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To determine the effects of the yoga group and aerobic exercise group on their pulmonary function

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Abstract

Yoga is a group of physical, mental, and spiritual practices or disciplines which originated in ancient India. Yoga is a great way to work on your flexibility and strength. Just about everyone can do it, too -- it's not just for people who can touch their toes or want to meditate. Some types of yoga are about relaxation. In others, you move more. Most types focus on learning poses, called asana. They also usually include attention to breathing.

Yoga usually involves paying attention to your breath, which can help you relax. It may also call for specific breathing techniques.

"The relaxation techniques incorporated in yoga can lessen chronic pain, such as lower back pain, arthritis, headaches and carpal tunnel syndrome," explains Dr. Nevins. "Yoga can also lower blood pressure and reduce insomnia."

"Aerobic" means "relating to, involving, or requiring free oxygen", and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism.

This study was conducted North 24 parganas in west Bengal. The data was collected during the period of 1 month (i.e. from Jan .2018 – Dec. 2018). 30 adult's male's candidate whose age group of 30 – 50 years were selected and the subject were divided in to two groups- Group I and Group II.

Study procedure explained to each participant according to group that is about aerobic exercises to group I. And yoga postures explained and demonstrated to group II.

Out of thirty subjects that were enrolled for this study. There were no baseline differences between the groups and thus both groups that are group I and II were comparable. BMI in Aerobic Group and Yoga group compared between two showing no significance. And Vital capacity compared between two Aerobic Group and Yoga group is significant.

Yoga along with pranayama and sun salutations can be used as complementary or adjunctive intervention in obesity for reduces the weight and improvement in pulmonary function.

Keywords: yoga, aerobics, B.M.I, paired t test

Introduction

Yoga is a group of physical, mental, and spiritual practices or disciplines which originated in ancient India. Yoga is one of the six orthodox schools of Hindu philosophical traditions. There is a broad variety of yoga schools, practices, and goals in Hinduism, Buddhism, and Jainism. The term "yoga" in the Western world often denotes a modern form of Hatha yoga, consisting largely of the postures called asanas.

Yoga is a great way to work on your flexibility and strength. Just about everyone can do it, too -- it's not just for people who can touch their toes or want to meditate.

Some types of yoga are about relaxation. In others, you move more. Most types focus on learning poses, called asanas. They also usually include attention to breathing.

Yoga poses work by stretching your muscles. They can help you move better and feel less stiff or tired.

At any level of yoga, you'll probably start to notice benefits soon. In one study, people improved their flexibility by up to 35% after only 8 weeks of yoga.

Aerobic exercise is physical exercise of low to high intensity that depends primarily on the aerobic energy-generating process. "Aerobic" means "relating to, involving, or requiring free oxygen", and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism.

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[Generally, light-to-moderate intensity activities that are sufficiently supported by aerobic metabolism can be performed for extended periods of time. What is generally called aerobic exercise might be better termed "solely aerobic", because it is designed to be low-intensity enough so that all carbohydrates are aerobically turned into energy.

Pulmonary Ventilation

The lungs are designed to continually exchange gas with the external environment in order to maintain low concentrations of carbon dioxide and high concentrations of oxygen in their gas exchange areas. To do so, the lungs must intake and efflux a large volume of air with each breath. "Ventilation" refers to the volume of air that the lungs exchange each minute and defines an important variable of an individual's pulmonary physiology.

Statement of the problem

The study was compare with an Aerobic group and Yoga group in their effects on pulmonary ventilation.

Aim and objective of the project

1. To compare the effect of yoga and aerobics on obesity reduction.
2. To determine the effect of yoga and aerobics on Pulmonary Function.

Delimitation

1. Only Male subjects were studied in this project. With age group 30 -50 years.
2. Subjects with overweight, grade I& II obesity calculated by Body mass index (BMI) By WHO criteria.

Limitation

The limitation of the study is the subject were came from different family backgrounds. Thus, socio-economic standard, life style, family culture, behavioural pattern, habits etc. might have some effect on flexibility of the subjects which was beyond control of the investigator and considered as limitation of the study.

Hypothesis

- It was the hypothesis there were be no significant difference in respect of pulmonary function between aerobic group and yoga group in obesity.
- This study was conducted North 24 parganas in west

Bengali. The data was collected during the period of 1 month (i.e. from Jan .2018 – Dec. 2018).30 adults males candidate whose age group of 30 – 50 years were selected, and the subject were divided in to two groups- Group I and Group II.

- Study procedure was explained in their language. Written Informed Consent was taken from each participant. The parameters of height, weight, Body mass index (BMI), Pulmonary Function (P.F.T.) were measured. The height measure in centimeters, weight measure in kg, B.M.I measure by calculates in weight and height and Pulmonary function measure by vital capacity.

Procedure

- Study procedure explained to each participant according to group that is about aerobic exercises to group I. And yoga postures explained and demonstrated to group II.
- Group I was given aerobic exercise (walking) 30 min to one 45 minutes daily. Including warm up and cool down for five days in a week.
- Group II subjects were taught pranayama, sun salutations and yoga postures (asana) which helps to reduce weight in standing, sitting, lying, 30 min. to one hour daily for five days in a week.

Data analysis

- Statistical measures such a mean, standard deviation (SD) and tests of significance such as paired 't' test. The results were concluded to be statistically significant with $p < 0.01$. Paired't' test was used to compare differences between the two groups.

Results

- Out of thirty subjects that were enrolled for this study. There were no baseline differences between the groups and thus both groups that are group I and II were comparable. BMI in Aerobic Group and Yoga group compared between two showing no significance. And Vital capacity compared between two Aerobic Group and Yoga group is significant (Tables 2).
- The findings in this study indicate that there was significant improvement in all the parameters that subject participated in yoga group than aerobics group.

Table 1: Shows pre and post values of vital capacity (VC) in both groups.

	Aerobic Group	S.D	Yoga Group	S.D	P Value
Pre	4.12	+/-3.11	4.11	+/-3.15	0.074
Post	4.80	+/-3.95	5.00.	+/-4.20	0.01

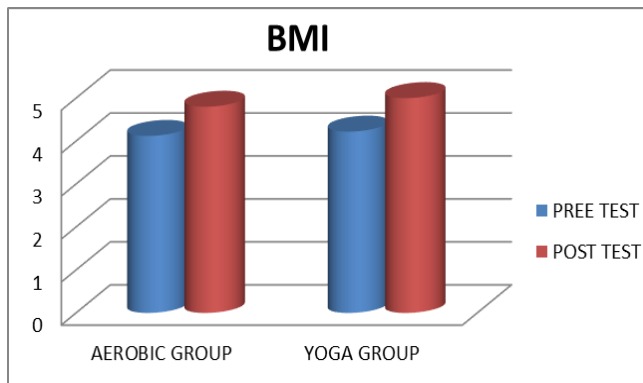
Table 2: Pre and post value of BMI in both groups.

	Aerobic Group	S.D	Yoga Group	S.D	P Value
Pre	30.54	2.98	26.53	2.51	0.81
Post	27.15	2.50	25.78	2.46	.001

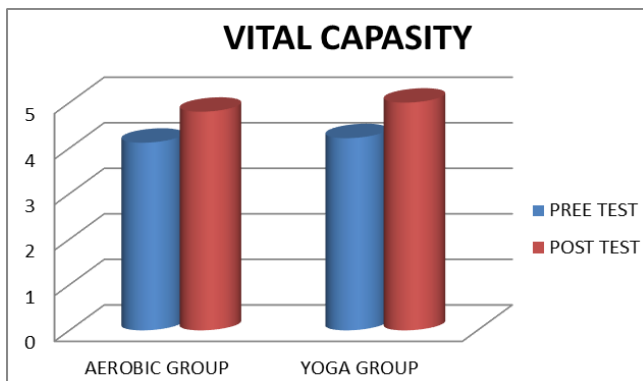
Discussion

The results of this study suggest that obese subjects who

participated in yoga group show more improvement in pulmonary functions and reduce



Pre and post value of BMI in both groups



Pre and post values of vital capacity (VC) in both groups

This could be due to the effect of yoga postures that involves physical and mental components. This is partly in accordance with various studies, increased flexibility and relaxation. Surprisingly doing yoga it is possible to burn fat, boost the metabolism and give all other benefits to improve health. Fat burning postures explains that the backward bending postures elevate the heart rate. Twisting postures stimulate the adrenal glands and flush out toxins.

When people think of yoga, they think of its wonderful benefits like mind and body connection, increased flexibility and relaxation. When doing yoga it gives the quick effect on body. That will get one's heart into its target zone. Yoga can help to develop long strong muscles a flat stomach and a strong back along with improvement of posture.

Conclusion

Yoga along with pranayama and sun salutations can be used as complementary or adjunctive intervention in obesity for reduces the weight and improvement in pulmonary function. Future Research needed on yoga and an aerobic exercise with large sample .Not many people are aware of these simple exercises. There are hardly any studies on comparison of yoga and aerobics .More research needed to validate its effects. But it may be worthwhile to add this exercise in our daily routine.

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