and cause them to work harder than at rest. Aerobic exercise make a person breath harder than when they are resting and increase their heart rate Aerobic exercise is very important and is very much necessary to be fit and fine. Aerobic exercise is very useful tool in fat burning too. Aerobic exercise can be any type of exercise that causes your heart rate to increase and makes you breathe harder than normal. The body has two sources of energy; sugar and fat. Sugar and glycogen stored in the liver and muscles and is the easiest form of energy for your body it uses. Glycogen is the body's preferred source of energy. Fat on the other hand, requires more work to be used as energy.

Breath Holding Capacity

Breath holding time is defined as the duration of the time through which one can hold his breath without inhaling (Strukic, 1981).

Flexibility

Flexibility refers to the quality of freedom of movement. It is the measure of the range of media allowed by a body joint or joints. Flexibility is important for performance in sports and important to maintain good posture. It can help to prevent muscle strain and orthopedic problems.

Objectives

1. To compare the effect of yoga and aerobics on obesity reduction.
2. T determine the effect of yoga and aerobics on flexibility and breath holding capacity of obese girls

Hypothesis

1. It was hypothesized that yogasana and aerobic training on flexibility and breath holding capacity will be significantly increased when compared with the control group.
2. The yogasana training group will be superior to aerobic training group on breath holding capacity during the training period.
3. The aerobic training group will be superior to yogasana training group on flexibility during the training period.

Methodology:

Research methodology involved the systematic procedure by which the research started from the initial identification of the

problem to its final conclusions. The procedure and methods were applied in selection of subjects, training programme, administrations of tests, collection of data and statistical procedure followed in the study. The study was conducted on a total of 45 randomly selected obese girl students from Wardha district, Maharashtra.

The groups were:

Group A- Yogasana Practice group.

Group B- Aerobic exercise practice group.

Group C- Control group, (who didn't undergo any treatment)

The experiment group A and B were given treatment for one hour daily for three days a week for a period of six weeks and group C was not exposed to any treatment.

Data Analysis

Table-1 Computation of analysis of covariance of pre-test and adjusted post test on flexibility of three different groups (score in inches)

Test	Yoga group	Aerobic group	Control group	Source of Variance	SS	DF	MS	F
Pre test mean	7.9	7.70	7.60	Between	.965	2	.486	3.19
SD	.329	.408	.388	Within	5.96	42	.142	3.19
Post test mean	8.23	8.42	7.68	Between	4.44	2	2.22	18.50
SD	.301	.378	.354	Within	5.04	42	.120	18.50
Adjusted post test mean	8.06	8.46	7.80	Between	3.310	2	1.655	115.60

Table one show the analyzed data on flexibility. Pre test, Post test, adjusted test of flexibility.

Since, three groups were compared, whenever obtained "F" ratio for adjusted post test is found to be significant the Scheffe 's test to find out the paired mean differences and it is presented in table II.

Table – 2 Ordered Scheffer's Post hook test mean differences on flexibility among three groups (Score in inches)

Yoga group	Aerobic group	Control group	Mean	Confidence interval value
8.06		7.80	0.26	0.04
8.06	8.46		0.66	0.04
	8.46	7.80	0.40	0.04

Table-3 Computation of analysis of covariance of pre- test and adjusted post test on breath holding of three different groups (score in seconds)

Test	Yoga group	Aerobic group	Control group	Source of variance	SS	DF	MS	F
Pre test mean	30.40	30.53	28.93	Between	23.64	2	11.82	
SD	.329	.408	.388	Within	270.26	42	6.43	
Pos test mean	37.73	35.07	29.80	Between	488.92	2	244.26	27.00*
SD	.301	.378	.354	Within	380.26	42	9.05	
Adjusted post test mean	37.30	34.50	30.78	Between	301.24	2	150.62	
				Within	128.47	41	3.13	

Table-4 Ordered Schaffer’s post hook test mean differences on breath holding capacity among three groups (score in seconds)

Yoga group	Aerobic group	Control group	Mean differences	Confidence Interval value
37.30		30.78	6.52	0.77
37.30	34.50	30.78	2.80	0.77
	34.50	30.78	3.72	0.77

Discussion on Findings:

The statistical analysis of data indicated that there are significant improvement in the selected variables namely flexibility and breath holding capacity. The result reveals that the experimental group had significant improvement than the control group. The yoga asana practices group significantly improves the flexibility and breathe holding capacity among obese girl student. The Aerobic training group significantly improves flexibility and breathes holding capacity among obese students. Aerobic training group had slightly improve greater than yoga asana group in breath holding capacity and the yoga asana training group improved more than the aerobic training group in flexibility.

Conclusion:

In the modern society, life has become so complex due to various regions. The modern way of life has lowered people’s biological fitness levels. They lead sedentary life, as machines have made their life easy and comfortable. Without adequate physical exertion man has become complacent and forgets the need of physical activity, for his survival. The modern man due to his

luxurious, cozy and comfortable life has become an easy prey to various fatal dieses. Yoga is no more regarded as a discipline to be followed only by those who have set emancipation as the highest goal of their life. All educated and uneducated people found yoga to be useful. Renunciation is no longer a pre- condition to the study of yoga. Yoga has come out of its secret hiding place. The aerobic dance is a common craze among most people today. It is one of the best ways to enjoy a fitness program and also a way to achieve better health. The aerobic dance is a feet taping exercise that is accompanied with musical beats and the signals of an instructor.

Aerobic dancing also induces fast breathing for a long period of time by pumping more oxygen into the bloodstream. Also known as “Aerobics”, the aerobic dance can be done with hip hop or country folk music.

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