

Effect of Yogic Practices on Flexibility Cholesterol and Blood Pressure

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Abstract

The purpose of the present study was to find the effect of yogic practice on flexibility, total cholesterol and blood pressure (both systolic and diastolic). For this purpose, thirty male students studying in various faculties (except physical education and fine arts) at Annamalai University in the age group of 18 – 25 years were selected. They were divided into two equal groups, each group consisted of fifteen subjects, in which group – I underwent yoga practice and group – II acted as control group who did not participate in any special training. The training period for this study was five days in a week for thirteen weeks. Prior to and after the training period the subjects were tested for flexibility, total cholesterol and blood pressure (systolic and diastolic). Flexibility was measured by conducting sit and reach test, total cholesterol was measured with the help of Boehringer Mannheim Kit method after taking 5 ml of blood, and blood pressure was measured with the help of Sphygmomanometer. Analysis of Covariance was applied as statistical tool. The result of the study has shown that the yoga practice group has improved the flexibility and also blood pressure (both systolic and diastolic) and there was no significant decrease in total cholesterol after the yogic practice.

KEYWORDS: yogic practice, flexibility, total cholesterol and blood pressure

Introduction

The word Yoga comes from the Sanskrit word "Yuj" meaning to yoke, join or unite. This implies joining or integrating all aspects of the individual - body with mind and mind with soul - to achieve a happy, balanced and useful life, and spiritually, uniting the individual with the supreme. In India, Yoga is considered one of the six branches of classical philosophy and is referred to throughout the Vedas - ancient Indian scriptures and amongst the oldest texts in existence. The Upanishads are also broadly philosophical treatises which postdate the Vedas and deal with the nature of the "soul" and universe. However, the origins of yoga are believed to be much older than that, stemming from the oral traditions of Yogis, where knowledge of Yoga was handed down from Guru (spiritual teacher) to Sisya (spiritual student) all the way back to the originators of Yoga, "the Rishis," who first began investigation into the nature of reality and man's inner world. Legend has it that knowledge of Yoga was first passed by Lord Shiva to his wife Parvati and from there into the lives of men.

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-enlightenment. To achieve this, yoga uses movement, breath, posture, relaxation and meditation in order to establish a healthy, lively and balanced approach to life.

According to Swami Satyaand Saraswathi "Yoga is not an ancient myth buried in oblivion. It is the most valuable inheritance of the present. It is the essential need of today and the culture of tomorrow".

Yoga is one of the size orthodox systems of Indian philosophy. It was collated, coordinated and systematized by patanjali in his classical work, the yoga sutras, which consists of 185 terse aphorisms. In Indian thought, everything is permeated by the supreme universal spirit (paramatma or God) of which the individual human spirit (jivatma) is a part. The system of yoga is called because it teaches the means by which the jivatma can be united to, or be in communion with the paramathma, and so secure liberation (moksa).

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. Yogsanas have a deeper significant value in the development of the physical, mental and spiritual personality, whereas pure exercises only have a physical effect on the muscles and bones.

Flexibility is the ability to endure strains or distortion with a capacity to recover rapidly from strains that enables the individual to perform an immediate repetition of movement.

Cholesterol is a fatty substance (a lipid) that is an important part of the outer lining (membrane) of cells in the body of animals. Cholesterol is also found in the blood circulation of humans. The cholesterol in a person's blood originates from two major sources, dietary intake and liver production. Dietary cholesterol comes mainly from meat, poultry, fish, and dairy products. Organ meats, such as liver, are especially high in cholesterol content, while foods of plant origin contain no cholesterol. After a meal, cholesterol is absorbed by the intestines into the blood circulation and is then packaged inside a protein coat. This cholesterol-protein coat complex is called a chylomicron. The liver is capable of removing cholesterol from the blood circulation as well as manufacturing cholesterol and secreting cholesterol into the blood circulation. After a meal, the liver removes chylomicrons from the blood circulation. In between meals, the liver manufactures and secretes cholesterol back into the blood circulation.

Blood pressure is always given as these two numbers, the systolic and diastolic pressures. Both are important. Usually they are written one above or before the other, such as 120/80 mmHg. The top number is the systolic and the bottom the diastolic. When the two measurements are written down, the systolic pressure is the first or top number, and the diastolic pressure is the second or

bottom number (for example, 120/80). If your blood pressure is 120/80, we say that it is “120 over 80”.

Materials and Methods

This study under investigation involves the experimentation of yogic practices on flexibility, total cholesterol and blood pressure (systolic and diastolic). Only thirty male students those who were studying in various departments (except physical education and sports sciences and fine arts) of Annamalai University and aged between 18 and 25 years were selected. The selected thirty subjects were randomly divided into two groups of fifteen each, out of which group - I (n = 15) underwent yogic practices and group - II (n = 15) remained as control, which did not participate any special activities. The training programme was carried out for five days per week during morning session only (6 am to 8 am) for thirteen weeks. The descriptions of yogasanas were given in the appendix. Flexibility was measured by conducting sit and reach test, total cholesterol was measured with Boehringer Mannheim Kit method recommended by Katterman (1984), Searcy (1961) and Friedwald (1972) and blood pressure was measured by using sphygmomanometer.

Analysis of Data

The data collected prior to and after the experimental periods on flexibility, total cholesterol and blood pressure (systolic and diastolic) on yoga practice group and control group were analysed and presented in the following table -I.

Table – I

Analysis of Covariance and ‘F’ ratio for Flexibility, Total Cholesterol and Blood Pressure (systolic and diastolic) for Yoga Practice Group and Control Groups

Variable Name	Group Name	Yoga Practice Group	Control Group	‘F’ Ratio
Flexibility (in inches)	Pre-test Mean \pm S.D	5.367 \pm 0.2193	5.340 \pm 0.192	0.126
	Post-test Mean \pm S.D.	5.667 \pm 0.216	5.293 \pm 0.171	27.543*
	Adj. Post-test Mean \pm S.D.	5.6568	5.3032	60.69*
Total Cholesterol (in mg/dL)	Pre-test Mean \pm S.D	192.47 \pm 5.986	192.13 \pm 5.617	0.025
	Post-test Mean \pm S.D.	192.47 \pm 4.627	191.53 \pm 6.198	0.218
	Adj. Post-test Mean \pm S.D.	192.343	191.657	0.298

Systolic Blood Pressure (in mmHg)	Pre-test Mean \pm S.D	122.33 \pm 1.878	122.47 \pm 2.232	0.031
	Post-test Mean \pm S.D.	120.533 \pm 0.99	122.60 \pm 1.96	13.32*
	Adj. Post-test Mean \pm S.D.	120.575	122.558	39.91*
Diastolic Blood Pressure (in mmHg)	Pre-test Mean \pm S.D	81.20 \pm 1.821	81.67 \pm 1.915	0.468
	Post-test Mean \pm S.D.	79.40 \pm 1.298	82.00 \pm 1.927	18.778*
	Adj. Post-test Mean \pm S.D.	79.569	81.831	41.916*

* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

Results

The training intensity for yogic practice was shown in appendices. Before applying the experiment all the subjects of the yoga practice and control groups were attended the pre-test, which was conducted a day prior to the commencement of the training and the data were collected on flexibility, total cholesterol and blood pressure (systolic and diastolic). After thirteen weeks of training the post-test was conducted one day after the training period to find out any changes in the criterion variables.

The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate. After applying the analysis of covariance, the result of this study showed that there was a significant difference among yoga practice and control groups on flexibility, and blood pressure, but not in the total cholesterol after thirteen weeks of training. The criterion variables such as, flexibility, was improved for yoga practice group and systolic and diastolic blood pressure has significantly decreased after the yoga practice period. But, in total cholesterol, there was no significant reduction for yogic practice group. Basically the yoga practice has tremendously improves the physical fitness and physiological variables. Furthermore, the duration of study in the present study is shorter (thirteen weeks) and the diet was not controlled by the researcher, so that there was no significant decrease in total cholesterol.

Conclusions

Flexibility has improved for yogic practice group, when compared with the control group. The result of the study also shows that there was no significant reduction in total cholesterol for yogic practice group. The blood pressure has decreased in yogic practice group when compared with the control group.

APPENDICES

Selection of Yogaasanas

The experimental factor selected is the yogasanas and it's been innumerable. So, the scholar consulted with experts in the field of yogasana, than selected the following yogasanas:

Yogasanas: Suryanamaskar, Sarvangasana, Vrksasana, Trikonasana, Padmasana, Vajrasana, Bhujangasana, Shalabhasana, Paschimottasana, Ardha Matsyendrasana, Halasana, Sasankasana, savasana

Pranayama: Anuloma-Viloma, Brahmari and Bhastrika
Omkar

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